

Igor Matyushenko^{1,2*}, Serhii Hlibko², Olena Khanova¹, Yelyzaveta Kudlai¹

¹V.N. Karazin Kharkiv National University
61022, 4 Svoboda Sq., Kharkiv, Ukraine

²Scientific and Research Institute of Providing Legal Framework for the Innovative Development of the National Academy of Legal Sciences of Ukraine
61002, 80 Chernyshevsky Str., Kharkiv, Ukraine

Investment Climate of the EU Countries and Ukraine in the Context of Realization of “Green” Economy

Abstract. In the current context of the development of the world economy, one of the main priorities of the country’s economic development is the intensification of investment processes, because they have a positive impact on economic growth and efficient functioning of a country’s economy. The modern investment market is full of competition among countries in order to attract investment. The main indicator influencing the amount of funds raised in the country’s economy is the country’s investment climate. Also, in modern conditions the concept of “green” economy is actively promoted. Therefore, today the assessment of the investment climate of the EU countries and Ukraine in the implementation of the “green” economy is a very important and relevant issue. Finding ways to improve the investment climate in Ukraine is another topical issue. The main objective of this study is to assess the investment climate of the EU countries and Ukraine under conditions of realization of the “green” economy. The research uses general scientific methods of cognition: induction and deduction, analysis and synthesis, methods of qualitative and quantitative economic and statistical analysis, graphic method. Among the methods of economic-mathematical modelling, correlation analysis, trend analysis and correlation-regression analysis were used. It was established that the study of the investment climate of the EU countries and Ukraine in the context of the implementation of the “green” economy is based on objective international ratings that have a transparent calculation methodology. These international ratings are constantly updated and cover most countries of the world. So, the proposed method makes it possible to conduct an analysis of the investment climate and the “environmental friendliness” of the country’s economy according to world indices, to determine which countries are leaders and which are outsiders according to the selected indices and indicators, to study the place of Ukraine according to these indicators, and to conduct a trend analysis, to model the degree of close relationship between indices and factors of the investment climate on the basis of correlation analysis, as well as to develop recommendations for improving the investment climate of the EU countries and Ukraine in the conditions of implementation of the “green” economy

Keywords: investment attractiveness, European “Green Deal, competitiveness, global indices, correlation-regression model

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INTRODUCTION

In the current context of the development of the world economy, one of the main priorities of the country’s economic development is the intensification of investment processes, because they have a positive effect on economic growth and effective functioning of a country’s economy. Therefore, the modern investment market is full of competition

among countries to attract investments into the country. The main indicator influencing the amount of funds raised in the country’s economy is the country’s investment climate. The concept of “green” and “ecological” economy is actively promoted in modern conditions of climatic and environmental challenges. The main aim of the European

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*Corresponding author

Green Deal [1] is to achieve climate neutrality for Europe by 2050. It is important to understand what exactly affects the attractiveness of the investment climate, what contributes to and what inhibits the investment processes in the country. Therefore, it becomes relevant to study the investment climate of the EU countries and Ukraine in conditions of the implementation of the “green” economy.

There is no single definition of “investment climate” in scientific literature. As it is noted in [2], investment climate is a set of objective and subjective conditions that facilitate (inhibit) the investment process of the national economy (at the macro level) and individual enterprises, companies, industries (at the micro level).

According to S. Kovalenko, investment climate is a generalized characteristic of a set of social, economic, organizational, legal, political, socio-cultural prerequisites that leads to the attractiveness and expediency of investing in one or another economic system (the economy of a country, region, corporation) [3].

Scientist B.A. Karpinsky suggests the following definition of the investment climate: it is a complex of political, social, innovative, infrastructure elements that are available on a certain territory and give a synergistic effect in their combined manifestation [4].

At the present stage, sociologist-economist Adam Hayes states that investment climate refers to the economic, financial, and socio-political conditions in a country or region that show whether individuals, banks, and institutions are willing to lend and acquire a stake (i.e., to invest) in the businesses operating there [5].

Thus, the investment climate is a combination of legal, social, political, natural, economic and other factors that provide investment activity of Ukrainian and foreign investors. Currently, the concept of “green” or “ecological” economy is being actively promoted in the world circles. P. Söderholm gives the following interpretation of the

term: “green economy” is an alternative vision of growth and development; one that can generate economic development and improvements in people’s lives in the ways which are also consistent with advancing environmental and social well-being [6].

According to UN Environment Program (UNEP), the “green” economy is an economic activity, “that improves human well-being and ensures social equity while significantly reducing environmental risks and ecological scarcities” [1].

The transition to a “green” economy is a central element of the Association Agreement between Ukraine and the EU. It is a roadmap of how to move to a clean, circular economy and adapt to climate change, revert biodiversity loss and cut pollution [7]. The key objective of the European Green Deal (EGD) is climate-neutral Europe by 2050 [8].

The purpose of the article is to assess the investment climate of the EU countries and Ukraine in the conditions of implementation of the “green” economy through the assessment of the investment climate and the “greenness” of the economies of selected countries according to global indices and the analysis of the correlation of indicators of investment climate, “eco-friendliness” and the quality of life on the basis of correlation-regression analysis with development of recommendations on improvement of investment climate in Ukraine in the context of realization of the “green” economy.

MATERIALS AND METHODS

General scientific methods of studying and economic-mathematical modeling served as methodological basis of the research; the correlation analysis is used to model the relationships between the indicators of the investment climate; the trend analysis is used to analyze the tendency of indexes).

The methodology of the estimation of investment climate of Ukraine and the EU in the conditions of implementation of a “green” economy was developed; a diagram of the methodology is shown in Figure 1 below.

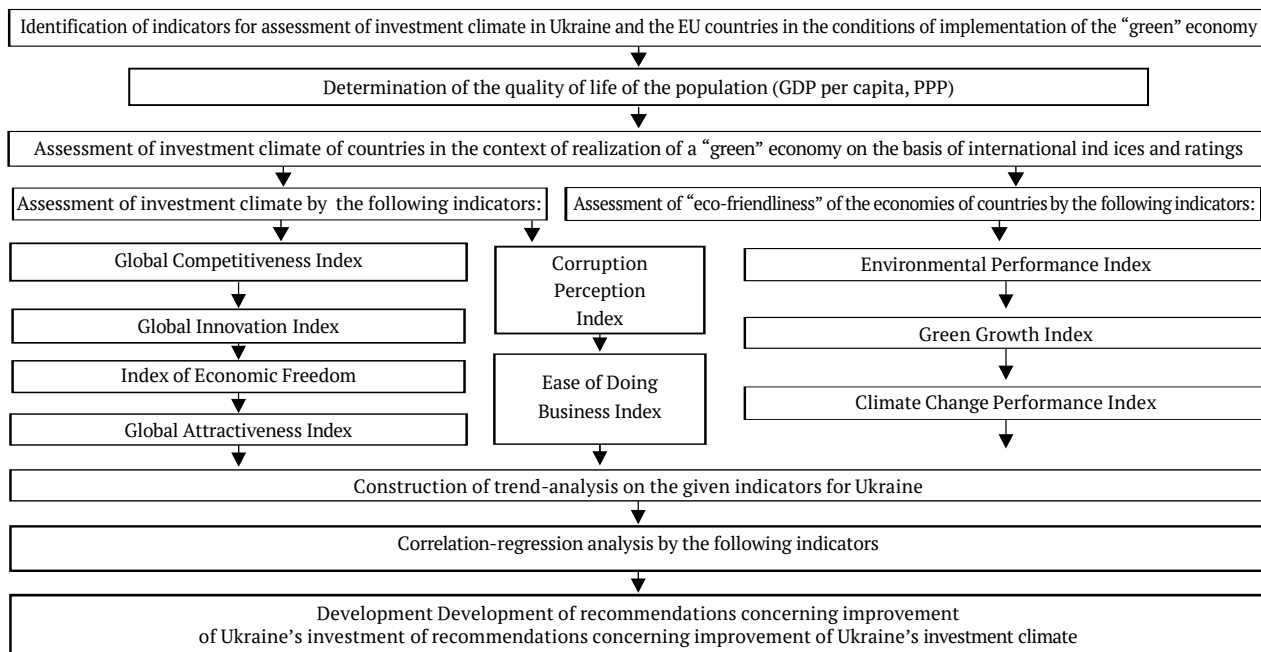


Figure 1. Methodology of researching the investment climate of the EU countries and Ukraine in the condition of implementation of the “green” economy

Note: * PPP– purchasing power parity

Source: compiled by the authors

As can be seen from Figure 1, this approach to researching includes a qualitative analysis of the world indices, namely: the determination of the quality of life of the population, using macroeconomic indicator – GDP per capita (PPP) (The World Bank), the assessment of investment climate according to the following indicators: the Global Competitiveness Index (World Economic Forum (WEF)), the Global Innovation Index (World Intellectual Property Organization (WIPO)), the Index of Economic Freedom (The Heritage Foundation), the Ease of Doing Business Index (The World Bank), the Global Attractiveness Index (The European House – Ambrosetti) and the Corruption Perception Index (Transparency International); the assessment of the “eco-friendliness” of the economies of countries by the following indicators: the Environmental Performance Index (Yale University and Columbia University), the Green Growth Index (Global Green Growth Institute) and the Climate Change Performance Index (Germanwatch). Therefore, it was these indicators that were used to assess the investment climate and environmental friendliness of the country’s economy

and also to develop modeling of relationships between these indexes with the help of correlation-regression analysis.

RESULTS AND DISCUSSION

In accordance with the methodology, the investment climate of the EU and Ukraine was first evaluated according to their indicators in the indicated indices, and the quality of life of the population was determined. The economic well-being of the population was closely related to GDP per capita. GDP per capita (PPP based) is gross Ukrainian product converted into international dollars using purchasing power parity rates and divided by total population [9]. It is a universal way to see the wealth and prosperity of the country.

According to the World Bank data, among EU countries and Ukraine, the leaders, in terms of GDP per capita (PPP) in 2020, are Luxembourg, Ireland, Denmark, the Netherlands and Austria, and Ukraine has the lowest rate among these countries, while the countries that have certain economic difficulties are: Bulgaria, Greece, Croatia and Romania (Table 1, Fig. 2).

Table 1. Input indicators that characterize the degree of population economic inequality in the EU countries (2020)

Economy	2015	2016	2017	2018	2019	2020	2021*	2022*	2023*
Austria	49865.904	52684.02	54172.99	57059.54	58641.3	55648.88	57068.08	58487.28	59906.48
Belgium	46200.904	48597.4	50442.27	52623.56	54918.17	52626.58	54148.68	55670.78	57192.88
Bulgaria	18391.843	20074.29	21469.94	22957.4	24707.06	24619.95	25949.25	27278.55	28607.85
Greece	26760.363	27511.8	28604.86	29652.93	30841.7	28377.39	28923.76	29470.13	30016.5
Denmark	49045.339	51976.01	55356.68	57456.61	59896.57	60551.64	62934.34	65317.04	67699.74
Estonia	29175.926	31312.75	33821.93	36158.82	38294.48	37925.12	39840.22	41755.32	43670.42
Ireland	69028.773	71498.6	77749.2	84665.61	89550.73	95237.24	100726.2	106215.2	111704.2
Spain	34903.127	37286.21	39528.93	40686.99	42172.13	38343.16	39286.47	40229.78	41173.09
Italy	36899.385	39926.96	41581.12	43119.35	44950.93	41890.21	43077.81	44265.41	45453.01
Cyprus	31815.14	35719.07	38050.86	40476.39	41514.51	38458.19	39973.29	41488.39	43003.49
Latvia	24972.786	26721.73	28673.56	30811.07	32240.81	32212.39	33780.79	35349.19	36917.59
Lithuania	28834.428	30925.17	33761.87	36365.36	38805.75	39191.95	41421.45	43650.95	45880.45
Luxembourg	107859.686	113365.2	114985.8	117245.3	119415.5	118503.6	120607.3	122711	124814.7
Malta	37455.071	39886.95	42644.05	44482.24	46766.77	42640.12	44023.02	45405.92	46788.82
Netherlands	50288.5921	52288.42	55088.63	57901.1	59675.18	59334.22	61339.92	63345.61	65351.32
Germany	47609.781	50579.68	53071.46	55142.32	56284.98	54263.65	55762.35	57261.05	58759.75
Poland	26862.053	28322.11	30064.5	31978.53	34233.32	34406.24	36045.34	37684.44	39323.54
Portugal	29660.896	31607.75	33044.72	34931.79	36945.14	34090.73	35234.93	36379.13	37523.33
Romania	21605.837	24271.37	27141.92	29248.81	32323.87	31945.75	34173.25	36400.75	38628.25
Slovak Republic	29964.889	29645.74	30061.55	31530.92	32608.36	32014.55	32603.28	33192.01	33780.74
Slovenia	31628.247	33936.04	36507.55	38917.05	41197.38	40124.26	42029.26	43934.26	45839.26
Hungary	26806.595	27947.64	29501.12	31862.88	33961.57	33253.88	34757.88	36261.88	37765.88
Finland	42497.705	44934.45	47570.13	49706.6	51521.34	50810.53	52623.73	54436.93	56250.13
France	40849.997	42924.61	44577.07	46620.68	49619.91	46712.01	48181.71	49651.41	51121.11
Croatia	23301.2	25210.88	27154.09	28960.39	30989.58	29133.99	30514.19	31894.39	33274.59
Czech Republic	33899.287	36097.71	38824.89	41134.09	43316.33	42049.19	43898.19	45747.19	47596.19
Sweden	49103.133	50430.25	51947.95	53553.31	55337.88	54929.53	56228.43	57527.33	58826.23
Ukraine	10164.327	11148.2	11871.12	12634.24	13350.48	13056.7	13680.47	14304.24	14928.01

Note: *- calculated by trend analysis

Source: compiled by the authors based on [10]

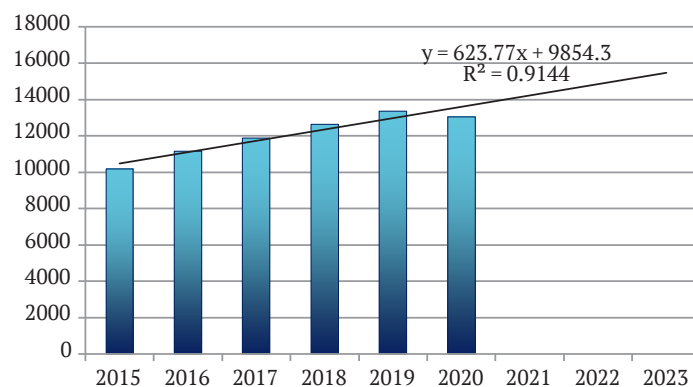


Figure 2. Dynamics of changes in GDP per capita (PPP) of Ukraine, 2015-2023

Source: compiled by the authors based on [10]

According to the results of the trend analysis, Ukraine has a positive development trend for this indicator with a high probability of the made forecast (coefficient of determination $R=91.4\%$). It means that the quality of well-being and living of the population will improve, but this indicator remains low in relation to the EU countries.

Let's move on to studying the indicators of EU countries and Ukraine according to selected international indices.

One of the most influential international investment indices is the Global Competitiveness Index. The Global Competitiveness Index was designed by the World Econom-

ic Forum to help policy-makers, business leaders and other stakeholders shape their economic strategies in the era of the Fourth Industrial Revolution. This index was based on a combination of publicly available statistics and the results of a survey of CEOs. According to the latest rating data of the World Economic Forum (in 2019) the most competitive country in the EU is the Netherlands, while Germany, Sweden, Denmark and Finland also take the leading positions. Ukraine ranks last in the EU for this index, the anti-leaders are also the following countries: Croatia, Greece, Romania and Bulgaria (Table 2, Fig. 3).

Table 2. Global Competitiveness Index of the EU countries and Ukraine, 2018-2022

Economy	2018	2019	2020*	2021*	2022*
Austria	76.3	76.6	76.9	77.2	77.5
Belgium	76.6	76.4	76.2	76	75.8
Bulgaria	63.6	64.9	66.2	67.5	68.8
Greece	62.1	62.6	63.1	63.6	64.1
Denmark	80.6	81.2	81.8	82.4	83
Estonia	70.8	70.9	71	71.1	71.2
Ireland	75.7	75.1	74.5	73.9	73.3
Spain	74.2	75.3	76.4	77.5	78.6
Italy	70.8	71.5	72.2	72.9	73.6
Cyprus	65.6	66.4	67.2	68	68.8
Latvia	66.2	67	67.8	68.6	69.4
Lithuania	67.1	68.4	69.7	71	72.3
Luxembourg	76.7	77	77.3	77.6	77.9
Malta	68.8	68.5	68.2	67.9	67.6
Netherlands	82.4	82.4	82.4	82.4	82.4
Germany	82.8	81.8	80.8	79.8	78.8
Poland	68.2	68.9	69.6	70.3	71
Portugal	70.2	70.4	70.6	70.8	71
Romania	63.5	64.4	65.3	66.2	67.1
Slovak Republic	66.8	66.8	66.8	66.8	66.8
Slovenia	69.6	70.2	70.8	71.4	72
Hungary	64.3	65.1	65.9	66.7	67.5
Finland	80.3	80.2	80.1	80	79.9
France	78	78.8	79.6	80.4	81.2
Croatia	60.1	61.9	63.7	65.5	67.3
Czech Republic	71.2	70.9	70.6	70.3	70
Sweden	81.7	81.2	80.7	80.2	79.7
Ukraine	57.03	56.99	56.95	56.91	56.87

Note: * calculated by trend analysis

Source: compiled by the authors based on [11; 12]

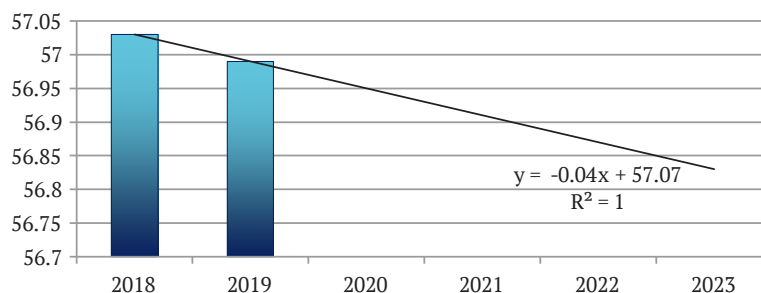


Figure 3. Dynamics of changes in Ukraine's Global Competitiveness Index, 2018-2023

Source: compiled by the authors based on [11; 12]

The trend analysis indicates a disappointing trend in Ukraine's competitiveness, though the coefficient of approximation is equal to 100%, but this trend cannot be considered completely reliable because the indicators for only 2 years were taken for calculation. It was essential to increase the competitiveness of Ukraine, since this index is the standard by which political and business leaders define weaknesses and strengths in national economies, assess the effectiveness of economic policy and institutional reforms and, therefore, it affects the country's investment climate. Let us consider the following index – the Global Innovation Index,

published by the World Intellectual Property Organization in its annual report, where the analysis of innovation activity is carried out. The Global Innovation Index ranks world economies according to their innovation capabilities. It consists of roughly 80 indicators, grouped into innovation inputs and outputs, and shows different aspects of innovation [13].

Sweden is the leader among the EU in 2021, the Netherlands, Finland, Denmark and Germany are also in the leading position; Croatia, Romania and Greece occupy lower positions in the ranking. Ukraine takes the last place among the countries studied (Table 3, Fig. 4).

Table 3. Global Innovation Index of the EU countries and Ukraine, 2015-2023

Economy	2015	2016	2017	2018	2019	2020	2021	2022*	2023*
Austria	54.1	52.6	53.1	51.3	50.9	50.1	50.9	50.3	49.7
Belgium	50.9	52	49.9	50.5	50.2	49.1	49.2	48.8214	48.4428
Bulgaria	42.2	41.4	42.8	42.6	40.3	40	42.4	42.2321	42.0642
Greece	40.3	39.8	38.8	38.9	38.9	36.8	36.3	35.6607	35.0214
Denmark	57.7	58.5	58.7	58.4	58.4	57.5	57.3	57.175	57.05
Estonia	52.8	51.7	50.9	50.5	50	48.3	49.9	49.3143	48.7286
Ireland	59.1	59	58.1	57.2	56.1	53	50.7	49.3	47.9
Spain	49.1	49.2	48.8	48.7	47.9	45.6	45.4	44.7143	44.0286
Italy	46.4	47.2	47	46.3	46.3	45.7	45.7	45.4929	45.2858
Cyprus	45.5	46.3	46.8	47.8	48.3	45.7	46.7	47.0536	47.4072
Latvia	45.5	44.3	44.6	43.2	43.2	41.1	40	39.1321	38.2642
Lithuania	42.3	41.8	41.2	41.2	41.5	39.2	39.9	39.4679	39.0358
Luxembourg	59	57.1	56.4	54.5	53.5	50.8	49	47.375	45.75
Malta	50.5	50.4	50.6	50.3	49	46.4	47.1	46.3929	45.6858
Netherlands	61.6	58.3	63.4	63.3	61.4	58.8	58.6	58.2429	57.8858
Germany	57.1	57.9	58.4	58	58.2	56.5	57.3	57.2143	57.1286
Poland	40.2	40.2	42	41.7	41.3	40	39.9	39.8286	39.7572
Portugal	46.6	46.4	46.1	45.7	44.6	43.5	44.2	43.6821	43.1642
Romania	38.2	37.9	39.2	37.6	36.8	36	35.6	35.1	34.6
Slovak Republic	43	41.7	43.4	42.9	42	39.7	40.2	39.7071	39.2142
Slovenia	48.5	46	45.8	46.9	45.3	42.9	44.1	43.3893	42.6786
Hungary	43	44.7	41.7	44.9	44.5	41.5	42.7	42.5393	42.3786
Finland	60	59.9	58.5	59.6	59.8	57	58.4	58.0679	57.7358
France	53.6	54	54.2	54.4	54.2	53.7	55	55.1286	55.2572
Croatia	41.7	38.3	39.8	40.7	37.8	37.3	37.3	36.6857	36.0714
Czech Republic	51.3	49.4	51	48.7	49.4	48.3	49	48.6179	48.2358
Sweden	62.4	63.6	63.8	63.1	63.7	62.5	63.1	63.0929	63.0858
Ukraine	36.5	35.7	37.6	38.5	37.4	36.3	35.6	35.5393	35.4786

Note: * calculated by trend analysis

Source: compiled by the authors based on [14-20]

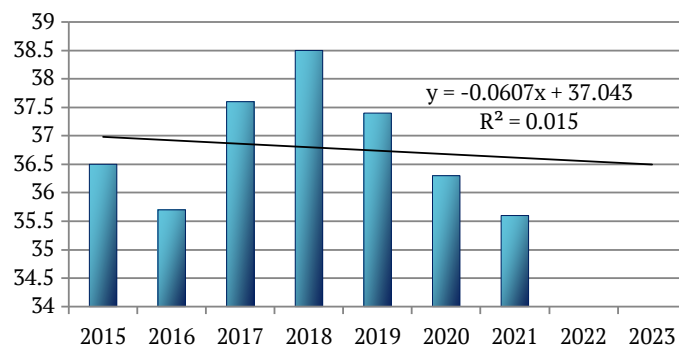


Figure 4. Dynamics of changes in the Global Innovation Index of Ukraine, 2015-2023

Source: compiled by the authors based on [14-20]

The analysis of trends showed that the level of innovation in Ukraine has negative dynamics, and this is a significant problem, since the introduction of new technologies has a positive effect on attracting investments to the country. But this trend analysis is rather unreliable, because the approximation coefficient $R=1.5\%$.

As for the Index of Economic Freedom, it is based on 12 factors, grouped into four broad categories: rule of law, government size, regulatory efficiency and open markets. It

is compiled by the Heritage Foundation. In general, countries with a high level of economic freedom have a higher level of welfare of citizens, personal freedom and life expectancy.

In 2021, Ireland had the highest rate while Estonia, Denmark, Lithuania, and the Netherlands were also at the top of the rating, Greece, Italy and Croatia were at the end (Table 4, Fig. 5). Ukraine had a lower rate than the EU countries and was included in the list of the “most free” countries.

Table 4. Index of Economic Freedom of the EU countries and Ukraine, 2015-2023

Economy	2015	2016	2017	2018	2019	2020	2021	2022*	2023*
Austria	71.2	71.7	72.3	71.8	72	73.3	73.9	74.2929	74.6858
Belgium	68.8	68.4	67.8	67.5	67.3	68.9	70.1	70.2571	70.4142
Bulgaria	66.8	65.9	67.9	68.3	69	70.2	70.4	71.1321	71.8642
Greece	54	53.2	55	57.3	57.7	59.9	60.9	62.2143	63.5286
Denmark	76.3	75.3	75.1	76.6	76.7	78.3	77.8	78.2321	78.6642
Estonia	76.8	77.2	79.1	78.8	76.6	77.7	78.2	78.2964	78.3928
Ireland	76.6	77.3	76.7	80.4	80.5	80.9	81.4	82.3071	83.2142
Spain	67.6	68.5	63.6	65.1	65.7	66.9	69.9	70.1071	70.3142
Italy	61.7	61.2	62.5	62.5	62.2	63.8	64.9	65.4179	65.9358
Cyprus	67.9	68.7	67.9	67.8	68.1	70.1	71.4	71.8821	72.3642
Latvia	69.7	70.4	74.8	73.6	70.4	71.9	72.3	72.5286	72.7572
Lithuania	74.7	75.2	75.8	75.3	74.2	76.7	76.9	82.5571	88.2142
Luxembourg	73.2	73.9	75.9	76.4	75.9	75.8	76	76.4357	76.8714
Malta	66.5	66.7	67.7	68.5	68.6	69.5	70.2	70.8286	71.4572
Netherlands	73.7	74.6	75.8	76.2	76.8	77	76.8	77.3393	77.8786
Germany	73.8	74.4	73.8	74.2	73.5	73.5	72.5	72.2857	72.0714
Poland	68.6	69.3	68.3	68.5	67.8	69.1	69.7	69.7857	69.8714
Portugal	65.3	65.1	62.6	63.4	65.3	67	67.5	67.9679	68.4358
Romania	66.6	65.6	69.7	69.4	68.6	69.7	69.5	70.0643	70.6286
Slovak Republic	67.2	66.6	65.7	65.3	65	66.8	66.3	66.1929	66.0858
Slovenia	60.3	60.6	59.2	64.8	65.5	67.8	68.3	69.8964	71.4928
Hungary	66.8	66	65.8	66.7	65	66.4	67.2	67.2429	67.2858
Finland	73.4	72.6	74	74.1	74.9	75.7	76.1	76.6429	77.1858
France	62.5	62.3	63.3	63.9	63.8	66	65.7	66.325	66.95
Croatia	61.5	59.1	59.4	61	61.4	62.2	63.6	64.1179	64.6358
Czech Republic	72.5	73.2	73.3	74.2	73.7	74.8	73.8	74.0679	74.3358
Sweden	72.7	72	74.9	76.3	75.2	74.9	74.7	75.1321	75.5642
Ukraine	46.9	46.8	48.1	51.9	52.3	54.9	56.2	57.925	59.65

Note: * calculated by trend analysis

Source: compiled by the authors based on [21-27]

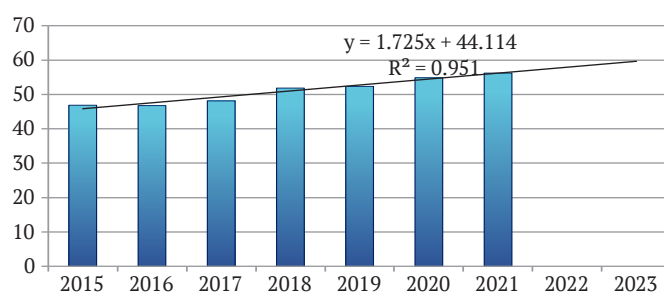


Figure 5. Trend of development of the Index of Economic Freedom of Ukraine, 2015-2023

Source: compiled by the authors based on [21-27]

Figure 5 shows that the Index of Economic Freedom of Ukraine has quite positive dynamics and an upward trend with a probability of 95%. This analysis shows, that in 2023-2024, Ukraine may have a tendency to move to “moderately free” countries.

