An Empirical View on the Determinants of Sustainable Economic Development: Evidence from EU(28) Member States

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Abstract. Sustainable development represents a comprehensive approach that focuses on economic, social and environmental aspects in order to meet the needs of the present without compromising the ability of future generations. The main aim of the paper is to reveal the impact of selected global multicriteria indices (through Global Innovation Index, Doing Business Index, Economic Freedom Index, Corruption Perception Index and Human Development Index) on sustainable development (expressed by Sustainable Economic Development Assessment) within EU(28) countries for the period of 2011 to 2018. Secondary data were processed using panel data regression analysis. Results of average score in the field of sustainable economic development showed that Finland (84.5) achieved the best-performed, while the worst position was recorded by Romania (56.5). Looking at the selected indices average scores, the leading position was indicated in the case of Denmark (80.5) and the worst results was obtained by Greece (57.6). Based on the results of the panel regression analysis, to the key determinants influencing the sustainable economic growth of the EU(28) countries belong such variables as innovation activity, business environment, corruption issues and human resources. The presented findings provide valuable insight toward to strategic priorities review, as well as, it can also help governments move from plans to action.
Keywords: sustainable growth, innovation, entrepreneurship, economic freedom, corruption, human resources, EU(28) countries

1 Introduction

Nowadays, the concept of sustainable development has become a widely recognized aim for human society. At national and global level, the adoption of sustainable development strategies represents the key driving force in achieving the long-term economic growth, in creating conditions for environmental protection, as well as, in guaranteeing a healthy life and social inclusion. For sustainable development to be achieved, it is necessary to harmonize and interconnect all these core elements for the well-being of individuals and societies.

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The worldwide globalization led to the adoption of the Sustainable Development Goals. From international perspective, it is a key moment for building and implementing of urgent and inclusive action plans. As a part of a new sustainable development roadmap, the 2030 Agenda was approved, which contains the 17 Sustainable Development Goals, a call to action to protect the planet, to create an environment of well-being for people and to achieve the economic prosperity [1]. At present, many international institutions and organizations publish recognized annual reports focus on assessment of countries concerning to various range of factors expressing sustainability potential.

The study was aimed to examine the impact of global multi-criteria determinants (namely, the Global Innovation Index, the Doing Business Index, the Economic Freedom Index, the Corruption Perception Index and the Human development Index) on sustainable growth (measured through the Sustainable Economic Development Index) using the panel data regression analyses. The basic dataset included EU(28) member states. The research was carried out for the years from 2011 to 2018. The purpose of this research was to identify key determinants influencing the sustainable economic growth of countries analyzed.

The paper is organized into following sections. At first, it was carried out the literature review concerned to selected global indices in relation to sustainability of economies. In the next section, the methodology, data, aim of paper and research question were introduced briefly. The following empirical section was focused on performing research and presenting revealed results. The last section summarized the significant findings and the main recommendations for supporting sustainable development of EU member states.

2 Literature review

An increasing growth of globalization and internationalization of economic, environmental and social system determine the quality of human well-being. However, many analysts claim this exponential growth has already exceeded the capacity of resources. Deciding where and how to deploy their effort and resources is a central challenge. Boston Consulting Group's **Sustainable Economic Development Assessment (SEDA)** can be a powerful tool in this effort. The issue of sustainable development assessment was examined by many researchers. Huttmanova and Valentiny [2] analyzed the actual situation in the case of economic and environmental pillar of sustainable growth within EU member states, using indicators as SEDA, HDI, and Environmental Performance Index (EPI) and so on. Paper findings revealed that an achieving a positive result in one dimension of sustainability cause negative results in other dimensions. As reported by Strezov, Evans and Evans [3], global indices enable to quantify all dimensions of sustainable prosperity (including economic, environmental and social aspects). In this context, authors applied selected various indices (for example Change in Wealth Index (CWI), Environmental Sustainability Index (ESI), Global Well-Being Index (GWI), Happy Planet Index (HPI), Sustainable Society Index (SSI) and SEDA. Based on research results was proposed a normalized average sustainability index (NASI), as an integration of all above-mentioned indices. The literature on evaluation of sustainability has largely focused on investigating environmental and economic potential. In this regard, Bassetti, Blasi and Sedita [4] researched interconnection among environmental conditions and economic performance. The empirical evidence confirmed that well-advised environmental orientation positively affects economic situation of nations and contribute to future well-being.

