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INSTITUTIONS' EFFECT ON A COUNTRY'S INVESTMENT ATTRACTIVENESS WITHIN SUSTAINABLE DEVELOPMENT

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Abstract. Sustainable development requires implementation of relevant green transformation of countries by providing green policies and extending green technologies and renewable energies. Withal, it requires attracting additional knowledge, human, financial, and natural resources. In this case, countries with higher investment attractiveness have a higher capability to attract additional knowledge and resources to implement mechanisms and policies to achieve sustainable development goals. The effectiveness of public governance is a basic condition for the successful modernization of the economy to develop a positive business climate and attract investment. The paper aims at analysing the impact of institutions' quality on a country's investment attractiveness. The objects of research are Ukraine and the EU countries. The study applies correlation and regression analysis to achieve the purpose of the research. The findings show that institutions' quality has a positive and statistically significant effect on a country's investment attractiveness in the EU countries. However, in political stability, freedom and quality of governance positively influence a country's investment attractiveness. Improving political stability by one point promotes the integrated index of a country's investment attractiveness for the EU country by 0.086 and for Ukraine by 0.016. The impact of the rule of law on a country's investment attractiveness is not statistically significant. This means that Ukraine has not formed an appropriate and affordable legislation base for attracting investors to the country. Thus, the Ukrainian government should pay attention to legislation for the regulation of social and economic development and energy and resource use.

Keywords: sustainable growth, climate finance, foreign development investment, R&D investment
JEL Classification: D25, E22, G23

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1. Introduction

The EU countries and Ukraine declared ambitious goals of achieving sustainable development and reducing the energy intensity of economic development (Kotowicz et al., 2019; Kwilinski et al., 2019a; Kharazishvili et al., 2020). In addition, it requires implementation of countries' relevant green transformation by providing green policies, extending green technologies (Kharazishvili et al., 2021; Kotowicz et al., 2022) and renewable energies, and enhancing green education (Dzwigol, 2020a; 2021; 2022), consciousness and awareness (Kwilinski et al., 2019b; Dźwigol et al., 2019; Chygryn et al., 2020; Dzwigol et al., 2020). Withal, the above-mentioned needs attracting additional knowledge (Szczepańska-Woszczyna & Gatnar, 2022; Miśkiewicz 2018; 2019; 2021b), human, financial, and natural resources. In this case, countries with higher investment attractiveness have a higher capability to attract additional knowledge and resources to implement mechanisms and policies to achieve sustainable development goals. Thus, assessment of a country's investment attractiveness is a key point when making an investment decision for stakeholders (investors, highly qualified labour resources, international institutions, etc.). In addition, the results of the evaluation of a country's investment attractiveness could be a benchmark for creating policies for a country's socioeconomic development.

According to the analytical reports of international agencies, Ukraine has been losing its competitive position from year to year: according to the Global Attractiveness Index (2022), Ukraine ranked 62nd out of 144 countries in 2018, 71st in 2019, and 75th in 2020. In addition, according to the Global Entrepreneurship Index of 137 countries, Ukraine ranked 73rd in 2018, 77th in 2019, and 79th in 2020. Considering the global innovation index, among 131 countries in 2018, Ukraine occupied 43rd place, 47th place in 2019, and 45th place in 2020. These negative tendencies lead to a reduction in the country's investment attractiveness. Consequently, it provokes the outflow of capital and resources from the country (Kwilinski et al., 2022). In 2020, in Ukraine, the value of foreign direct investments decreased by 6.2 billion USD compared to 2019 (State Statistic Service of Ukraine, 2022), and the private remittances received from emigrants almost tripled the investment of non-resident companies in the economy (Kwilinski et al., 2020a; 2020b). These trends confirm the inefficiency of the state policy to develop and use the investment capabilities of the country. Effectiveness of the public governance is a basic condition for the successful modernization of the economy to develop a positive business climate (Hussain et al., 2021), attract foreign investment, increase labour productivity due to the transfer of innovative technologies (Kuzior et al., 2021), effectively use agricultural resources, reduce the energy intensity of economic development and transition to alternative energy sources (Melnychenko, 2021; Kwilinski et al., 2022; Lyulyov et al., 2021a; 2021b). In this case, it is necessary to justify the relevant dimensions of institutional efficiency that influence a country's investment attractiveness.

2. Literature Review

The analysis of the theoretical landscape of evaluating a country's investment attractiveness allows making a conclusion that different combinations of the dimensions of a country's

development could increase or reduce investment attractiveness (Abazov, 1997; 2010; Kuzior et al., 2021; Kwilinski et al., 2020a; Nawawi et al., 2022). Farooq (2022) empirically justifies a hypothesis that the quality of institutions influences attractiveness for FDI and, consequently, countries' investment attractiveness. Khan et al. (2022) confirms similar conclusions on the role of institutions' quality in providing investment attractiveness to a country. Elmawazini (2010) maintains that government investment plays a core role in enhancing a country's investment climate, which allows attracting foreign direct investment. Hall and Jones (1999) demonstrate that institutional quality directly affects a country's capability to attract investment and new stakeholders into a country. Oduola et al. (2022) apply the PLS model with fixed effects and GMM to check the hypothesis on the role of government efficiency in providing a positive country investment climate. Considering the findings, these scholars confirm that political stability could serve as a catalyst for investment attractiveness of Sub-Sahara African countries.

Rigobon and Rodrik (2005) highlight the statistical significance of political and social climate in promoting countries' investment attractiveness. They empirically justify that political and social dimensions stimulate the growth of a country's competitiveness and, consequently, investment attractiveness. Withal, Kardos (2014) proves the bi-directional relationship between social dimensions and a country's investment attractiveness. They use the level of people's well-being to evaluate a country's social development. Sekkat and Veganzones-Varoudakis conclude that the political climate, infrastructure and social dimensions have statistically significant impacts on the investment attractiveness of the developing countries (South Asia, Africa, and the Middle East). In addition, they confirm that economic openness could boost foreign direct investment in a country.

The vast range of scholars confirm an interrelationship between ecological dimension of a country's development and its investment attractiveness (Yang et all., 2021; Miskiewicz, 2022). The researchers (Miskiewicz et al., 2021; 2022) underline that countries with an attractive investment climate receive more options for investing into the green projects and technologies (Melnychenko, 2021; Kwilinski et al., 2020b; Coban, 2022; Dźwigoł & Wolniak, 2018). Withal, other scientists conclude that countries with well-developed green infrastructure and a higher share of renewable energy are more attractive for foreign stakeholders and investments (Saługa et al., 2021; Miskiewicz, 2020; 2021a).

Alfaro et al. (2004) analyse the role of corruption in attracting investment into a country. The empirical results confirm the hypothesis that countries without corruption are more attractive for investment in new technologies, which could boost a country's development. A similar conclusion is proven by Medina and Schneider (2020), who confirm that high corruption hinders investment in a country and leads to growing incredulity towards a country.
Nay et al. (2022) demonstrate that the rule of law is conducive to Polish investment attractiveness. Scholars emphasise the role of the legislation base in strengthening investment attractiveness for green projects on overcoming climate emergencies. Othman (2022) applies the GMM model to confirm the effect of economic freedom on countries' investment attractiveness. Furthermore, he maintains that economic and financial freedom has a positive

statistically significant impact on investment attractiveness in the Arab countries. Considering the abovementioned results, this study aims at analysing the impact of institutions' quality on a country's investment attractiveness.

3. Methods

The object of research is Ukraine and the EU countries, which have common historical post-Soviet roots (Bulgaria, Croatia, Lithuania, Latvia, Poland, and Romania). The panel data are compiled from the World Data Bank for the period of 2000–2019.

Applying the methods of our previous studies (Moskalenko et al., 2022a; 2022b), a country's investment attractiveness is evaluated in the following stages:

1) evaluation of the internal (a country's capabilities to attract new resources) and external (a country's capabilities to effectively use available resources) dimensions of a country's investment attractiveness. Thus, based on the papers (Moskalenko et al., 2022a; 2022b), the following indicators of internal dimensions are analysed: SE – social and economic; In – infrastructure; RD – research and development, AR – agriculture, E – energy and resources;
2) normalization of selected variables;
3) evaluation of indicator values by using the entropy method;
4) integrated evaluation of a country's investment attractiveness by using the taxonometric method.

Thus, based on the abovementioned stages, the findings of a country's investment attractiveness are shown in Figure 1.

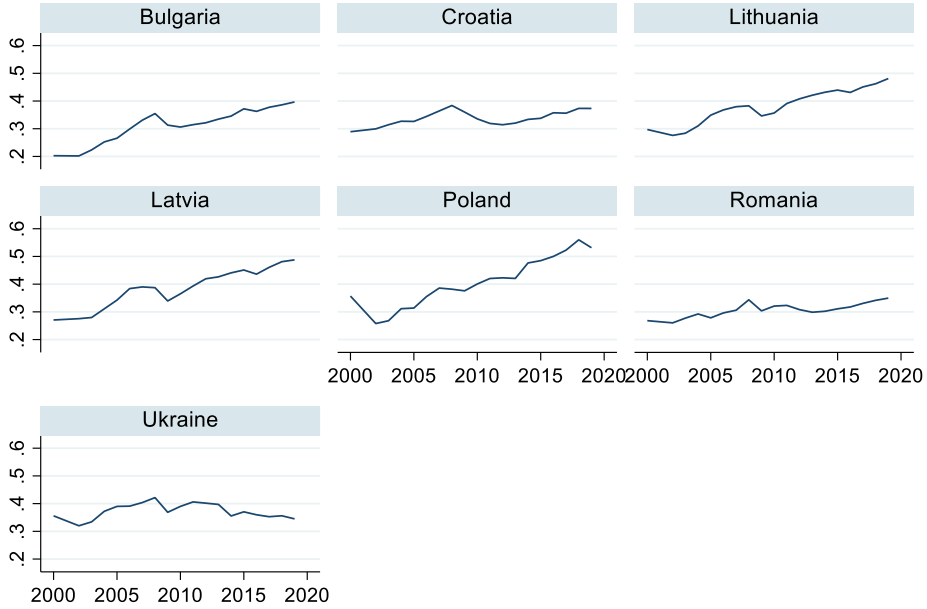

Figure 1. The empirical results of evaluating a country's investment attractiveness
Source: developed by the authors based on (Moskalenko et al., 2022a; 2022b).

The study applies Worldwide Governance Indicators (WGI) to estimate the quality of institutions. This indicator was developed by the World Bank experts (Kaufmann et al., 2011; WGI, 2022). It explains integrated and partial indicators of the quality of institutions for 200 countries since 1996. The core dimensions of WGI are Voice and Accountability; Political Stability and Absence of Violence; Government Effectiveness; Regulatory Quality; Rule of Law; and Control of Corruption (Table 1).

Table 1. The core dimensions of institutions' quality

Dimensions	Symbols	Explanations
Voice and Accountability	VA	Evaluation of a country's society participation in the election process, the ability of the elected authorities to respond to the society demands in a constitutional manner, freedom of expression and voice.
Political Stability and Absence of Violence	PS	The political system stability, the probability of an unconstitutional or violent overthrow of a government, including politically motivated violence and terrorism
Government Effectiveness	GE	The ease of using government services in licensing, permits and patents, protecting the producers' rights, an access to natural resources under the government monopoly, etc.
Regulatory Quality	RQ	The laws and regulations governing economic activity creates a business environment. The unequivocal interpretation of regulatory acts, the equality of all economic subjects before the law, and a transparent system of legislation reform
Rule of Law	RL	Evaluation of the compliance with laws, execution of contracts, security in property relations, ensuring the establishment of justice in judicial and law enforcement agencies
Control of Corruption	CC	Tolerance of authorities to the possibility of using administrative levers for personal gain, including both small and large-scale forms of corruption

Source: developed by the authors based on (Kaufmann et al., 2011; WGI, 2022).

The WGI summarizes the data from more than 30 separate sources, with the participation of public opinion research institutes, think tanks, non-governmental organisations, international organisations and business. Each of the six WGI indicators is constructed by summarizing data from primary sources that are consistent with the concept of public administration evaluation. The descriptive statistics of the selected variables of WGI for each country and for all panel data are shown in Table 2.

The findings of the correlation analysis are shown in Table 3. The empirical results lead to a conclusion that the dynamics of the indicators is homogeneous. Among the six indexes, political stability has a negative correlation value relative to all others. This means that political stability is achieved with the simultaneous decline of freedom and government effectiveness, the rule of law, voice and accountability and control of corruption.

Table 2. Descriptive statistics of the selected variables

Variables	Mean	SD	CV	Min	Max	Mean	SD	CV	Min	Max
	Bulgaria					Croatia				
CC	-0.154	0.104	-0.678	-0.267	0.108	0.124	0.106	0.856	-0.073	0.291
GE	0.144	0.114	0.796	-0.057	0.339	0.521	0.115	0.221	0.332	0.707
PS	0.283	0.161	0.570	0.004	0.540	0.608	0.112	0.185	0.278	0.810
RQ	0.586	0.107	0.182	0.197	0.697	0.449	0.140	0.311	-0.030	0.591
RL	-0.073	0.043	-0.580	-0.140	0.036	0.175	0.149	0.850	-0.146	0.409
VA	0.480	0.104	0.216	0.325	0.691	0.524	0.050	0.096	0.453	0.658
	Lithuania					Latvia				
CC	0.395	0.176	0.447	0.130	0.714	0.302	0.151	0.501	-0.072	0.536
GE	0.796	0.234	0.294	0.145	1.185	0.752	0.224	0.297	0.329	1.105
PS	0.779	0.130	0.167	0.425	1.050	0.546	0.213	0.390	0.205	1.002
RQ	1.070	0.117	0.110	0.764	1.277	1.018	0.107	0.105	0.748	1.193
RL	0.769	0.204	0.265	0.292	1.029	0.737	0.205	0.279	0.197	1.014
VA	0.920	0.051	0.055	0.850	1.025	0.802	0.048	0.060	0.701	0.885
	Poland					Romania				
CC	0.513	0.177	0.344	0.139	0.739	-0.206	0.132	-0.638	-0.491	-0.018
GE	0.593	0.127	0.215	0.374	0.827	-0.237	0.102	-0.429	-0.373	-0.026
PS	0.679	0.281	0.414	0.153	1.072	0.174	0.193	1.108	-0.382	0.526
RQ	0.890	0.107	0.121	0.728	1.055	0.424	0.243	0.572	-0.109	0.658
RL	0.609	0.154	0.252	0.405	0.841	0.046	0.208	4.555	-0.260	0.388
VA	0.954	0.127	0.133	0.698	1.105	0.436	0.075	0.172	0.299	0.541
	Ukraine					Total				
CC	-0.929	0.141	-0.151	-1.150	-0.710	0.006	0.479	75.477	-1.150	0.739
GE	-0.598	0.144	-0.240	-0.834	-0.297	0.282	0.519	1.843	-0.834	1.185
PS	-0.735	0.810	-1.102	-2.021	0.173	0.333	0.592	1.776	-2.021	1.072
RQ	-0.501	0.113	-0.225	-0.629	-0.259	0.562	0.519	0.922	-0.629	1.277
RL	-0.785	0.089	-0.113	-1.109	-0.681	0.211	0.539	2.554	-1.109	1.029
VA	-0.179	0.255	-1.426	-0.671	0.091	0.562	0.382	0.678	-0.671	1.105

Source: developed by the authors.

Table 3. Correlation matrix for WGI

	VA	PS	GE	RQ	RL	CC
VA	1.0000					
PS	–0.1997	1.0000				
GE	0.0551	–0.6937	1.0000			
RQ	0.1882	–0.3299	0.4855	1.0000		
RL	0.4738	–0.1864	0.3840	0.4565	1.0000	
CC	0.4212	–0.2155	0.5178	0.5688	0.6570	1.0000

Source: developed by the authors.

The results confirm the multiculturality among the selected variables. Considering the previous study (Bilan et al., 2019), the integrated indicator or elemental assessment allows eliminating multiculturality issues. Scholars (Bilan et al., 2019) apply the integrated index of institutions' quality based on Fishburn methodology and consider the direction of influence of various subindices on government quality:

$$WGI = \sum_{i=1}^{n} w_i \times WGI_i = \sum_{i=1}^{n} \frac{2(n-j+1)}{n(n+1)} \times WGI_{i,t}, \quad (3.2)$$

where w_i is a weight of i-subindexes of WGI; n is numbers of subindexes; j is a sub-index rank; $WGI_{i,t}$ is calculated values of the i-th sub-index.

The study applies the following stages to check the elemental assessment of WGI impact on quality of institutions:

1) evaluating each indicator of WGI impact on dimensions of a country's investment attractiveness;
2) evaluating each indicator of WGI impact on the integrated value of a country's investment attractiveness;
3) evaluating WGI impact on the integrated value of a country's investment attractiveness.

4. Results and Discussion

Considering the findings (Table 4) on the six indicators, only political stability has a statistically significant impact on the external dimensions of a country's investment attractiveness. Thus, the growth of PS by one point led to an increase in a country's investment attractiveness by 0.008.

Table 4. The WGI impact on external dimensions of a country's investment attractiveness

Variables	Coef.	P–value	Const.	P–value
VA	0.013	0.148	0.048	0.000
PS	0.008	0.003	0.051	0.000
GE	-0.011	0.352	0.021	0.038
RQ	- 0.024	0.282	0.033	0.010
RL	0.031	0.166	0.069	0.001
CC	0.006	0.711	0.051	0.006

Source: developed by the authors.

It should be noted that voice and accountability and freedom of voice are the core catalysts of the society's democratic development. Consequently, it could boost the inflow of foreign investments and contribute to improving a country's investment attractiveness.

In the next stage, the study applies correlation regression analysis to check the impact of WGI on the internal indicators of a country's investment attractiveness: social and economic, infrastructure, research and development, agriculture, energy and resources. The results of the WGI impact on internal indicators of a country's investment attractiveness are shown in Table 5.

Table 5. The findings of VA, CC, RQ, RL, PS and GE impact on internal dimensions and integrated index of the country's investment attractiveness for Ukraine and the EU countries

Variables	Regression equations	P–value		Variables	Regression equations	P–value	
		const	WGI_i			const	WGI_i
	VA				**CC**		
SE	Y= 0.054+0.006VA	0.000	0.329	SE	Y = 0.071+0.02CC***	0.000	0.078
In	Y= 0.079+0.088VA*	0.000	0.000	In	Y = 0.128+0.07CC	0.000	0.127
RD	Y= 0.052+0.057VA**	0.000	0.001	RD	Y = 0.012–0.055CC	0.719	0.121
AR	Y= 0.089+0.024VA**	0.000	0.014	AR	Y = 0.07–0.024CC	0.001	0.181
E	Y= 0.057+0.007VA	0.000	0.405	E	Y = 0.045–0.012CC	0.009	0.479
CIA_{UA}	Y= 0.379–0.034VA	0.000	0.136	CIA_{UA}	Y = 0.377+0.005CC	0.000	0.907
CIA_{EU}	Y= 0.261+0.137VA*	0.000	0.000	CIA_{EU}	Y = 0.331+0.153CC*	0.000	0.000
	RQ				**RL**		
SE	Y = 0.053+0.001RQ	0.000	0.940	SE	Y =0.071–0.025RL	0.000	0.102
In	Y = 0.099+0.075RQ	0.004	0.221	In	Y =0.19+0.159RL**	0.000	0.003
RD	Y = 0.022+0.082RQ***	0.339	0.075	RD	Y =–0.038+0.127RL**	0.208	0.002
AR	Y = 0.098+0.009RQ	0.000	0.701	AR	Y =0.046+0.059RL**	0.010	0.008
E	Y = 0.034+0.044RQ**	0.003	0.034	E	Y =0.059–0.004RL	0.003	0.840
CIA_{UA}	Y = 0.34–0.065RQ	0.000	0.248	CIA_{UA}	Y =0.39+0.032RL	0.000	0.562
CIA_{EU}	Y = 0.251+0.014RQ*	0.000	0.000	CIA_{EU}	Y =0.311+0.119RL*	0.000	0.000
	PS				**GE**		
SE	Y =0.056+0.006PS**	0.000	0.002	SE	Y =0.045–0.011GE	0.000	0.352
In	Y =0.048+0.019PS**	0.000	0.017	In	Y =0.11+0.078GE***	0.001	0.098
RD	Y =0.078+0.019PS**	0.000	0.001	RD	Y =0.014+0.082GE**	0.481	0.019
AR	Y =0.088+0.008PS**	0.000	0.014	AR	Y =0.108–0.023GE	0.000	0.223
E	Y =0.063+0.009PS*	0.000	0.000	E	Y =0.024+0.053GE*	0.003	0.000
CIA_{UA}	Y =0.385+0.016PS**	0.000	0.028	CIA_{UA}	Y =0.321+0.085GE**	0.000	0.043
CIA_{EU}	Y =0.312+0.086PS*	0.000	0.000	CIA_{EU}	Y =0.309+0.108GE*	0.000	0.000

Note: SE stands for social and economic; In means infrastructure; RD is research and development, AR is agriculture, E is energy and resources; $CIA_{EU,UA}$ is a country's investment attractiveness of the EU and Ukraine, respectively; *, **, and *** are statistical significance at 1%, 5% and 10%.
Source: developed by the authors.

The results (Table 5) confirm the statistically significant impact of VA on three internal dimensions of a country's investment attractiveness: infrastructure, research and development, and agriculture. Increasing VA results in the growth of infrastructure by 0.088, research and development by 0.057 and agriculture by 0.024. In addition, the integrated index of a country's investment attractiveness for Ukraine is not elastic for changes in VA. However, for the EU countries, the integrated index of a country's investment attractiveness is elastic for changes in VA. Improving VA is conducive to CIA_{EU} by 0.137 points.

Improving control over corruption promotes social and economic dimensions (by 0.02). Furthermore, control of corruption positively influences the integrated index of a country's investment attractiveness for the EU countries. It should be noted that Ukraine has not developed effective institutions to tackle corruption. Thus, corruption is not only an economic but also a social issue for the country. The impact of the rule of law has a positive and statistically significant (p value is higher than 0.05) effect on research and development,

energy and resources, and the integrated index of a country's investment attractiveness for the EU countries (Table 5).

Considering the empirical results (Table 5), the RQ increase leads to the growth of RD by 0.082, E by 0.044 and CIA_{EU} by 0.014. Withal, the findings in Table 8 show that the rule of law is conducive to infrastructure by 0.159 (statistical significance 5%), research and development by 0.127 (statistical significance 5%), agriculture by 0.059 (statistical significance 5%) and CIA_{EU} by 0.119 (statistical significance 1%).

The legislation base is the core element of government efficacy in providing relevant social and economic policies. The impact of RL on CIA_{UA} is not statistically significant. This means that Ukraine has not formed an appropriate and accessible legislation base for attracting investors to the country. Thus, the Ukrainian government should pay attention to legislation for regulating social and economic development and energy and resource use. Contrary to the above findings, political stability has a positive and statistically significant impact on all internal dimensions of a country's investment attractiveness. Thus, improving PS by one point promotes the integrated index of a country's investment attractiveness for the EU country by 0.086 and for Ukraine by 0.016.

Government effectiveness positively affects all dimensions of a country's investment attractiveness, excluding social, economic, and agricultural dimensions. Thus, increasing the efficiency of governance promotes the infrastructure, research and development, energy and resources dimensions. In addition, GE positively affects the integrated index of a country's investment attractiveness for the EU countries and Ukraine.

5. Conclusions

It is necessary to emphasize that one requirement to achieve sustainable development goals is the transference, accountability, and efficiency of governance institutions. Providing them allows improving a country's investment climate and inflows of new resources into a country (labour, natural, financial). Thus, the government should focus on providing effective and transparent policies.

The empirical results of the WGI effect on the integrated index of a country's investment attractiveness showed that, unlike EU countries, where all WGI sub-indices have an equally positive and statistically significant impact on a country's investment attractiveness, in Ukraine, there are only indices of political stability, freedom and quality of state authorities that positively affect the country's investment attractiveness.

It should be noted that Ukraine has already run the restructuring of government policies, which is accompanied not only by changes in the foreign policy orientation but also by approaches to regulating domestic policy. Reforms in the public administration have different effects on the country's socioeconomic development. Thus, political stability, freedom and voice, and public opinion are very sensitive to the government's attempts to implement

reforms. The changes in external dimensions (growth in the gross domestic product, decrease in the unemployment rate, inflow of foreign direct investments) and other macroeconomic indicators respond to the reforms with a time lag. Thus, the positive changes are reflected in the statistics when the government in Ukraine has already changed and policies have been implemented (Kwilinski et al., 2019c). Moreover, the results showed that in the long term, the policy on improving a country's investment attractiveness should consider the targeted value for each indicator. Furthermore, the Ukrainian government should provide the convergent policy with the EU countries (Szczepańska-Woszczyna et al., 2022).

Despite the valuable findings, this study has the potential to benefit. The number of countries should be extended to provide a comparison between all EU countries and Ukraine. In addition, in further research, the nonlinear and casual relationship should be checked among the selected variables. Besides, it is necessary to underline those digital technologies is conducive to business and investment climate (Kwilinski, 2019; Tkachenko et al., 2019; Trzeciak et al., 2022; Vaníčková & Szczepańska-Woszczyna, 2022). In this case, further studies should consider digitalization and new technologies' impact a country's investment attractiveness.

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