Another index that should be considered for the assessment of the investment climate is the Ease of Doing Business Index, completed by the World Bank. It gives an opportunity to assess the ease of doing business according to 10 main indicators and allows to compare country to country.

There is no Doing Business report for 2021, because the World Bank has announced that it stops publishing this report on the state and conditions of doing business in different countries, it will be replaced by the new Business Enabling Environment (BEE) project. Therefore, it was necessary to consider which countries were leaders in 2020 according to this indicator, and which were outsiders. In 2020, Denmark, Sweden, Lithuania, Estonia and Latvia became leaders, and Luxembourg, Ukraine, Bulgaria were outsiders; Malta was the main outsider. Ukraine took the 3rd place from the end (Table 5, Fig. 6).

Table 5. Ease of Doing Business Index of the EU countries and Ukraine, 2015-2023

Economy	2015	2016	2017	2018	2019	2020	2021*	2022*	2023*
Austria	77.4	78.4	78.9	78.5	78.6	78.7	78.8914	79.0828	79.2742
Belgium	71.1	72.5	73	71.7	74	75	75.6486	76.2972	76.9458
Bulgaria	71.8	73.7	73.5	71.9	71.2	72	71.7686	71.5372	71.3058
Greece	66.7	68.4	68.7	68	68.1	68.4	68.5971	68.7942	68.9913
Denmark	84.2	84.4	84.9	84.1	84.6	85.3	85.4514	85.6028	85.7542
Estonia	78.8	79.5	81.1	80.8	80.5	80.6	80.9343	81.2686	81.6029
Ireland	80.1	79.2	79.5	79.5	78.9	79.6	79.5029	79.4058	79.3087
Spain	73.2	74.9	75.7	77	77.7	77.9	78.8486	79.7972	80.7458
Italy	68.5	72.1	72.3	72.7	72.6	72.9	73.5829	74.2658	74.9487
Cyprus	66.6	71.8	72.7	71.6	71.7	73.4	74.3314	75.2628	76.1942
Latvia	76.7	78.1	80.6	79.3	79.6	80.3	80.9057	81.5114	82.1171
Lithuania	76.3	78.9	78.8	79.9	80.8	81.6	82.5514	83.5028	84.4542
Luxembourg	67.6	68.3	68.8	69	69	69.6	69.9514	70.3028	70.6542
Malta	62.1	63.7	65	64.7	65.4	66.1	66.8086	67.5172	68.2258
Netherlands	75	75.9	76.4	76	76	76.1	76.2543	76.4086	76.5629
Germany	79.7	79.9	79.9	79	78.9	79.7	79.5886	79.4772	79.3658
Poland	736	76.5	77.8	77.3	77	76.4	76.8286	77.2572	77.6858
Portugal	76	77.6	77.4	76.8	76.6	76.5	76.4686	76.4372	76.4058
Romania	70.2	738	74.3	72.9	72.3	73.3	73.5743	73.8486	74.1229
Slovak Republic	71.8	75.6	75.6	74.9	75.2	75.6	76.0886	76.5772	77.0658
Slovenia	699	75.6	76.1	75.4	75.6	76.5	77.4229	78.3458	79.2687
Hungary	68.8	72.6	73.1	72.4	72.3	73.4	74.0114	74.6228	75.2342
Finland	808	81.1	80.8	80.4	80.4	80.2	80.0429	79.8858	79.7287
France	73.9	76	76.3	76.1	77.3	76.8	77.32	77.84	78.36
Croatia	66.5	72.7	72.9	71.7	71.4	73.6	74.4686	75.3372	76.2058
Czech Republic	71	74	76.7	76.3	76.1	76.3	77.2257	78.1514	79.0771
Sweden	80.6	81.7	82.1	81.3	81.3	82	82.1429	82.2858	82.4287
Ukraine	61.5	63	63.9	65.8	68.3	70.2	71.9514	73.7028	75.4542

Note: * calculated by trend analysis

Source: compiled by the authors based on [28-33]

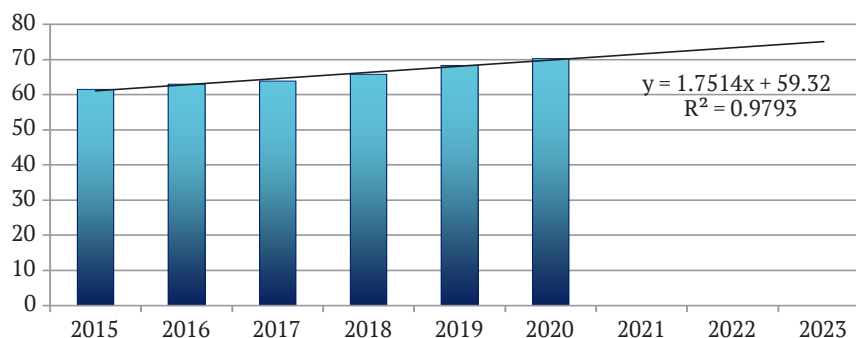


Figure 6. Dynamics of changes in the Ease of Doing Business Index, 2015-2023

Source: compiled by the authors based on [28-33]

The value of the index for the period 2015-2020 is increasing, and as for the trend of this indicator, it was moderately positive and probable ($R=97.9\%$). Thus, Ukraine can become a good environment for business and investment activities.

The next indicator is the Global Attractiveness Index developed by the European House – Ambrosetti. The GAI measures the attractiveness of a country using a range of primarily quantitative indicators which represent various aspects of a country's attractiveness, dynamism and sustainability. Specifically, the GAI analyzes attractiveness

from a dual perspective: internal – the ability to retain resources already present in the area, external – the ability to attract new resources from the outside [34].

In 2021, Germany was the most attractive country among the EU countries; France, Denmark and the Netherlands were also the leading countries. The least attractive country among the EU countries was Ukraine; Bulgaria, Greece and Slovakia also belonged to this category (Table 6, Fig. 7). Although Ukraine was ranked the lowest in these countries' rating, it belonged to "medium attractiveness countries".

Table 6. Global Attractiveness Index of the EU countries and Ukraine, 2016-2023

Economy	2016	2017	2018	2019	2020	2021	2022*	2023*
Austria	71.8	65.7	63.6	71.03	64.73	62.73	61.5634	60.3968
Belgium	64.4	64.2	62.7	65.56	60.24	60.77	59.9937	59.2174
Bulgaria	33.5	32.3	29.1	34	31.15	33.89	33.9871	34.0842
Greece	32.1	36.7	36	39.2	31.29	33.89	33.7734	33.6568
Denmark	71.8	59.9	58.8	64.47	63.73	68.71	68.7589	68.8078
Estonia	50.8	50.3	51.2	54.11	50.02	54.47	55.0534	55.6368
Ireland	66.4	61.8	61.1	64.7	66.07	64.12	64.2631	64.4062
Spain	68.6	56.3	59.6	64.56	57.21	58.91	57.7454	56.5808
Italy	73	62.2	62	66.06	60.36	61.2	59.6097	57.8994
Cyprus	37.4	35.9	33.4	38.97	43.69	44.7	46.5697	48.4394
Latvia	37.5	39.6	37.7	41.65	37.17	42.26	42.8446	43.4292
Lithuania	37.4	34.6	34.3	36.52	35.31	40.04	40.5414	41.0428
Luxembourg	64.9	58.2	60.5	57.57	57.56	62.71	62.2586	61.8072
Malta	47.4	44.3	41.8	46.66	41.45	46.22	45.946	45.672
Netherlands	86.9	73.8	74.8	80.56	79.86	65.18	62.7611	60.3422
Germany	99.6	92.5	91.9	100	100	93.3	93.2743	93.2486
Poland	60.4	50.5	50.9	54.62	51.47	56.48	56.1094	55.7388
Portugal	42.4	41.7	42	46.67	41.52	45.24	45.7637	46.2874
Romania	38.3	38	36.2	41.08	39.36	41.59	42.316	43.042
Slovak Republic	46.3	46.8	46.1	44.74	35.98	38.31	36.2023	34.0946
Slovenia	48.4	46.9	48.1	52.98	50.42	52.85	53.9269	55.0038
Hungary	48.3	48.7	45.7	52.46	47.88	56.32	57.5886	58.8572
Finland	63.7	55.9	53.8	58.23	55.19	56.86	55.9486	55.0372
France	82.8	80.4	83.1	88.36	78.05	76.19	75.1946	74.1992
Croatia	38.5	34.4	33.9	36.42	36.08	42.83	43.6646	44.4992
Czech Republic	61	56.7	54.7	54.15	49.74	57.95	56.902	55.854
Sweden	70.2	59.5	61.9	66.16	58.14	61.55	60.3194	59.0888
Ukraine	30.1	33.4	33.2	30.35	25.94	32.23	31.8134	31.3968

Note: * calculated by trend analysis

Source: compiled by the authors based on [35-39]

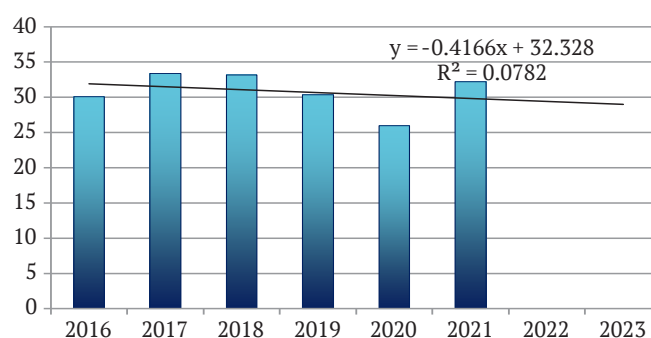


Figure 7. Dynamics of changes in the Global Attractiveness Index of Ukraine, 2016-2023

Source: compiled by the authors, based on [35-39]

The instability of Ukraine according to the attractiveness index can be seen in Figure 7: in 2021 – growth of index, and by trend analysis – a negative trend, but the approximation coefficient is too low ($R=7.8\%$), so this analysis cannot be considered reliable.