An assumption that sustainable development of economies is supported by innovation activities was proved by many research papers. In this backdrop, Zhylinska, Balan and Andrusiak [5] suggested new methodological approach to assess the level of innovation towards to sustainable economic development. Authors applied three indices, namely the

Global Innovation Index (GII), the European Innovation Scoreboard (EIS) and the Global Competitiveness Index (GCI). Innovation potential determining sustainability of the economies was calculated with the multicriteria methods (for example Analytic Hierarchy Process). The performed analysis confirmed a significant problem in implementing the sustainable development concept and innovation activities worldwide. According to Kastrinos and Weber [6], leading the world towards the Sustainable Development Goals (SDGs) is an ambition of the European Union (EU) with special attention on innovation potential. The success of EU in achieving SDGs depend on the effectivity of R&D and innovation policy. In this context, authors emphasis the issue of foresight in innovation development which will contribute to sustainability transitions in Europe. Mozas-Moral, Bernal-Jurado, Fernandez-Ucles and Medina-Viruel [7] investigated the Sustainable Development Goals (SDG) in relation to the Information and Communication Technologies (ICT). Specifically, study examined factors for the active use of technological innovation. In order to achieve the paper aims, the fuzzy set Qualitative Comparative Analysis (fsQCA) was used. The results showed that ICT contributes significantly to sustainability of firms and economies.

The countries cannot achieve sustainable economic development without a favourable business environment. In this context, Cervello-Royo, Moya-Clemente, Perello-Marin and Ribes-Giner [8] analyzed the economic and sustainable development factors of countries that may be related to opportunity-driven entrepreneurship. Research was realized based on data of 57 countries for 2017. In order to achieve settled goal, a cross-national analysis using the fsQCA methodology was implemented. Data were retrieved from four databases: Global Entrepreneurship Monitor, Country Risk Score, *Doing Business Index (DBI)*, and Sustainable Development Goals Index. The findings revealed the positive interconnection between above-mentioned variables. According to Corrales-Garay, Mora-Valentin and Ortiz-de-Urbina-Criado [9] entrepreneurship belong to the key element in the sustainable development field. Presented study suggested a conceptual model for analyzing entrepreneurship through open data. For his purpose, a descriptive analysis and a co-word analysis were performed. Paper results showed how business agents used information published by public administrations to generate new entrepreneurial initiatives, especially novel business models associated with new mobile applications. Thereafter, these activities contribute to creation of a value added in building initiative toward to sustainable prosperity. In the context of sustainable growth, Babajide, Lawal, Asaleye, Okafor and Osuma [10] examined the relationship between financial stability and entrepreneurship conditions in connection to the selected SDGs. The pooled ordinary least squares (OLS) and random effects techniques were applied in research paper. The findings revealed that financial stability of economies, as well as, business environment have a significant positive effect on achieving sustainable economic goals.

In recent years, the growing number of studies examine the impact of economic freedom and democracy on sustainable of economies. In this backdrop, Economou [11] examined the impact of economic freedom from the point view of foreign direct investment (FDI) inflows on economic sustainability and competitiveness of the European Union economies for the last 20 years. Findings confirmed that economic freedom have a positive impact on FDI inflows, which lead indirectly to sustainable economic growth. The other research devoted to economic freedom and sustainable development was presented by Mushtaq and Ali Khan [12]. They examined the effect of economic freedom, expressed by *Economic Freedom Index (EFI)* on sustainable development, measured by Sustainable Development Index (SDI) of countries. The paper findings revealed that economic freedom positively influences sustainable economic growth. Iacobuta and Gagea [13] state that institutional quality lies at the bottom of achieving sustainability level. For this reason, authors examined the relationship between economic freedom (as a measure of institutional

quality), and sustainable development within EU27 countries using EFI and Sustainable Society Index (SSI). The empirical findings confirmed that components of economic freedom (property rights or business freedom) significantly correlate with sustainable development.

The issue of corruption is regarded as a one of the key barriers for sustainable economic development. In this context, sustainable Development Goals are committed to measuring aspects of corruption over time. The role of corruption in public sector was evaluated by Zouaoui, Qudah, and Arab [14]. Authors focused on analyzing the ***Corruption Perception Index (CPI)*** over 2000-2014 for all countries included in the CPI using hierarchical classification methods. The aim of paper was to group countries according level of corruption and investigate the volatility of corruption. As reported by Fanea-Ivanovici, Muşetescu, Pană and Voicu [15], fighting corruption and enhancing tax compliance through digital public services represent key factors for increasing sustainable development. Armeanu, Vintilă and Gherghina [16] empirically investigated the drivers of sustainable economic development within EU(28) countries related to economic indicators, corruption, business environment, infrastructure and technology. By means of panel data regression models were examined above-mentioned factors of sustainability growth. In terms of economies analyzed, the CPI confirmed a positive association with sustainable economic growth.

In every economy and society people have an enormous impact on creating a better future. Human resources are belonged to the most important elements of competitiveness and sustainable performance. In this backdrop, Aguiar, Tome, Farias, Machado and Ribeiro [17] claim that the sustainable growth and competitive advantages of countries are influenced by human development level. Authors devoted to examining the relations between government actions and ***Human Development Index (HDI)***. The paper findings revealed the existence of a significant positive correlation between the HDI and government action plans. Liu, Brown and Casazza [18] pointed to fact that various sustainability indicators tend to reflect different or even converse outcomes. In this context, authors investigated and compared five sustainable development indicators (HDI, EPI, ESI, and Emergy-based Sustainability Index and Surplus Biocapacity). The research study confirmed a significant correlation among variables.

3 Data and Methodology

The main aim of paper is to reveal the impact of selected global multicriteria indices (GII, DBI, EFI, CPI and HDI) on sustainable development (representing by SEDA indicator) for the period of 2011 to 2018. To perform the analysis, we choose the aggregation of EU(28) countries. In this context, the following research question (RQ) was formulated:

RQ: *Is there a statistically significant relations between the sustainable economic growth and selected multicriteria determinants of sustainable development within the EU(28) countries for the period analyzed?*

The secondary data concerning to individual indices was collected on the basis of annually online reports published by international organizations, such as [19 - 23, 1]. Among other things, the following research is also focused on deeper analysis of the selected six multi-criteria indices within EU member's states, so a brief overview of their framework is given in the Table 1 below.

Table 1. Brief structure framework of the indices analysed

Index	Brief index overview
SEDA Sustainable Economic Development Assessment	SEDA is a proprietary diagnostic tool for measuring well-being and identifying priorities for sustainable growth. The assessment relies on a total 40 indicators and the overall SEDA score represents the aggregation of the score for the 10 dimensions integrated into three main subindices: ▪ 1st Subindex – *Economics* (1st – 3rd dimension) – Income, Economic Stability and Employment; ▪ 2nd Subindex – *Investments* (4th – 6th dimension) – Education, Health and Infrastructure; ▪ 3rd Subindex – *Sustainability* (7th – 10th dimension) – Income equality, Civil Society, Governance and Environment.
GII Global Innovation Index	GII was launched in order to measure innovation progress of society. The final GII score is the simple average of two main subindices. Each of them consists of pillars and overall GII indicator examines approximately 80 partial indicators: ▪ 1st Subindex – *Innovation Input* (1st – 5th pillar) – Institutions, Human capital and research, Infrastructure, Market sophistication and Business sophistication; ▪ 2nd Subindex – *Innovation Output* (6th – 7th pillar) – Knowledge and technology, Creative outputs.
DBI Doing Business Index	DBI measures aspects of business regulation affecting small and medium-size domestic firms. The methodology of DBI calculates the percentile for the individual indicators of the economy. The overall DBI is calculated on the basis of 11 different areas (dimensions) of business regulation (indicator set), whereas the first ten DBI dimensions are included in the DBI score and the last dimension (*11th Labor market measures*) only provides information on the state and development in this area: ▪ 1st Dimension – *Starting a business;* 6th Dimension – *Protecting minority investors;* ▪ 2nd Dimension – *Dealing with permits;* 7th Dimension – *Paying taxes;* ▪ 3rd Dimension – *Getting electricity;* 8th Dimension – *Trading across borders;* ▪ 4th Dimension – *Registering property;*, 9th Dimension – *Enforcing contracts;* ▪ 5th Dimension – *Getting credit;* 10th Dimension – *Resolving insolvency.*
EFI Economic Freedom Index	Economic freedom is the fundamental right of every human to control his or her own labor and property. The overall EFI score consist of twelve aspects of economic freedom that covers own formulas and methodology used to compute the overall score which is grouped into four broad categories: ▪ 1st Pillar – *Rule of law* (1st – 3rd component) – Property rights, Government integrity and Judicial effectiveness; ▪ 2nd Pillar – *Government size* (4th – 6th component) – Government spending, Tax burden and Fiscal health; ▪ 3rd Pillar – *Regulatory efficiency* (7th – 9th component) – Business freedom, Labor freedom and Monetary freedom; ▪ 4th Pillar – *Market openness* (10th – 12th component) – Trade freedom, Investment freedom and Financial freedom.

	CPI assess countries based on how corrupt a country's public sector is perceived to be by experts and business executives. The composite CPI is based on the hundreds specific question used to collect data capturing the six main aspects of corruption: ▪ 1st Dimension – *Bribery*; ▪ 2nd Dimension – *Diversion of public funds*; ▪ 3rd Dimension – *Prevalence of officials* using public office for private gain; ▪ 4th Dimension – *Ability of governments to contain corruption* and enforce effective mechanisms; ▪ 5th Dimension - *Red tape*; ▪ 6th Dimension - *Excessive bureaucratic burden*.
HDI Human Development Index	HDI quantify a different elements of inequalities in various aspects of their lives. HDI is a summary measure of achievements in three key dimensions of human development: ▪ 1st Dimension – *Long and healthy life* – Life expectancy at birth (Index); ▪ 2nd Dimension – *Knowledge* – Expected years of schooling and Mean years of schooling (Education Index); ▪ 3rd Dimension - *A decent standard of living* – GNI per capita index.

Source: Own processing.

The basic output of descriptive statistics within the selected global multicriteria indices is presented in the following Table 2. The analysis was realized for the period of 2011 to 2018.

Table 2. Descriptive statistics of the selected global multicriteria indices

Descriptive statistics	SEDA	GII	DBI	EFI	CPI	HDI
Mean	72.48	49.51	74.30	69.07	65.40	87.62
Median	71.25	49.20	74.88	69.00	64.50	87.65
Std. Deviation	8.22	7.55	5.75	5.65	15.23	3.84
Skewness	-0.02	0.15	-0.22	-0.39	-0.08	-0.26
Kurtosis	-0.95	-1.07	-0.68	-0.45	-1.05	-0.83
Minimum	55.40	34.20	60.04	53.20	33.00	78.20
Maximum	85.40	64.80	85.66	80.40	94.00	94.20
Percentiles 25	67.00	42.85	70.15	65.10	54.00	84.70
Percentiles 75	81.40	56.35	78.90	73.95	78.00	90.80

Source: Own processing.

In order to compare data, one simple adjustment was realized. In the case of HDI indicator was indicated different score range, so indices comparisons were not possible. For this reason, we decided to transform the original HDI scores (range from 0 to 1) to the same range (from 0 to 100), as in the case of other indices, as follows:

$$I_{adjusted} = I_{basic} * 100$$

(1)

To investigate the relations between the selected independent variable Y (SEDA) and other dependent variables X_1 (GII), X_2 (DBI), X_3 (EFI), X_4 (CPI) and X_5 (HDI), panel data regression analyses was used. Panel data regression analysis presenting one of the multidimensional statistical methods. Within presented research, a ***Fixed Effect Model*** (FEM) was applied, which can be expressed by the following model [24]:

$$y_{it} = \beta_1 x_{it1} + \beta_2 x_{it2} + \dots + \beta_k x_{itk} + \alpha_1 z_{i1} + \alpha_2 z_{i2} + \dots + \alpha_{1q} z_{iq} + u_{it}$$
(2)

where y_{it} - i^{th} *value of variable Y in the basic file; X_1-X_k - explanatory variables; i - cross-sectional dimension; t - time dimension; β_0 - intersection of the y-axis with the regression line; Z_1-Z_q - individual effects; β_n - regression coefficient in the basic file; u_{it} - i^{th} random error of variable.*

If the individual effects of Z_1 and Z_q are unobservable but correlated with explanatory variables, then the FEM model has the following form:

$$y_{it} = \alpha_i + \beta_1 x_{it1} + \beta_2 x_{it2} + \dots + \beta_k x_{itk} + u_{it}$$
(3)

where α_i - *specific constant for each cross-sectional unit.*

To process the above-mentioned data using selected statistical method, the STATISTICA software (13th ed.) was used.

4 Empirical results

To achieve settled paper aims, the following research analysis was performed. To begin with, the global multicriteria assessment of EU member states was made based on selected global indices. In the next section of paper are presented the results of panel data regression analysis in order to examined the impact of selected global indices (GII, DBI, EFI, CPI and HDI) on sustainable development. All analyses were realized for the years 2011-2018.

4.1 Global multicriteria assessment of EU member states

The first part of the presented research results is devoted to an in-deeper analysis of selected input global indices development categorized into two groups - SEDA indicator as the main variable of sustainability growth evaluation and others multicriteria indices as key determinants of sustainable potential. The average SEDA score development within EU member states over the period analyzed is presented in the Figure 1 below.
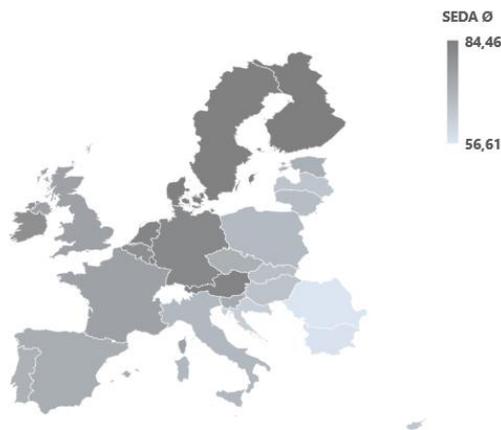

Fig. 1. The average SEDA score of the EU member states over the years 2011-2018
Source: Own processing based on Sustainable Economic Development Assessment interactive guide.

The average SEDA score of EU(28) countries (72.48) ranged from a minimum value of 55.40 recorded by Romania, up to the maximum value of 85.40, indicated in the case

of Sweden. Over the period analyzed was revealed an increasing trend of sustainable development (an increase about 0.97%). Despite of this positive findings, it was found the decrease of the score almost in all EU countries during the 2013, 2014 and 2017.

The next paper subsection was focused on an in-depth development analysis of the five selected global multicriteria indices (GII, DBI, EFI, CPI and HDI). In the following Figure 2 are presented the average indices score development within EU member states.
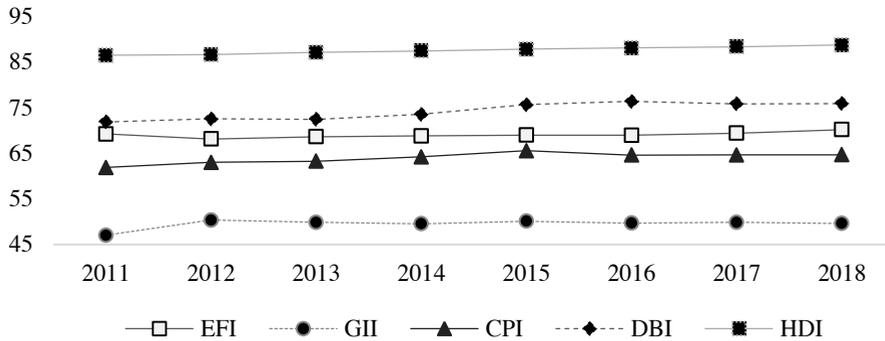
Fig. 2. The average global indices score of the EU member states over the years 2011-2018
Source: Own processing based on the selected global multicriteria indices reports.

Over the period analyzed, the *GII* score achieved value at 49.73 per year, on average. In 2010 was recorded the lowest values score (46.87) and during the analyzed years the innovation level increased about 5.85%. To the most innovative countries within EU were included Netherlands, United Kingdom and Sweden. On the other hand, Greece, Romania and Croatia were included among the countries with the lowest achieved score of GII. Furthermore, the overall GII ranking showed that exactly 14 countries ranged above and 14 below of EU average score.

The assessment of EU member states on the basis of indicator *DBI* showed unstable development of business environment. Despite of the positive increase trend (about 5.58%; from 2011 to 2018), in 2013 and 2017 was revealed the significant year-on-year decrease. The leading position in the creating of suitable business environment belonged to Denmark, United Kingdom and Sweden (score at level of 82.92 on average), while the lowest innovation score was found in Malta, Greece and Croatia. Moreover, the overall DBI ranking showed that 12 countries ranged above and 16 below of EU average score.

When evaluating the average scores of *EFI* for the period of 2011 to 2018, an increasing development trend is visible, but only about 1.39% on average. The EFI score ranged from the lowest average value of 69.25 in 2011, to the highest value reached in 2018 (70.21). Over the period analyzed, on average, the EU member states achieved the higher score than value 70 only in the last analyzed year. The best conditions for economic freedom were created in Ireland, Estonia and Denmark. On the other hand, the lowest level of economic freedom was revealed in Greece, Croatia and Italy. In this regard, the proportion of countries in EFI ranking was balanced toward to EU average score (14 countries above and 14 below EU average score).

One of the other determinants of sustainable development of countries was corruption, expressed through *CPI* indicator. At the beginning it is important to emphasise that score scale range from 0 (highly corrupt) to 100 (very clean). Looking at the development trend of this index for the EU(28) countries, the average values increased significantly from 61.89 (in 2011) to 64.68 (in 2018). By comparison of CPI score range (max to min) was revealed significant findings. In the case of Bulgaria was found the lowest score at level of 33.00 (highly corrupt), while the maximum score was indicated for Finland. Both these

results was reached in 2010. The proportion of countries in CPI ranking in respect of EU average was identical as in the case of DBI.

The last determinants of sustainable economic assessment was indicator **HDI**. Over the period analyzed, the HDI score achieved the positive trend (about 2.66%). The lowest score was revealed in 2010, while the highest score in 2018. In the case of this index only was recorded an increasing development in every single analyzed year. To the countries with the best conditions for life were belonged Denmark, Netherlands and Germany. On the other hand, Bulgaria, Romania and Croatia were indicated as the worst in creating suitable conditions for society. Furthermore, up to 15 countries achieved score above EU average, while only 13 ranked below EU average.

After considering the average score of selected multicriteria indices from 2011 to 2018, we also compiled a two-dimensional figure, whereby the results are presented in below (Figure 3). In order to assess indices overall, the indicator SEDA (as a key element of sustainable potential assessment) was compared with selected global multicriteria indices (on average) during the period analyzed. Findings confirmed research expectations. To the best-performed countries in field of sustainability, innovation, business environment, economic freedom, corruption and human development belong Denmark, Finland and Sweden. On the other side, to the worst-performed were included Romania, Bulgaria and Greece. Looking at the Figure 3, it can be compiled three clusters of countries according to above-mentioned scores of global indices. This classification can be useful tool for policy-makers in building nation action plans and country-to-country comparison.
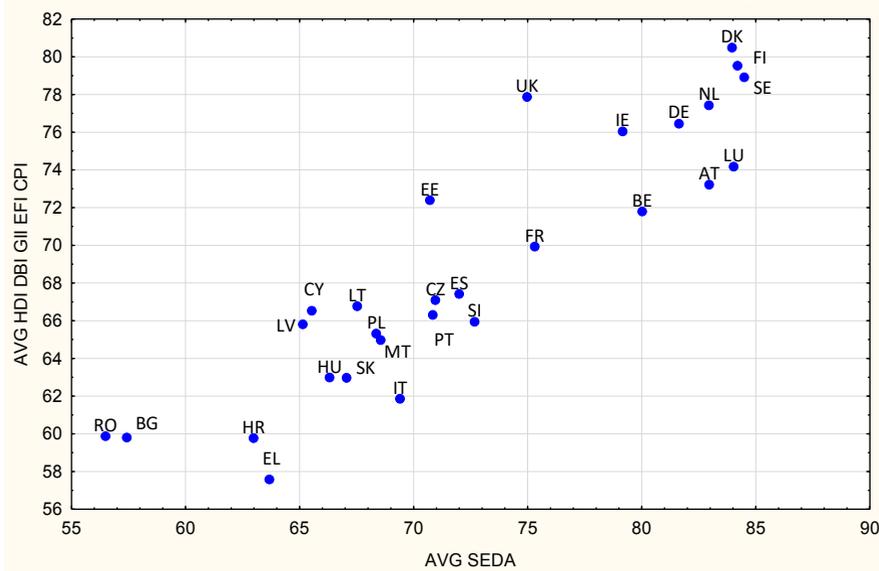
Fig. 3. The scatterplot of average SEDA against other global indices over the years 2011-2018
Source: Own processing.

4.2 Results of panel data regression analysis

The last subsection of presented study was devoted to the quantitative assessment of impact the selected determinants of sustainable growth, expressed through selected global multicriteria indices, such as GII, DBI, EFI, CPI and HDI on sustainable economic development (SEDA index) within the EU(28) member states over the period of 2011-2018. For purpose of achieve settled research aim, the panel data regression analyses were

performed. In the following Table 3 are presented the results of regression analysis. In presented research, a ***Fixed Effect Model*** (FEM) was used.

Table 3. Panel data regression analysis between SEDA and selected multicriteria indices

Panel Data Regression Summary for Dependent Variable: **SEDA**				
Fixed Effects Model (**FEM**)				
R= .9376; R^2= .8790; Adjusted R^2= .8763;				
F(5.218)=317.06; p<0.0000; Std. Error of estimate: 2.8908				
N=224 observations included 28 cross-sectional units; Time series length=8				
	Coefficient	**Std. Err.**	**t-ratio**	**p-value**
Intercept	**-46.1436**	**7.9777**	**-5.7841**	**0.0000***
GII	**0.1718**	**0.0578**	**2.9740**	**0.0030***
DBI	**-0.0918**	**0.0469**	**-2.8224**	**0.0052***
EFI	0.0622	0.0524	1.1879	0.2362
CPI	**0.1641**	**0.0254**	**6.4488**	**0.0000***
HDI	**0.5637**	**0.1032**	**11.6778**	**0.0000***

* indicates significance level at 0.05 level.

Source: Own processing.

Based on the appropriateness analysis of the regression model (Table 3), the regression equation is appropriate with regard to Fisher's test criterion at the selected significance level α = 5% (p = 0.0000). The coefficient of determination (adjusted R^2), which explains the variability of the dependent variable (SEDA), achieved value 87.63%. The regression analysis confirmed the statistically significant impact (p=0.0000) of four determinants of sustainability (GII, DBI, CPI and HDI) on sustainable economic growth of EU(28) countries (measured by indicators SEDA) over the period analyzed. Moreover, findings showed that three global indices (GII, CPI and HDI) influenced the SEDA positively, while DBI indicator have negative impact (-0.0918). The most significant impact on sustainable prosperity was indicated in the case of indicator HDI (0.5637). The relations between variables can be expressed by the following panel data regression model:

SEDA = -46.1436 + 0.1718GII - 0.0918DBI + 0.1641CPI + 0.5637HDI

5 Discussion

It is more important than ever for policy-makers to develop and implement a complex strategies to achieve the sustainable development. As Gu, Wand, Hua and Liu [25] stated, continued economic development has become an inevitable requirement for sustainable growth. Authors applied triple bottom line of sustainable development in order to measure the level of economic prosperity. Findings confirmed a close relation between entrepreneurship and sustainability. According to Sira, Vavrek, Vozarova and Kotulic [26], human resources, knowledge and its creation, transfer and preservation becoming a key element in ensuring a country's sustainable position in a competitive environment. By modelling of macroeconomic context of current economic sustainable development through indicators as inflation, unemployment and corruption was dealt by Litavcova, Jencova and Vasanicova [27]. The results confirmed a significant positive impact of above-mentioned macroeconomic indicators on sustainable growth. As reported by Stefko, Bacik, Fedorko, Olearova and Rigelsky [28], knowledge of the options that digital technology and innovation bring, leads to the right set of strategies and will follow the effective achievement of sustainability aims. Dobrovic, