

Quality of Government as an Attracting Factor of FDI - Evidence from Chosen Southeastern European Countries

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ABSTRACT

This paper aims to examine the indicators of the quality of government of selected countries in Southeastern Europe, which significantly influence the attractiveness of foreign direct investment. With the aim of quantifying the influence of certain factors on FDI, Montenegro, Serbia, Bosnia and Herzegovina, Romania, Bulgaria, Croatia, Albania and Northern Macedonia are included as the selected countries of the region, with the period of analysis limited to the period from 2007 to 2021. The results of the empirical analysis of the influence of the factors have shown that the factors referred to as the Rule of Law Index, Government Efficiency Index, Public Administration Efficiency Index and Political Stability Index have a significant and positive influence on the attractiveness of the country for foreign investors, while some other factors such as the cost of starting a new business have a negative influence on the country's attractiveness.

Keywords: *foreign direct investment, rule of law, government efficiency, public administration efficiency, political stability*

JEL Classification: F21

INTRODUCTION

Defining and quantifying the phenomenon of foreign direct investments is not, in the least measure, simple or uniform. This is testified in practice by different ways of approaches of attracting foreign direct investments by different countries and discrepancies in the result of measuring the inflow of foreign direct investments by international institutions and statistical systems of the countries. When this situation is with the same phenomenon, terminologically and practically, it can be concluded that the theory about the mentioned carries with itself even more complexity. Significant social changes on the global level (Marjanović & Domazet, 2023) resulted in intensifying economic activities, which resulted in an increase in the movement of capital. Foreign direct investments are one of the globally most recognizable forms of movement of capital and represent a very important element of the global economy, so they are often also the leading component of strategies of economic development, both in developed countries and in developing countries (Jensen, 2003). The main benefits for one economy which are realized with the help of foreign direct investments are: an increase in production, technological progress, an increase in efficiency of domestic companies, development of human capital, promotion of international trade and an increase of income for domestic investors also (Farooq et al., 2022). In the contemporary

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global economy, state borders do not represent the obstacle to the movement of capital and goods. Therefore, one of the basic motives of foreign investors is the increase of profit through capital investments, mostly in transition and developing countries (Nwaogu and Ryan, 2015).

All the countries aim for a healthy and logical goal, and that is long-term and stable economic growth. Foreign direct investments contribute to the realization of the mentioned goal through the stated benefits, improving the technologically-production basis and increasing the competitiveness of the countries' products on the global market (Domazet et al., 2022). When talking about foreign direct investments, or about investments in some certain country, it is primarily about the investments which the multinational companies undertake in another country and which are encouraged with the following factors: profit, establishing the presence in the new market (expansion of the existing one), more favorable terms for using the disposable resources, and favorable tax system (Lazić & Domazet, 2019). Direct investments are an efficient manner for increasing and using the comparative advantages of the country, and as such, they mostly refer to the developing countries which need internationalization of operations where the main part is played by the very multinational companies (Chen, 2011).

Representing the opinion that foreign direct investments significantly influence the country's economic development should not be taken for granted. In scientific circles, there is no consensus about the impact of foreign direct investments on economic growth because certain empirical investigations cannot find their ground in the sense of evidence in that direction. Certain authors determined that domestic investments are of crucial importance, that they represent the determinant of the growth of the national economy, while foreign direct investments did not have a significant impact on economic growth. The circumstances differ from country to country, from region to region, and the question is too complex to be interpreted in that way, especially when we take externalities into consideration. The creation of new value cannot be bad for one economy; still, if the negative externalities surpass the benefits of newly created value, the investment itself, although rewarding and meaningful for the investor, for the society represents not only the loss but also the threat. As an example, it is legitimate to state the violation of the ecosystem of some area by any kind of production process which does not act beneficially on the environment (Marjanović et al., 2022). In the end, the expenses of society will substantially surpass the benefits that it has regarding new working positions and the availability of new technological knowledge.

The paper investigates which indicators of the quality of government of chosen countries of Southeastern Europe dominantly influence the attraction of foreign direct investments. The goal of quantifying the impacts of certain factors on foreign direct investments by the sample encompassed Montenegro, Serbia, Bosnia and Herzegovina, Romania, Bulgaria, Croatia, Albania, and Northern Macedonia as the chosen countries of the region whereby the period of analysis is limited to the interval from 2007 to 2021.

In literature from this area, the attitude is often pointed out that the variables which determine the quality of government of certain countries also determine the level and movement of foreign direct investments (Minović, Stevanović, Aleksić, 2020). Based on empirical data about the indicators of performances of the government of the countries there will be provided the ground for the performance of appropriate conclusions and checking of the validity of the basic investigation hypothesis that the indicators of the quality of the government of the countries of the region also influence the growth of foreign direct investments. The paper is divided into several parts - besides the introductory part and conclusion, it also contains the theoretical frame and review of relevant literature in which there are chronologically analyzed theories that deal with flows of SDI and the process of attraction of SDI, as well the review of the latest research which investigated the influence of indicators of the quality of government on the attraction of foreign direct investments. In the third part (Data and Methodology), the sources of collected data are encompassed and the basic specification is presented as a panel of regression model which

encompasses the key explanatory and control variables, while in the fourth part of the paper, the results are presented which were reached in eight chosen countries in the analyzed period.

THEORETICAL BACKGROUND AND LITERATURE OVERVIEW

Starting from the sixties of the last century, by performing different theories, numerous authors have tried to answer the questions of why the company decides to invest outside the borders of the native country and why it chooses the specific country for its investment location or for its host. Among the first are MacDougall (1958) and Kemp (1964), who established the model which is based on perfect competition. Similar theories based on perfect competition were also published by Pearce & Rowan (1966) and Caves (1971). On the other side, at the same time, Hymer (1960) set the theory, which was based on imperfect competition, after which a certain group of authors followed him. Among others, Hymer's theory is supported by authors Kindleberger (1969) and Cohen (1975). One of the faults of Hymer's theory is that he does not correctly define when and where the sides of direct investment will be realized. The incompleteness of the theory in view of a complete explanation of foreign direct investments left space for other authors to develop new theories. This explanation was later tried to be given by Vernon (1966) with the help of PLC theory, Dunning (1988) through OLI theory of globalization of production and placing, and Buskley & Casson (1976) by setting the theory of internationalization. Several investigators tried to prove in their papers the advantages of foreign direct investments in imperfect markets, like Graham & Krugman (1989) and Sodersten (1970). While on the other side, Robock & Simmonds (1983) claimed that possession of company advantages in relation to companies in the country receiver of foreign direct investments do not automatically have to mean that the company should decide for the foreign direct investments because it also has the options of export (Domazet, 2018) and giving licenses.

A significant number of studies investigated the influence of foreign direct investments on economic development. The authors who dealt with the investigation of the influences of foreign direct investments on the economic development of a great number of different countries in the world in the last two years are, among others, Bakour et al. (2022), Wang et al. (2022), Keita & Baorong (2022), Rao et al. (2023), Yimer (2023), Kumari et al. (2023), Minović & Jednak, (2021), Marjanović & Domazet (2021). Although the influence of foreign direct investments on economic growth was analyzed in the most significant number of papers (Domazet & Marjanović, 2018), certain groups of authors also studied the opposite direction of influence or the influence of economic growth on the attraction of foreign direct investments. Sichei & Kinyondo (2012) determined the statistically significant influence of BDP on foreign direct investments in the sample of 45 African countries in the period 1980-2009, while Iamsiraroj (2016) determined both the influence of foreign direct investments on economic growth and the influence of economic growth on the attraction of foreign direct investments on the sample of 124 countries in the period 1971-2010. Besides the stated, the authors who also identified the connection between BDP and foreign direct investments are, among others, Mahmoodi & Mahmoodi (2016) on the sample of eight developing European countries (Albania, Belarus, Croatia, Latvia, Lithuania, Poland, Romania and Turkey) and eight developing countries of the Asian continent (Bangladesh, India, Malesia, Oman, Pakistan, Philippines, Sri Lanka and Thailand), Ouhibi et al. (2017) on the sample of Mediterranean countries, Onafowora & Owoye (2019) on the sample of five Caribbean countries (Bahamas, Barbados, Dominican Republic, Jamaica, Trinidad and Tobago), Bashir et al. (2021) on the sample of countries of BRICS (Brazil, Russia, India, China and South African republic) and countries of MINT (Mexico, Indonesia, Nigeria and Turkey), Raza et al. (2021) on the sample of countries of OCED, Odhiambo (2022) in Kenya.

In the latest research, besides the examination of the influence of macroeconomic factors such as economic growth, inflation (Marjanović et al., 2023), openness of the market, public debt, rate of employment and others, different determinants determine the flow of foreign direct investments that primarily refer to the quality of institutions. Dimitrova et al. (2020) classified

factors that influence the attraction of foreign direct investments into four categories: 1) macroeconomic and financial; 2) institutional and regulatory; 3) disposability of natural resources; 4) socio-cultural. The authors who, on the greater sample of the countries, dealt with the investigation of the influence of the quality of institutions on the attraction of foreign direct investments are Buchanan et al. (2012). In the sample of 164 countries in the period from 1996 to 2006, they came to the results that more quality institutions lead to the increase of foreign direct investments, or that the countries with fewer quality institutions have greater volatility when the foreign direct investments are in question, which unfavorably affects the economic growth of the country. Jude & Leveuge investigated (2017) if the quality of institutions of the host country affects the attraction of foreign investors in the sample of 94 developing countries in the period 1984-2009, using the ICRG (International Country Risk Guide) database. The conclusion that they reached indicates that the improvement of the institutional frame should precede the defining of politics for the attraction of foreign direct investments. Also, the authors determined that some characteristics of institutional quality have a direct effect on the economic growth of the country, led by an increase of foreign direct investments, while others demand the consistent accumulation of efforts for improvement of the quality of institutions of the host country (Marjanovic & Domazet, 2021a). Contractor et al. (2020), on a sample of 189 countries, investigated the influence of regulatory factors of the country on the attraction of foreign direct investments. The most important conclusion of their works refers to the fact that the countries in which the enforcement of contracting liabilities is stronger and who have more efficient regulations about international trade attract more foreign direct investments. Also, the finding is significant that the multinational companies are ready to substitute the countries with less effective regulation of entering and leaving the country in which the enforcement of the contract is stronger. Jadhav (2012) in his paper examined the influence of economic, institutional and political factors on the attraction of foreign direct investments in the countries of BRIKS. According to the study, the ten-year period is encompassed (from 2000 to 2019), so the key determinants of foreign direct investments would be identified in the chosen sample of the countries. The basic investigation finding is that the economic factors are more significant for attracting foreign direct investments than the institutional and political in the countries of BRICS. One of also significant findings is that the attraction of foreign direct investments positively significantly influences the openness of the trade, government of rights and the right of the vote.

DATA AND METHODOLOGY

The empirical research was conducted using the model panel of regression analysis, which is the most appropriate basis for modeling the influence of certain factors on foreign direct investment, using basic research methods and techniques of econometric analysis, including the appropriate approaches to evaluate the selected econometric specifications, the adequate statistical reports for checking the fulfillment of the assumptions with respect to the variable, referring to random errors, autocorrelation, heteroskedasticity, multicollinearity, other study situations and problems that may arise when using the model of panel analysis, paying particular attention to testing the hypothesis with respect to the presence and individual and/or time effects.

Within these models and methods for evaluating the parameters of the panel model, the fixed effects model and the random effects model were used.

A complete empirical analysis implies the evaluation of the certainty of the obtained results, which is why the advanced econometric techniques were used to assess and robustness of the evaluated parameters, i.e. their (in)dependence on the chosen functional form of the model or the method of labeling: pooled least squares method with adjusted standard errors and generalized least squares (GLS) method.

The starting model is specified in the following way:

$$Y_{i,t} = \beta_0 + \beta_1 x_{i,t} + \beta_2 Z_{i,t} + \varepsilon_{i,t}, \quad i = 1, 2, \dots, N; t = 1, 2, \dots, T \quad (1)$$

$Y_{i,t}$ – foreign direct investments

$x_{i,t}$ – key explanatory variable

$Z_{i,t}$ – vector of control variables $Z_{i,t} = \{gdp_g_{i,t}, gov_di, tinfi, t, c_invi, t, p_consi, t\}$

$\varepsilon_{i,t}$ – accident mistake

N – number of units (countries) in the sample

T – time period of analysis

By sample, it encompassed eight countries of the region (Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Montenegro, Northern Macedonia, Romania and Serbia) for the period of 15 years, from 2007 to 2021. In the aim of enforcing empiric investigations because of quantifying the influence of the factor of attraction of SDI in Montenegro and countries in the region, two basic sources of data were used: the base of the World Bank and the base of the Agency for Statistics of the European Union (EUROSTAT). These bases were used before all for determining the values of dependent variables, key explanatory variables and control variables. As the source of data for the variable Index of economic freedoms, the data were used, which are published by The Heritage Foundation.

Considering the fact that the analyzed period encompassed two crisis years, artificial variables were introduced for 2009 and 2020.

$$Y_{i,t} = \beta_0 + \beta_1 x_{i,t} + \beta_2 Z_{i,t} + \beta_3 D_t + \varepsilon_{i,t}, \quad i = 1, 2, \dots, N; t = 1, 2, \dots, T \quad (2)$$

D_t – vector of artificial variables $D_t = \{D2009, D2020\}$

so that the influence of structural breaking would be eliminated in the data series.

EMPIRICAL RESULTS

The first step in standard econometric panel analysis is made of testing the assumption about the existence of individual and time-fixed effects. Therefore, we primarily created artificial variables for (a) all units of observation, (b) all years encompassed by the sample, (c) all units of observation and for all years encompassed by the sample, then by using OLS estimators we evaluated the parameters of model (1) so that we would test the hypothesis about the existence of individual and time effects or their joined combinations. The gained empirical results are shown in Table 1. Based on numeric values of F-statistics joined to the stated kinds of effects, it can be certainly concluded that they are statistically significant and individual, timely and joined; having in mind this result and relying on the usual econometric procedure of evaluation of the panel model, in the further analysis we took into consideration the individual and time effects.

Table 1. F-test of statistical significance of individual and time effects

Kind of effects	Only individual	Only timely	Individual and timely
F-test	9.74***	4.42***	5.69***

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$; H_0 : all

Individual/time effects are zero.

Source: Author's research

Model (2) contains only one explanatory variable and a row of control variables described with a vector of control variables, the components of which are previously stated. This approach to evaluating the influence of factors on foreign direct investments is applied because there is expressed multicollinearity between explanatory variables. This is clearly seen with the analysis

of elements of the correlation matrix, which contains coefficients of correlation between all pairs of explanatory variables (table A1 in Appendix).

Model (3), in which the main explanatory variable is represented by $IVP_{i,t}$, which refers to an index of the rule of rights:

$$Y_{i,t} = \beta_0 + \beta_1 IVP_{i,t} + \beta_2 gdp_gi,t + \beta_3 gov_di,t + \beta_4 infl,t + \beta_5 p_consi,t + \beta_6 D2009 + \beta_7 D2020 + \epsilon_{i,t} \quad (3)$$

is estimated with the help of estimators of fixed and estimators of random effects.

In Table 3, the evaluated values are shown, which the model (3) contains. Taking into consideration the levels of significance and the mark of the regression coefficient, we can conclude that in the model with fixed effects, the hypothesis is rejected that there is no significant influence of the index of the government of rights on foreign direct investments. Two stars with regression coefficient show that with the risk of mistake of 5%, we may conclude that with the differences in the value of the index of the government of rights, the differences in the degree of attraction of the countries of the region for foreign investors can be explained. And logically, the mark of the regression parameter is positive. Hence, the *ceteris paribus* of the country in which the government of rights is on a higher level has more attraction for foreign investors. On the other side, the results, which are shown in the second column of Table 3, and which refer to random effects, disclose that the introduced explanatory variable has no significant influence on the variable FDI.

Table 3. Influence of the rule of law on FDI

Variables	FE	RE
$IVP_{i,t}$ Index rule of law	7.981942** 3.146407	-.3454681 2.125475
gdp_gi,t Economic growth	.2445012** .1087066	.2772468** .1277818
gov_di,t Public debt	-.027512 .0383169	.0479888** .0185384
$infl_{i,t}$ Inflation	.2452971* .1385127	.5253968*** .1302545
$c_inv_{i,t}$ Capital investments	.4213435*** .0832527	.2200614*** .0776344
$p_cons_{i,t}$ Private consumption	.4401097*** .0984485	.1020102 .0631004
D_{2009} Artificial 2009	.5185822 1.307751	1.386225 1.62155
D_{2020} Artificial 2020	1.937373 1.390425	1.835146 1.717013
Number of observations	112	112
Coefficient of determination	0.2182***	0.3700***

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Source: Author's research

The estimate of the significance of the influence of the observed explanatory variable to foreign direct investments in the models with fixed and random effects later especially considers that in the context of the estimate of adequacy of the first and second model, the proper conclusions would be made about the real influence of the variable index of the rule of government to the foreign direct investments.

In order to examine which model (the model with the fixed or the model with the random effects) is more adequate, Hausman's test is enforced. The value of Hausman's test ($\chi^2(8) = 23.06$, Prob > $\chi^2 = 0.0033$) shows that the model with fixed effects represents the more adequate analytical description of quantitative dependence of FDI from explanatory variables and control variables. With that in mind, the relevant tests were carried out in the further course of the study, relating to the residual variables within the fixed effects model, to investigate the presence of heteroskedasticity, autocorrelation and correlation within the cross-data set.

Based on numeric values of appropriate test statistics, which are shown in Table A2 (Appendix) it can be concluded that there is heteroscedasticity in data, or that the presumption is violated about equality of variables of residual divergences.

That is why during further analysis, alternate estimations are conducted to check the robustness of gained results: pooled least squares method with adjusted standard errors of the panel (PCSE OLS with using PCSE estimate of asymptotic variant) and "performable" general method of the least squares (FGLS).

Table 4. Results of alternative estimations of the influence of the government of rights to the foreign direct investments – GLS and PSCE OLS

Variables	FGLS	PCSE OLS
$IVP_{i,t}$	-2.565372	.0588979
Index rule of law	1.652532	1.993169
$gdp_g_{i,t}$	.1754645**	.1374447
Economic growth	.087346	.1147823
$gov_d_{i,t}$	.069503***	.0558945***
Public debt	.0145186	.0174349
$inf_{i,t}$	.3908638***	.5145898***
Inflation	.0912854	.1172647
$c_inv_{i,t}$	.1342996**	.1969505***
Capital investments	.0593723	.0752717
$p_cons_{i,t}$	.0470345	.0984392
Private consumption	.0488589	.0608455
D_{2009}	3.853791***	5.109952***
Artificial 2009	1.02478	1.266054
D_{2020}	.2240923	.7152987
Artificial 2020	1.127832	1.423999
Number of observations	112	112
Coefficient of determination		0.4240***

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Source: Author's research

Taking into consideration the wholeness of empiric results, which are shown in Table 4, it may be concluded that almost all control variables are statistically important (except for the private expense) and that those results are robust. However, if we turn to the results which are in the first row and we first see the first and the second columns, the evaluations are not statistically important and in the second, the numeric values of the parameter differ significantly. Moreover, in one case, the negative one is gained, and in the other case, the positive value is gained, which means that this result is not reliable in econometric meaning.

By applying the same econometric procedure, which includes the evaluation of the parameters, the selection between the fixed and random effects model, the verification of the fulfillment of the assumptions that refer to residual models, the evaluation of the parameters of alternative models and the comparison of the results obtained to evaluate their robustness, the analysis of the influence of the explanatory variables was carried out:

Government efficiency

$$y_{i,t} = \beta_0 + \beta_1 EV_{i,t} + \beta_2 gdp_g_{i,t} + \beta_3 gov_d_{i,t} + \beta_4 inf_{i,t} + \beta_5 p_cons_{i,t} + \beta_6 D_{2009} + \beta_7 D_{2020} + \varepsilon_{i,t} \quad (4)$$

Public administration efficiency

$$y_{i,t} = \beta_0 + \beta_1 EJU_{i,t} + \beta_2 gdp_g_{i,t} + \beta_3 gov_d_{i,t} + \beta_4 inf_{i,t} + \beta_5 p_cons_{i,t} + \beta_6 D_{2009} + \beta_7 D_{2020} + \varepsilon_{i,t} \quad (7)$$

then the variables Index of political stability

$$y_{i,t} = \beta_0 + \beta_1 IPS_{i,t} + \beta_2 gdp_g_{i,t} + \beta_3 gov_d_{i,t} + \beta_4 inf_{i,t} + \beta_5 p_cons_{i,t} + \beta_6 D_{2009} + \beta_7 D_{2020} + \varepsilon_{i,t} \quad (6)$$

Corruption perception index

$$y_{i,t} = \beta_0 + \beta_1 IPK_{i,t} + \beta_2 gdp_g_{i,t} + \beta_3 gov_d_{i,t} + \beta_4 inf_{i,t} + \beta_5 p_cons_{i,t} + \beta_6 D_{2009} + \beta_7 D_{2020} + \varepsilon_{i,t} \quad (7)$$

Cost of starting a business

$$y_{i,t} = \beta_0 + \beta_1 TZB_{i,t} + \beta_2 gdp_g_{i,t} + \beta_3 gov_d_{i,t} + \beta_4 inf_{i,t} + \beta_5 p_cons_{i,t} + \beta_6 D_{2009} + \beta_7 D_{2020} + \varepsilon_{i,t} \quad (8)$$

Index of economic freedom

$$y_{i,t} = \beta_0 + \beta_1 IES_{i,t} + \beta_2 gdp_g_{i,t} + \beta_3 gov_d_{i,t} + \beta_4 inf_{i,t} + \beta_5 p_cons_{i,t} + \beta_6 D_{2009} + \beta_7 D_{2020} + \varepsilon_{i,t} \quad (9)$$

The results gained with the help of the model of fixed and random effects are shown in Tables 5-10.

Table 5. Government efficiency influence on FDI

Variables	FE	RE
<i>EV_{i,t}</i>	2.688193	6.264615***
Government efficiency	2.182247	1.597328
<i>gdp_g_{i,t}</i>	.3222514***	.3735416***
Economic growth	.1104042	.1217034
<i>gov_d_{i,t}</i>	.0176452	-.0136519
Public debt	.0335827	.0228151
<i>inf_{i,t}</i>	.2255845	.4707895***
Inflation	.1424104	.1212356
<i>c_inv_{i,t}</i>	.412787***	.2200963***
Capital investments	.0857905	.0721268

Table 1. Public administration efficiency influence on FDI

Variables	FE	RE
<i>EJU_{i,t}</i>	5.231938*	6.526867***
Public administration efficiency Index	3.026048	1.838781
<i>gdp_g_{i,t}</i>	.3835633***	.3978192***
Economic growth	.1182989	.125316
<i>gov_d_{i,t}</i>	.0103706	.051357***
Public debt	.0338748	.0169623
<i>inf_{i,t}</i>	.2204071	.5986931***
Inflation	.1402215	.1233872
<i>c_inv_{i,t}</i>	.3374179***	.0793212
Capital investments	.0906753	.0832177

Variables	FE	RE
$p_cons_{i,t}$ Private consumption	.4160731*** .1004421	.2865309*** .0593206
D_{2009} Artificial 2009	.8901321 1.343397	1.389107 1.510989
D_{2020} Artificial 2020	2.849524* 1.515934	4.361198 1.726167
No. of Obs. R-Squared	112 0.3053	112 0.4396

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Source: Author's research

Variables	FE	RE
$p_cons_{i,t}$ Private consumption	.456038*** .1040262	.2617397*** .057935
D_{2009} Artificial 2009	1.005114 1.336661	2.078162 1.54099
D_{2020} Artificial 2020	3.263738** 1.538978	3.210829* 1.666437
No. of Obs. R-Squared	112 0.2988	112 0.3559

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Source: Author's research

Table 2. Political stability influence on FDI

Variables	FE	RE
$IPS_{i,t}$ Political stability Index	2.343847 1.496781	4.531003*** 1.302049
$gdp_g_{i,t}$ Economic growth	.3045254** .108554	.3016407** .1210896
$gov_d_{i,t}$ Public debt	.0106316 .0341463	.0121806 .0197222
$inf_{i,t}$ Inflation	.1989736 .1400252	.4951843*** .122414
$c_inv_{i,t}$ Capital investments	.3992144*** .0843351	.2143363*** .0731707
$p_cons_{i,t}$ Private consumption	.4294378*** .1008842	.2656807*** .0594751
D_{2009} Artificial 2009	.7334933 1.331107	1.230604 1.533073
D_{2020} Artificial 2020	2.293979 1.415642	2.407059 1.632568
No. of Obs. R-Squared	112 0.2948	112 0.4236

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Source: Author's research

Table 8.3 Perception of corruption influence on FDI

Variables	FE	RE
$IPK_{i,t}$ Perception of corruption Index	.0760216 .1117002	.136206 .100424
$gdp_g_{i,t}$ Economic growth	.2621866** .1231123	.2658129** .1302488
$gov_d_{i,t}$ Public debt	.0187927 .0376769	.0359558* .0200216
$inf_{i,t}$ Inflation	.241487 .1534519	.5881316*** .1376679
$c_inv_{i,t}$ Capital investments	.4218972*** .0948867	.2422223*** .0791461
$p_cons_{i,t}$ Private consumption	.3755968 .1119624	.1632088*** .0564179
D_{2009} Artificial 2009	.8671719 1.480458	1.810917 1.763561
D_{2020} Artificial 2020	1.968266 1.523221	1.969953 1.741933
No. of Obs. R-Squared	107 0.2722	107 0.3725

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Source: Author's research

Table 9. Cost of starting a business influence on FDI

Variables	FE	RE
$TZB_{i,t}$ Cost of starting a business	-.1723572** .0679007	-.0847393* .0475023
$gdp_g_{i,t}$ Economic growth	.3046535** .1492274	.4283808** .1766296
$gov_d_{i,t}$ Public debt	.0377112 .0414883	.0513839** .0204938
$inf_{i,t}$ Inflation	.1469652 .1626803	.5233393*** .132066
$c_inv_{i,t}$ Capital investments	.5289861*** .1171861	.2240593 .0890033
$p_cons_{i,t}$ Private consumption	.581932*** .1387332	.1506852** .0557649
D_{2009} Artificial 2009	.5174252 1.54752	2.229784 1.772845
No. of Obs.	97	97
R-Squared	0.2457	0.3627

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Source: Author's research

Table 10.4 Economic freedom influence on FDI

Variables	FE	RE
$IES_{i,t}$ Index of economic freedom	.2861698* .1595212	.0018524 .0538973
$gdp_g_{i,t}$ Economic growth	.2946755** .1083662	.2764745** .129428
$gov_d_{i,t}$ Public debt	.0009473 .0348949	.0482182** .0194143
$inf_{i,t}$ Inflation	.2315567 .1425185	.5695873*** .1391656
$c_inv_{i,t}$ Capital investments	.4368969*** .0868152	.2193301** .0784796
$p_cons_{i,t}$ Private consumption	.544539*** .1278025	.1104167** .0432898
D_{2009} Artificial 2009	.9863861 1.339526	1.38004 1.633071
D_{2020} Artificial 2020	1.854531 1.435796	1.866153 1.734943

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Source: Author's research

The results of Hausman's test, which are used for making decisions about the selection between the model with fixed effects and the model with random effects:

Model (4): $\chi^2(7) = 34.72$, Prob > $\chi^2 = 0.0000$

Model (5): $\chi^2(8) = 64.77$, Prob > $\chi^2 = 0.0000$

Model (6): $\chi^2(7) = 37.24$, Prob > $\chi^2 = 0.0000$

Model (7): $\chi^2(7) = 14.39$, Prob > $\chi^2 = 0.0722$

Model (8): $\chi^2(7) = 15.43$, Prob > $\chi^2 = 0.0309$

Model (9): $\chi^2(7) = 49.18$, Prob > $\chi^2 = 0.0000$

showed that the model of fixed effects is superior in relation to the model of random effects in all econometric specifications in which the mentioned explanatory variables figure is, as we see, included sequentially so that the problems would be avoided in view of the reliability of concluding because of expressed multicollinearity between the basic explanatory variables the influence of which on the foreign direct investments is investigated.

Waldo's test of heteroscedasticity, Wooldridge's test of series correlation and Pesaran's test of comparative dependence showed that in all starting specifications of econometric models, there is the problem of heteroscedasticity which reveals the unfulfillment of assumption in view of equality of variables of residuals (results shown in Appendix, tables A2-A8).

Table 11. Results of alternative estimations of the effect of government efficiency on foreign direct investment – GLS and PCSE OLS

Variables	FGLS	PCSE OLS
$EV_{i,t}$	4.8049***	5.488545***
Government efficiency	1.164827	1.359634
$gdp_g_{i,t}$	.3248818***	.2345076**
Economic growth	.0882166	.1052602
$gov_d_{i,t}$	.0114581	.0009662
Public debt	.0187364	.024229
$inf_{i,t}$	.3188299***	.4658536***
Inflation	.0894267	.1100112
$c_inv_{i,t}$	.1837847***	.2010084***
Capital investments	.0555952	.0698663
$p_cons_{i,t}$	.2734698***	.254243***
Private consumption	.0413063	.0502733
D_{2009}	1.884457*	4.357885***
Artificial 2009	1.044511	1.235947
D_{2020}	2.779605**	3.019392**
Artificial 2020	1.166393	1.453637
No. of Obs.	112	112
R-Squared		0.4867

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Source: Author's research

Table 12.5 Results of alternative estimations of the impact of the efficiency of the public on foreign direct investment – GLS and PCSE OLS

Variables	FGLS	PCSE OLS
$EJU_{i,t}$	3.685964**	6.526867***
Public administration efficiency Index	1.483359	1.829113
$gdp_g_{i,t}$	.3006528***	.3978192***
Economic growth	.0983665	.1278814
$gov_d_{i,t}$	.0597677***	.051357***
Public debt	.0136927	.0177656
$inf_{i,t}$	.4665368***	.5986931***
Inflation	.1013412	.1220114
$c_inv_{i,t}$	.0960956	.0793212
Capital investments	.0634576	.0844775
$p_cons_{i,t}$	.2008956***	.2617397
Private consumption	.0376264	.0465941
D_{2009}	2.02607*	2.078162
Artificial 2009	1.044097	1.401987
D_{2020}	1.321785	3.210829**
Artificial 2020	1.181972	1.576622
No. of Obs.	112	112
R-Squared		0.4261

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Source: Author's research

Based on data contained in tables (11-16), it may be concluded that the basic variables Index of efficiency of public management and the Index of political stability have a significantly positive impact on the attractiveness of the country for foreign investors and that the gained results are robust.

Table 13. Results of alternative estimations of the influence of political stability on foreign direct investments – GLS and PCSE OLS

Variables	FGLS	PCSE OLS
$IPS_{i,t}$	2.60985**	4.018651***
Political stability Index	.9968116	1.233318
$gdp_g_{i,t}$	.2747788***	.1744774
Economic growth	.0961333	.1103619

Table 14. Results of alternative estimations of the impact of corruption perception on foreign direct investments – GLS and PCSE OLS

Variables	FGLS	PCSE OLS
$IPK_{i,t}$	-.0528962	.1294327
Perception of corruption Index	.0806309	.0944687
$gdp_g_{i,t}$	.2447467**	.1289238
Economic growth	.100632	.1131294

Variables	FGLS	PCSE OLS
$gov_{d_{i,t}}$ Public debt	.0332947* .0180267	.0239437 .0224555
$inf_{i,t}$ Inflation	.4244254*** .0960301	.4863001*** .1081726
$c_{inv_{i,t}}$ Capital investments	.1688693*** .0567112	.1934654** .0695496
$p_{cons_{i,t}}$ Private consumption	.2046282*** .0399044	.2368437*** .0508232
D_{2009} Artificial 2009	1.744076 1.080825	4.535024*** 1.212162
D_{2020} Artificial 2020	1.416294 1.18365	1.344131 1.37795
No. of Obs. R-Squared	112 0.4764	112 0.4764

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Source: Author's research

Variables	FGLS	PCSE OLS
$gov_{d_{i,t}}$ Public debt	.0664732*** .0156592	.04412** .0188711
$inf_{i,t}$ Inflation	.3944685 .1105237	.5683353*** .1264591
$c_{inv_{i,t}}$ Capital investments	.1674574** .0639051	.2114018** .0774838
$p_{cons_{i,t}}$ Private consumption	.1160888** .0453605	.1500119*** .0500117
D_{2009} Artificial 2009	1.896866 1.207864	5.189794*** 1.407437
D_{2020} Artificial 2020	.7787101 1.233608	.8515156 1.446597
No. of Obs. R-Squared	107 0.4312	107 0.4312

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Source: Author's research

The tests of significance of parameters with the basic variable Expense of starting business are significant and have a negative impact on the attractiveness of the country for foreign investors.

It is also determined that the tests of significance of the parameters with basic variables of Index perception of corruption and Index of economic freedom of evaluated parameters with the help of alternate methods of estimation (results contained in tables 11-16) showed that these variables do not contribute in significant measure to the differences between the countries encompassed with the sample in view of the degree of their attractiveness for the foreign investitures.

Table 6. Results of alternative estimations of the impact of the cost of starting a new business on foreign direct investments – GLS and PCSE OLS

Variables	FGLS	PCSE OLS
$TZB_{i,t}$ Cost of starting a business	-.0782502** .0304469	-.0847393** .0404031
$gdp_{g_{i,t}}$ Economic growth	.3252969** .1213363	.4283808*** .1481841
$gov_{d_{i,t}}$ Public debt	.0832104*** .0157145	.0513839** .0232175
$inf_{i,t}$ Inflation	.4121754*** .0971266	.5233393*** .1298907
$c_{inv_{i,t}}$ Capital investments	.2466933*** .0669717	.2240593*** .0892951
$p_{cons_{i,t}}$	.1797816***	.1506852***

Table 16. Results of alternative estimations of the impact of economic freedoms on foreign direct investments – GLS and PCSE OLS

Variables	FGLS	PCSE OLS
$IES_{i,t}$ Index of economic freedom	-.003645 .0389888	.0274641 .0752013
$gdp_{g_{i,t}}$ Economic growth	.2616835** .0963743	.2716171** .1346832
$gov_{d_{i,t}}$ Public debt	.0659039*** .0144773	.0487379** .0194817
$inf_{i,t}$ Inflation	.4093521*** .102321	.578189*** .1367067
$c_{inv_{i,t}}$ Capital investments	.1721433*** .0571424	.2133983** .0838897
$p_{cons_{i,t}}$	.1392176***	.115176***

Variables	FGLS	PCSE OLS	Variables	FGLS	PCSE OLS
Private consumption	.0372394	.0506022	Private consumption	.0321535	.0337193
D_{2009}	2.197696**	2.229784	D_{2009}	1.932396*	1.448416
Artificial 2009	1.103924	1.491495	Artificial 2009	1.066719	1.49956
No. of Obs.	97	97	D_{2020}	.9382518	1.755597
R-Squared		0.3858	Artificial 2020	1.159854	1.604498
			No. of Obs.	116	116
			R-Squared		0.3561

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$
Source: Author's research

Note: Analysis has not been done for the 2020 year because the last data available for the variable 'cost of starting a business' are for the year 2019.

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$
Source: Author's research

Although in the research conducted on the sample of the selected countries of South-Eastern Europe, the influence of the corruption perception index on the attractiveness of the country for foreign investors was not confirmed, numerous authors in the last decade have concluded that this variable is significant in the countries of the Middle East and North Africa (Elheddad, 2018; Okafor et al., 2017) and in the South and East Asia region Quazi (2014).

CONCLUSION

In the paper, the appropriate panel regression models are formulated in which the main explanatory variables show the index of the government of rights, the efficiency of the government, the index of efficiency of public management, the index of political stability, the index of perception of corruption, the expense of starting the business and the index of economic freedom whereby the certain assembly of so-called variables is chosen in order to quantify in a more precise way the influence of examined factors on the foreign direct investments. The research is enforced on the sample of eight countries of the region (Montenegro, Bosnia and Herzegovina, Serbia, Northern Macedonia, Croatia, Bulgaria, Romania and Albania) for the period of 15 years, from 2007 to 2021.

By using Hausman's test, it is determined that the model of fixed effects is superior in relation to the model of random effects in all econometric specifications. Unfulfillment of assumption in the view of equality of variances of residual is established by using the Waldo test of heteroscedasticity, which is why during the further analysis, alternative estimations were enforced for the checking of the robustness of gained results: pooled least squares method with the adjusted standard errors of the panel (PCSE OLS with using PCSE marking of asymptotic variance) and "workable" generalized method of the least squares (FGLS).

The results of the enforced empiric analysis proved that the index of the government of rights, the efficiency of government, index of efficiency of public management and index of political stability positively influence the attraction of the country for foreign investors, while the increase of expenses of starting a new business in the countries of region negatively influences the attraction of the country for the foreign investors. It is also determined that the index of perception of corruption and the index of economic freedom do not contribute in significant measure to the differences between countries encompassed with the sample in view of the degree of their attractiveness for foreign investitures.

Based on results gained by using the pooled least squares method with adjusted standard errors of the panel and the generalized method of the least squares, one more important conclusion of the paper is that the results are, in most cases, robust.

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APPENDIX

Table A1. Correlation matrix of key explanatory variables

	IVP	EV	EJU	IPS	IPK	TZB	IES
IVP	1.0000						
EV	0.5488	1.0000					
EJU	0.4865	0.4473	1.0000				
IPS	0.5998	0.7701	0.5154	1.0000			
IPK	0.8063	0.6361	0.3248	0.4990	1.0000		
TZB	-0.5838	-0.5408	-0.5383	-0.4750	-0.5721	1.0000	
IES	0.1113	0.1212	0.5525	0.1410	0.1363	-0.4324	1.0000

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A7. Tests of residual model (3) fixed effects

Test	Test statistics
Modified Wald Test to test heteroscedasticity	chi2 (8) = 205.39***
Wooldridge Serial Correlation Test	F(1,7) = 1.626
Pesaran's test of comparative dependence	Z = -0.046

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A3. Tests of residual model (4) fixed effects

Test	Test statistics
Modified Wald Test to test heteroscedasticity	chi2 (8) = 291.06***
Wooldridge Serial Correlation Test	F(1,7) = 3.418
Pesaran's test of comparative dependence	Z = 0.320

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A4. Tests of residual model (5) fixed effects

Test	Test statistics
Modified Wald Test to test heteroscedasticity	chi2 (8) = 46.43***
Wooldridge Serial Correlation Test	F(1,7) = 1.627
Pesaran's test of comparative dependence	Z = 0.346

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A5. Tests of residual model (6) fixed effects

Test	Test statistics
Modified Wald Test to test heteroscedasticity	chi2 (8) = 245.64***
Wooldridge Serial Correlation Test	F(1,7) = 3.092
Pesaran's test of comparative dependence	Z = 0.223

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A6. Tests of residual model (7) fixed effects

Test	Test statistics
Modified Wald Test to test heteroscedasticity	chi2 (8) = 309.47***
Wooldridge Serial Correlation Test	F(1,7) = 2.942
Pesaran's test of comparative dependence	Z = 0.956

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A7. Tests of residual model (8) fixed effects

Test	Test statistics
Modified Wald Test to test heteroscedasticity	chi2 (8) = 80.47***
Wooldridge Serial Correlation Test	F(1,7) = 2.246
Pesaran's test of comparative dependence	Z = -0.653

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table A8. Tests of residual model (9) fixed effects

Test	Test statistics
Modified Wald Test to test heteroscedasticity	chi2 (8) = 62.95***
Wooldridge Serial Correlation Test	F(1,7) = 2.469
Pesaran's test of comparative dependence	Z = -0.157

Note: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Article history:	Received: 19.7.2023.
	Accepted: 15.8.2023