The next indicator is the Corruption Perceptions Index, which has been compiled by Transparency International and used since 1995. The Index is calculated based on 13 studies of reputable international institutions and think tanks. The key indicator of the index is a number of points, not a place in the rating. The minimum score (0 points)

means that corruption actually replaces the government, while the maximum (100 points) indicates that corruption is almost absent in the society. The index assesses corruption only in the public sector [40].

According to the rating (2021), the evident leaders are Denmark and Finland; Sweden, Luxembourg and the Netherlands also take the top positions. The lowest positions among the EU countries were occupied by Bulgaria, Romania, Hungary and Croatia; Ukraine takes the last place among these countries (Table 7, Fig. 8). So, it was shown that Ukraine is perceived as the most corrupt country in the EU.

Table 7. Corruption Perception Index of the EU countries and Ukraine, 2016-2023

Economy	2015	2016	2017	2018	2019	2020	2021	2022*	2023*
Austria	76	75	75	76	77	76	74	73.9286	73.8572
Belgium	77	77	75	75	75	76	73	72.5	72
Bulgaria	41	41	43	42	43	44	42	42.3214	42.6428
Greece	46	44	48	45	48	50	49	49.75	50.5
Denmark	91	90	88	88	87	88	88	87.5	87
Estonia	70	70	71	73	74	75	74	74.8929	75.7858
Ireland	75	73	74	73	74	72	74	73.82134	73.64268
Spain	58	58	57	58	62	62	61	61.7857	62.5714
Italy	44	47	50	52	53	53	56	57.824	59.648
Cyprus	61	55	57	59	58	57	53	52.3214	51.6428
Latvia	56	57	58	58	56	57	59	59.25	59.5
Lithuania	59	59	59	59	60	60	61	61.3214	61.6428
Luxembourg	85	81	82	81	80	80	81	80.4286	79.8572
Malta	60	55	56	54	54	53	54	53.1429	52.2858
Netherlands	84	83	82	82	82	82	82	81.7143	81.4286
Germany	81	81	81	80	80	80	80	79.7857	79.5714
Poland	63	62	60	60	58	56	56	54.75	53.5
Portugal	64	62	63	64	62	61	62	61.6786	61.3572
Romania	46	48	48	47	44	44	45	44.4643	43.9286
Slovak Republic	51	51	50	50	50	49	52	51.9643	51.9286
Slovenia	60	61	61	60	60	60	57	56.5714	56.1428
Hungary	51	48	45	46	44	44	43	41.8214	40.6428
Finland	90	89	85	85	86	85	88	87.5357	87.0714
France	70	69	70	72	69	69	71	71.0714	71.1428
Croatia	51	49	49	48	47	47	47	46.3571	45.7142
Czech Republic	56	55	57	59	56	54	54	53.6786	53.3572
Sweden	89	88	84	85	85	85	85	84.3929	83.7858
Ukraine	27	29	30	32	30	33	32	32.8214	33.6428

Note: * calculated by trend analysis

Source: compiled by the authors based on [41-47]

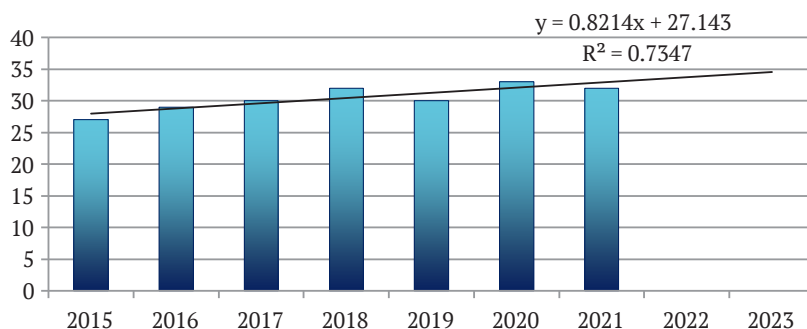


Figure 8. Dynamics of changes in the Corruption Perception Index of Ukraine, 2015-2023

Source: compiled by the authors, based on [41-47]

For Ukraine, this indicator flags “deadlock” in the fight against corruption over the last 3 years, despite a number of really positive changes that have enhanced the anti-corruption ecosystem. In Figure 8, it is possible to see positive dynamics, which is quite probable (approximation coefficient $R=73.5\%$).

Next, we should proceed to the assessment of the “environmental” indices of countries according to the following indicators: the Environmental Performance Index (Yale University and Columbia University), the Green Growth Index (Global Green Growth Institute) and the Climate Change Performance Index (Germanwatch).

The Environmental Performance Index is a method of quantifying and numerically marking the environmental

performance of a state’s policies [48]. The 2020 Environmental Performance Index (EPI) provides a data-driven summary of the state of sustainability around the world. Using 32 performance indicators across 11 issue categories, the EPI ranks 180 countries on environmental health, and ecosystem vitality. These indicators provide a gauge at a national scale of how close countries are to established environmental policy targets. The index is released once in two years [49]. Denmark tops the 2020 rankings, Luxembourg, Austria and France are also the high-scoring countries; Bulgaria, Poland, Latvia, Lithuania are lagging behind in environmental indicators. Ukraine has a lower position on this index than the EU countries (Table 8, Fig. 9).

Table 8. Environmental Performance Index of the EU countries and Ukraine, 2018-2023

Economy	2018	2019**	2020	2021*	2022*	2023*
Austria	78.97	79.285	79.6	79.915	80.23	80.545
Belgium	77.38	75.34	73.3	71.26	69.22	67.18
Bulgaria	67.85	62.425	57	51.575	46.15	40.725
Greece	73.6	71.35	69.1	66.85	64.6	62.35
Denmark	81.6	82.05	82.5	82.95	83.4	83.85
Estonia	64.31	64.805	65.3	65.795	66.29	66.785
Ireland	78.77	75.785	72.8	69.815	66.83	63.845
Spain	78.39	76.345	74.3	72.255	70.21	68.165
Italy	76.96	73.98	71	68.02	65.04	62.06
Cyprus	72.6	68.7	64.8	60.9	57	53.1
Latvia	66.12	63.86	61.6	59.34	57.08	54.82
Lithuania	69.33	66.115	62.9	59.685	56.47	53.255
Luxembourg	79.12	80.71	82.3	83.89	85.48	87.07
Malta	80.9	75.8	70.7	65.6	60.5	55.4
Netherlands	75.46	75.38	75.3	75.22	75.14	75.06
Germany	78.37	77.785	77.2	76.615	76.03	75.445
Poland	64.11	62.505	60.9	59.295	57.69	56.085
Portugal	71.91	69.455	67	64.545	62.09	59.635
Romania	64.78	64.74	64.7	64.66	64.62	64.58
Slovak Republic	70.6	69.45	68.3	67.15	66	64.85
Slovenia	67.57	69.785	72	74.215	76.43	78.645
Hungary	65.01	64.355	63.7	63.045	62.39	61.735
Finland	78.64	78.77	78.9	79.03	79.16	79.29
France	83.95	81.975	80	78.025	76.05	74.075
Croatia	65.45	64.275	63.1	61.925	60.75	59.575
Czech Republic	67.68	69.34	71	72.66	74.32	75.98
Sweden	80.51	79.605	78.7	77.795	76.89	75.985
Ukraine	52.87	51.185	49.5	47.815	46.13	44.445

Note: * calculated by trend analysis; ** the average of 2018 and 2020

Source: compiled by the authors based on [50; 51]

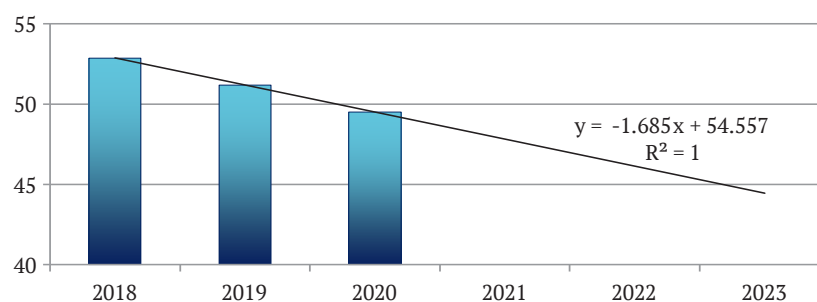


Figure 9. Dynamics of changes in the Environmental Performance Index of Ukraine, 2018-2023

Source: compiled by the authors, based on [50; 51]

As can be seen, Ukraine's environmental performance has a negative dynamics and a downward trend. The coefficient of approximation was 100%, but this trend should not be considered highly probable since it is based on only 3 years of evaluation.

The next indicator is the Green Growth Index calculated by the Global Green Growth Institute. The index measures a country's performance in achieving sustainability targets including Sustainable Development Goals, Paris Climate Agreement, and Aichi Biodiversity Targets for four

green growth dimensions – efficient and sustainable resource use, natural capital protection, “green” economic opportunities and social inclusion [52].

In 2019, Sweden took the first place among the EU countries, top places were also taken by Czech Republic, Denmark, Germany, Austria; Malta, Cyprus and Ireland were outsiders among the EU. Ukraine took the third place in the anti-rating among the EU countries (Table 9, Fig. 10). Although Sweden has the highest index, but is far from achieving the green growth target – 100.

Table 9. Green Growth Index of the EU countries and Ukraine, 2015-2022

Economy	2015	2016	2017	2018	2019	2020*	2021*	2022*
Austria	75.14	74.96	74.55	74.86	75.21	75.214	75.218	75.222
Belgium	67.2	68.8	68.97	69.07	69.07	69.471	69.872	70.273
Bulgaria	60.52	61.04	60.76	61.54	61.28	61.482	61.684	61.886
Greece	61.18	60.92	61.08	61.59	61.84	62.039	62.238	62.437
Denmark	76.59	76.32	76.53	76.79	76.76	76.841	76.922	77.003
Estonia	68.73	70.81	69.4	69.4	69.62	69.657	69.694	69.731
Ireland	50.64	51.91	52.61	52.87	52.54	53.016	53.492	53.968
Spain	65.69	66.18	66.18	66.58	66.75	67.002	67.254	67.506
Italy	62.18	67.34	68.08	68.18	68.05	69.308	70.566	71.824
Cyprus	52.27	52.68	44.44	45.11	45.22	43.053	40.886	38.719
Latvia	67.56	68.17	68.65	68.96	69.11	69.499	69.888	70.277
Lithuania	70	70.88	71.09	71.41	71.58	71.949	72.318	72.687
Luxembourg	62.05	61.68	61.25	61.6	61.65	61.562	61.474	61.386
Malta	30.84	28.91	31.64	31.69	31.76	32.222	32.684	33.146
Netherlands	66.73	66.71	66.55	67.03	67.06	67.158	67.256	67.354
Germany	74.87	75.43	75.62	75.71	75.82	76.038	76.256	76.474
Poland	67.29	67.83	68.18	69.02	68.89	69.329	69.768	70.207
Portugal	68.29	69.19	69.84	70.35	70.36	70.89	71.42	71.95
Romania	67.54	67.68	68.27	68.56	68.39	68.648	68.906	69.164
Slovak Republic	73.06	73.65	73.85	74.28	74.23	74.527	74.824	75.121
Slovenia	704	70.59	70.84	71.04	71	71.165	71.33	71.495
Hungary	71.21	71.75	71.19	71.3	71.39	71.381	71.372	71.363
Finland	73.05	73.51	74.33	74.48	74.48	74.863	75.246	75.629
France	68.45	68.86	68.39	68.95	68.85	68.939	69.028	69.117
Croatia	67.64	67.84	67.71	67.83	67.83	67.867	67.904	67.941
Czech Republic	75.89	76.4	76.29	76.7	76.73	76.928	77.126	77.324
Sweden	77.5	78.04	78.43	78.66	78.71	79.014	79.318	79.622
Ukraine	52.41	51.19	51.16	51.31	51.3	51.09	50.88	50.67

Note: * calculated by trend analysis; ** the average of 2018 and 2020

Source: compiled by the authors based on [50; 51]

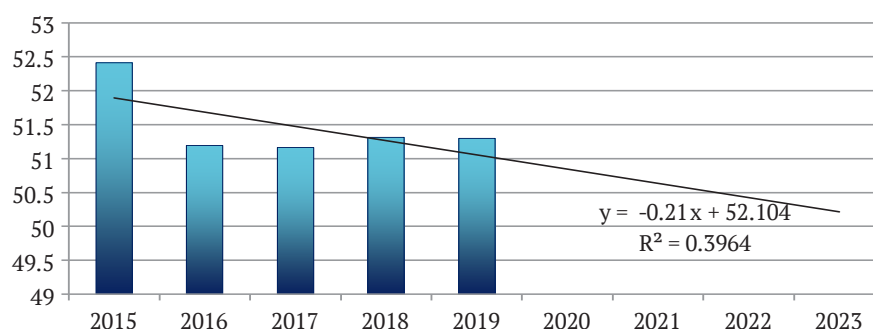


Figure 10. Dynamics of changes in the Green Growth Index of Ukraine, 2015-2023

Source: compiled by the authors, based on [52]

It can be seen from Figure 10 that there was a significant decline of the index in 2016, but the index remained fairly stable for the following 3 years. According to the trend analysis, the index will fall, although it is not likely enough ($R=39.6\%$).

Let us consider the Climate Change Performance Index (CCPI) developed by Germanwatch. The index is calculated on the basis of 14 indicators (outer circle) and the following four categories: GHG emissions (40% of overall score), renewable energy (20%), energy use (20%) and climate policy (20%). The CCPI's unique climate policy sec-

tion evaluates countries' progress in implementing policies working towards achieving the Paris Agreement goals. It aims to enhance transparency in international climate politics and it makes possible a comparison of individual countries' climate protection efforts and progress [53].

Traditionally, the first three positions in the ranking are unoccupied, because Germanwatch is confident that no country makes enough steps to prevent a dangerous climate change. Denmark is the highest ranked country in CCPI 2022, Sweden takes the second place, outsiders of the EU are Hungary, Poland and the Czech Republic (Table 10, Fig. 11).

Table 10. Climate Change Performance Index of the EU countries and Ukraine, 2016-2023

Economy	2016	2017	2018	2019	2020	2021*	2022*	2023*
Austria	49.49	48.78	44.74	48.09	52.8	53.393	53.986	54.579
Belgium	49.6	50.63	45.73	45.11	46.27	45.052	43.834	42.616
Bulgaria	45.35	48.11	40.12	42.64	49.02	49.207	49.394	49.581
Greece	47.86	50.86	52.59	48.11	58.55	60.413	62.276	64.139
Denmark	59.49	61.96	71.14	69.42	76.92	81.152	85.384	89.616
Estonia	52.02	44.37	48.05	46.01	55.25	56.06	56.87	57.68
Ireland	38.74	40.84	44.04	45.47	48.29	50.663	53.036	55.409
Spain	48.19	48.97	46.03	45.02	54.71	55.619	56.528	57.437
Italy	59.65	58.69	53.92	53.05	55.7	54.346	52.992	51.638
Cyprus	52.29	44.34	41.66	38.73	50.89	50.049	49.208	48.367
Latvia	63.02	68.31	60.75	61.88	58.06	56.425	54.79	53.155
Lithuania	69.2	70.47	66.22	58.03	65.06	62.988	60.916	58.844
Luxembourg	55.54	59.92	60.91	55.23	61.03	61.659	62.288	62.917
Malta	61.87	65.06	60.76	62.21	64.39	64.609	64.828	65.047
Netherlands	49.49	54.11	50.89	50.96	60.81	62.759	64.708	66.657
Germany	56.58	55.18	55.78	56.39	63.82	65.389	66.958	68.527
Poland	46.53	47.59	39.98	38.94	41.01	39.041	37.072	35.103
Portugal	59.16	60.54	54.1	56.8	61.45	61.534	61.618	61.702
Romania	55.32	59.42	54.85	50.33	52.59	51.135	49.68	48.225
Slovak Republic	56.04	56.61	52.69	49.51	50.9	49.162	47.424	45.686
Slovenia	50.54	44.9	41.91	37.02	43.73	41.58	39.43	37.28
Hungary	44	46.79	41.17	38.22	40.71	39.195	37.68	36.165
Finland	66.55	62.61	63.25	62.63	62.74	61.98	61.22	60.46
France	59.8	59.3	57.9	53.72	61.33	61.078	60.826	60.574
Croatia	61.19	62.39	56.97	56.69	56.26	54.704	53.148	51.592
Czech Republic	45.13	49.73	42.93	38.98	42.53	40.935	39.34	37.745
Sweden	74.32	76.28	75.77	74.42	74.46	74.302	74.144	73.986
Ukraine	57.49	60.09	60.6	55.48	60.52	60.665	60.81	60.955

Note: * calculated by trend analysis; ** the average of 2018 and 2020

Source: compiled by the authors based on [54-58]

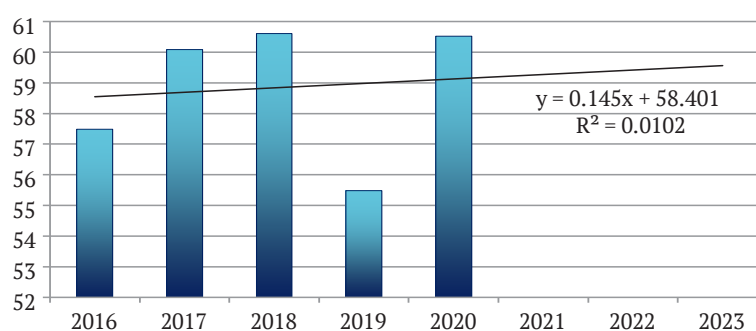


Figure 11. Dynamics of changes in the Climate Change Performance Index of Ukraine, 2016-2023

Source: compiled by the authors, based on [54-58]

Figure 11 shows that there was a sharp decline in 2019, but in 2020 the index recovered and has a positive trend. But since the index of Ukraine was rather unstable over the years, the probability of this trend is very low ($R=1\%$). However, one should hope that this positive trend can be real, because it is very important for Ukraine to raise its level of the “green” economy.

Thus, the qualitative analysis of the world indices of Ukraine shows that, according to the majority of selected indicators, Ukraine takes the position of an outsider in the EU. As shown in this section, the Global Competitiveness Index and the Global Innovation Index have negative dynamics. At the same time, the Index of Economic Freedom, the Ease of Doing Business Index, the Global and the Corruption Perception Index have had a positive dynamics over the years and a tendency to grow. The Global Attractiveness Index of Ukraine had a sharp decline in 2020, but resumed in 2021. As for “ecological” indices, the Environmental Performance Index and Green Growth Index showed negative dynamics, and the Climate Change Performance Index showed positive dynamics. Unfortunately, by the qualitative indicators, Ukraine is now in an unfavorable investment climate, but Ukraine has the potential to improve it.

The next stage of the research was the modeling of relationships between investment climate indices and factors based on correlation-regression analysis. For the correlation analysis, the above indicators were chosen, namely,

the indices of the investment climate: the Global Competitiveness Index, the Global Innovation Index, the Index of Economic Freedom, the Ease of Doing Business Index, the Global Attractiveness Index, the Corruption Perception Index; and “green economy” indices: the Environmental Performance Index, the Green Growth Index and the Climate Change Performance Index; and the indicator of the quality of life of the population – GDP per capita (PPP).

It made sense to investigate the interdependence between all these indicators. For this, one of the methods of correlation-regression analysis was used, which involves identifying the correlation between one or several factors and the resulting variable and allows determining the closeness of the relationship between them by the correlation coefficient.

It should be noted that the correlation coefficient determines the degree of dependence between variables and takes a value between -1 (the variables have a strictly negative correlation between each other) and +1 (means a strictly positive correlation of variables), if the coefficient is 0, there is no relationship between the variables (Table 11).

It is important to note that the correlation coefficient 0.70-1 is a “strong” correlation between the indices, 0.5-0.7 is “moderate”, and 0-0.5 is “weak”. For a more detailed visual understanding, the color interpretation of the correlation analysis is given in Table 12

In order to determine the interdependence of these indicators in Ukraine, a correlation analysis was made according to the indicators given in Table 13.

Table 11. Indicators of Ukraine for the correlation analysis, 2018-2021

		2018	2019	2020	2021
1	Global Competitiveness Index	57.03	56.99	56.95*	56.91*
2	Global Innovation Index	38.5	37.4	36.3	35.6
3	Index of Economic Freedom	51.9	52.3	54.9	56.2
4	Ease of Doing Business Index	65.8	68.3	70.2	71.9514*
5	Global Attractiveness Index	33.2	30.35	25.94	32.23
6	Corruption Perception Index	32	30	33	32
7	Environmental Performance Index	52.87	51.185**	49.5	47.815*
8	Green Growth Index	51.31	51.3	51.09*	50.88*
9	Climate Change Performance Index	60.6	55.48	60.52	60.665*
10	GDP per capita, PPP	12634.24	13350.48	13056.7	13680.47*

Note: *- calculated by trend analysis; **- the average of 2018 and 2020

Source: compiled and calculated by the authors based on [10-12; 17-20; 24-27; 31-33; 37-39; 44-47; 50-52; 56-58]

Table 12. Color interpretation of the correlation analysis

Positive		Negative	
Strong		Strong	
Moderate		Moderate	
Weak		Weak	

Table 13. Correlation coefficients between Ukraine's indicators

	1	2	3	4	5	6	7	8	9	10
1										
2	0.995039									
3	-0.96771	-0.96037								
4	-0.99639	-0.99799	0.949095							
5	0.293603	0.386563	-0.28858	-0.34885						
6	-0.30779	-0.32293	0.528453	0.26748	-0.35637					
7	1	0.995039	-0.96771	-0.99639	0.293603	-0.30779				
8	0.950586	0.92528	-0.9832	-0.92113	0.109096	-0.47464	0.950586			
9	-0.26419	-0.23978	0.496321	0.19776	0.03586	0.919157	-0.26419	-0.51581		
10	-0.82637	-0.80499	0.669796	0.840687	-0.01653	-0.27644	-0.82637	-0.69755	-0.24276	

Source: compiled and calculated by the authors based on Table 11 and Table 12

Let's consider in more detail the strong positive correlation. According to the correlation analysis, a strong positive relationship exists between the following indicators:

The Global Competitiveness Index and the Global Innovation Index; such a strong relationship can be explained by the fact that the country's high level of innovation affects its high competitiveness.

The Index of Economic Freedom and the Ease of Doing Business Index; there is a strong correlation between these indices, because these indicators characterize the business environment of the country.

The Global Competitiveness Index and the Environmental Performance Index, the Global Competitiveness Index and the Green Growth Index; this dependence between the "green economy" indices and the competitiveness index can be explained by the fact that in the modern world the "eco-friendliness" is an important factor that can enhance competitiveness of this country and be its advantage over other countries.

The Global Innovation Index and the Environmental Performance Index, the Green Growth Index and the Global Innovation Index, since modern ecologization requires the latest technologies.

There is also a strong positive correlation between the Ease of Doing Business Index and GDP per capita (PPP), the Climate Change Performance Index and the Corruption Perception Index, the Environmental Performance Index and the Green Growth Index.

Thus, after analyzing the results of the correlation, it should be said that our assumptions about the relationship between these indicators have been confirmed, but there are also some indicators that do not have a close relationship with each other, so it is worth noting that there are other indicators that affect these indicators and the investment climate in general. It should also be noted that investments are extremely important for the economic growth and prosperity of the country.

As the research showed, investment ratings and indices have a significant impact on the investment climate as they allow us to assess the investment climate quantitatively and qualitatively and to assess possible investment risks and the degree of investment reliability. Research of indices has demonstrated that the investment climate of Ukraine is not favorable, but it is worth considering other characteristics of Ukraine (geographical location, natural resources and reserves, demographic-labor and other factors) as an investment environment. Therefore, Ukraine's competitive advantages include: its size of territory (the largest country in Europe) and geographical location (Ukraine is geographically located at the intersection of the main trade and tourist routes between Europe, Asia and the Middle East; due to this, Ukraine has a significant potential to become a powerful Eurasian hub). Ukraine is one of the most cost-competitive production platforms in Europe by the cost of labor and utilities Ukraine boldly competes with the countries of Central and Eastern Europe), Ukraine has a highly educated and talented workforce (more than 70% of human capital have a secondary or higher education; rapid development of the Ukrainian IT industry). Ukraine has rich and fertile land, Ukraine is a country with market economy and a part of the global value chain (availability of free trade agreements with many global markets that provide access to many markets in the world). Thus, Ukraine has the following advantages: location, fertile land, moderate climate, talented human capital, cost competitiveness, and availability of free trade agreements with many global markets; these advantages provide Ukraine with the prospect of attracting in key sectors like IT, agriculture, energy, manufacturing and infrastructure [59; 60].

As for impediments to foreign investment in Ukraine, according to the survey conducted by the European Business Association (EBA), Dragon Capital, and Center for Economic Strategy (CES), in 2020 the major obstacles to foreign investment in Ukraine were lack of trust in the

judiciary and widespread corruption, the same obstacles were named by both portfolio and direct investors. Market monopolization and state capture by oligarchs is the third impediment, investors are also concerned about cumbersome and frequently changing legislation. Foreign investments are also hampered by the following: oppressive law enforcement agencies, complicated tax administration, unstable financial system and currency, military conflict, restrictive capital and foreign exchange controls, large-scale labor migration from Ukraine [60].

Effective fight against corruption will help to reduce the scale of corruption, and therefore have a good impact on the investment climate. Ukraine also needs to relaunch of judiciary and carry out reforms in it. It is necessary to separate politics and business interests, reduce influence of oligarchs. Also, as a means of improving the perception of Ukraine, can be introduction of financial incentives for new investors, provision of legislative guarantees and simplification of bureaucratic procedures. Infrastructure and logistics should also be improved. It is necessary: to monitor the level of country risks and to reduce them; to improve its competitiveness and to develop new competitive advantages of the country.

Taking into account factors of political and economic instability, corruption growth, growth of inflation, military actions, low values of the indexes, Ukraine badly needs changes and active actions to improve its investment climate. All of the above-mentioned actions will contribute to the improvement of the investment climate in Ukraine.

In his work, M. Kyzym [61] investigated the problems of assessing the investment climate of EU countries and Ukraine, although he assessed the possibility of forming innovation-investment clusters even before the emergence of the concept of a new industrial revolution and the introduction of a climate-neutral economy. In her work, V. Khaustova [62] also assessed the possibility of introducing a more favorable investment climate in the conditions of building a sustainable economy of Ukraine using the example of electrical engineering enterprises operating in the Kharkiv region. At the same time, she did not consider the prospects of introducing a green economy as a mechanism for improving the country's investment climate. I. Yegorov et al. [63] and O. Salikhova [64] investigated the impact on the investment climate of the EU countries and Ukraine of the results of the introduction of high technologies into their economies, and also evaluated the indicators of the development of ICT, biotechnology, nanotechnology, new materials and nuclear technologies in the conditions of the formation of a sustainable economy. In addition, in the studies of all these authors, there is no comprehensive assessment of the investment climate of the EU countries and Ukraine under the conditions of the implementation of the "green" economy.

L. Fedulova [65] also used many indicators in order to assess the investment climate and prospects for trade in high-tech products, as well as to justify the national priorities of the country's socio-economic development on an innovative basis, although she determined only general indicators of innovative development without taking into account the factors of the new industrial revolution and implementation of Green Deal. In her work, G. Duginets [66] analyzed the place of Ukraine in global chains of added

value and, in particular, determined the imperative to transform the investment climate and foreign trade flows of the Ukrainian economy, substantiated the need for innovative investment development of the economy as a competitive advantage in global production, and also modeled the country's participation in global chains of value creation in the formation of a sustainable economy. However, these authors did not have a comprehensive approach to the development of a methodology for researching the investment climate of EU countries and Ukraine under the conditions of the implementation of the "green" economy.

Therefore, the authors of the article consider the perspective of their research to be the assessment of the development opportunities of the investment environment of Ukraine and the EU countries within the framework of the formation of joint chains of added value and the implementation of programs Green Deal.

As for the "green" economy, global climate and environmental challenges are a significant threat factor and a source of country's instability, so the "green economy" is the way to Ukraine's carbon-neutral and more sustainable future. The EU is actively moving toward achieving climate neutrality by 2050, adopting and implementing new strategic documents and promoting the issue of decarbonization through its leadership. It is important to note that breakthrough technologies and innovative solutions are the decisive factor in achieving the goals of the European Green Deal. The implementation of the "green" economy will have a positive impact on further cooperation between Ukraine and the EU on environmental protection issues. Also, the implementation of the EGD's (European Green Deal) climate goals will improve the quality of environmental and life of citizens, the state of the investment environment, and thus contribute to the formation of a new competitive economy in Ukraine.

That is why, Ukraine should use the world experience of successful implementation of the "Green" Economy concepts. It is a new model of economic development, which contributes to the preservation of the environment by increasing the efficiency of natural resources use, structural economic restructuring, development of "green" sectors, ecologization of production and consumption. Further implementation of the "green" economy in Ukraine, taking into account the experience of the EU countries in the context of the EU, requires coordinated action of state authorities, business communities, experts and scientists.

Obviously, the EU will not be able to become climate-neutral without the help of neighboring countries and their investments in "greening". Recently, one can observe a revival in the development and implementation of climate policy in Ukraine. This has been influenced, first of all, by the adoption and active implementation of the European Green Deal by the EU. In fact, the investment climate of the country will be the decisive factor in investing. Investments will come to a country with a better investment climate. Therefore, Ukraine needs a good investment climate, as this deal provides Ukraine with a good opportunity to improve the attractiveness of investments into the country's economy.

Thus, the attractive investment climate of the country improves its economic development and makes its economy more competitive, and the implementation of a

“green economy” allows to improve the quality of the environment and the citizens’ life.

So, it can be concluded that today Ukraine is not a sufficiently attractive investment economy. The instability of the political and economic environment creates obstacles to the development of the “green” economy in Ukraine. However, it has been found that the investment environment of Ukraine has good prospects if the existing problems are solved. Thus, creating a favorable investment climate in Ukraine is one of the most important conditions for attracting investment and it remains a matter of strategic importance. The creation of such climate is one of the key factors for increasing the welfare of the population, gross Ukrainian product and the country’s reputation on the world stage.

CONCLUSIONS

During the study, the following conclusions have been drawn:

This article has its own scheme of investment climate and “green” economy research of the EU and Ukraine, it includes: qualitative analysis of the world indices (determination of the life quality – by GDP per capita (PPP), estimation of investment climate according to the indicators, assessment of “eco-friendliness” of the economies of countries by the indices; economic and statistical analysis (assessment of the dynamics of these indicators and trend analysis of these indicators), modeling of relationships between selected indicators on the basis of correlation analysis, as well as development of recommendations for Ukraine.

It has been established that Denmark, Sweden, the Netherlands, Germany, Finland most often were the leaders by selected indices; the lowest positions among the EU countries were taken by: Croatia, Greece, Bulgaria, Romania and Ukraine. Almost all indicators show that Ukraine ranked the lowest among the EU countries, except the Ease of Doing Business Index, the Green Growth Index and the Climate Change Performance Index (according to the latest available reports, some reports for 2019, some for 2020 or 2021).

Index and the Corruption Perception Index according to this analysis have a positive trend, and the Global

Competitiveness Index, the Global Innovation Index and the Global Attractiveness Index have a negative trend according to the calculated trend analysis. As for the “ecological” indexes of Ukraine, the index of ecological efficiency and the index of green growth show some negative dynamics, while there is a positive dynamic of the Climate Change Performance Index. The probability of these trends is between 1% and 100%, each index has its own approximation coefficient. To summarize, it should be said that according to most of the selected indicators, Ukraine is an outsider among the EU countries and, unfortunately, Ukraine has an unfavorable investment climate, but on the other hand, it has the potential to improve it.

The analysis of the interdependence of indicators has been carried out using calculation of the correlation coefficients. It has been confirmed that the selected indices and indicators are interrelated, but there are also some indicators that don’t have a close relationship with each other, therefore it is worth noting that there are other indicators that influence these indicators and the investment climate in general.

On the basis of the conducted analyses the main directions of improvement of Ukraine’s investment climate in the conditions of “green” economy have been defined as follows: anticorruption measures that will help reduce the scale of corruption; relaunch and reformation of judiciary; de-oligarchy; introduction of financial incentives for new investors; provision of legislative guarantees; simplification of bureaucratic procedures; improvement of infrastructure and logistics; control of the country’s risk level and reduction of risks; development of innovative and green technologies; improvement of the country’s competitiveness; search for and development of new competitive advantages of Ukraine; fight against climate and environmental challenges; decarbonization; realization of the movement toward climate neutrality and sustainable development. Thus, the implementation of such measures is a means of improving the investment climate of Ukraine, increasing the welfare of the population, and the reputation of the country on the world stage.

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**Ігор Юрійович Матюшенко^{1,2}, Сергій Васильович Глібко²,
Олена В'ячеславівна Ханова¹, Єлизавета Андріївна Кудлай¹**

¹Харківський національний університет імені В.Н. Каразіна
61022, майдан Свободи, 4, м. Харків, Україна

²Науково-дослідний інститут правового забезпечення інноваційного розвитку
Національної академії правових наук України
61002, вул. Чернишевська, 80, м. Харків, Україна

Інвестиційний клімат країн ЄС та України в умовах реалізації «зеленої» економіки

Анотація. У сучасних умовах розвитку світової економіки одним із найголовніших пріоритетів економічного розвитку країни є активізація інвестиційних процесів, бо саме вони позитивно впливають на економічне зростання й ефективне функціонування економіки країни. Сучасний ринок інвестицій повний конкуренції серед країн за залучення інвестицій. Головний показник, який впливає на обсяги залучених коштів в економіку країни – це інвестиційний клімат країни. У сучасних умовах також активно просувається концепція «зеленої» та «екологічної» економіки. Тож на сьогодні досить важливим і актуальним питанням являється оцінка інвестиційного клімату країн ЄС та України в умовах реалізації «зеленої» економіки, а також пошук способів підвищення інвестиційного клімату України. Основна мета цього дослідження – оцінка інвестиційного клімату країн ЄС та України в умовах реалізації «зеленої» економіки У дослідженні використані загальнонаукові методи пізнання: індукція і дедукція, аналіз і синтез, методи якісного і кількісного економіко-статистичного аналізу, графічний метод. Серед методів економіко-математичного моделювання використано кореляційний аналіз, тренд-аналіз, та кореляційно-регресійний аналіз. Встановлено, що дослідження інвестиційного клімату країн ЄС та України в контексті реалізації «зеленої» економіки базується на об'єктивних міжнародних рейтингах, які мають прозору методологію розрахунку. Ці міжнародні рейтинги постійно оновлюються і охоплюють більшість країн світу. Отже, запропонована методика дає змогу провести аналіз інвестиційного клімату та «екологічності» економіки країни за світовими індексами, визначити, які країни відносяться до лідерів, а які до аутсайдерів за обраними індексами та показниками, дослідити місце України за цими показниками та проведено тренд-аналіз, змодельовати ступінь тісноти взаємозв'язку між індексами та факторами інвестиційного клімату на основі кореляційного аналізу, а також розробити рекомендації щодо покращення інвестиційного клімату країн ЄС і України в умовах реалізації «зеленої» економіки

Ключові слова: інвестиційна привабливість, Європейський Зелений Курс, конкурентоспроможність, міжнародні індекси, кореляційно-регресійна модель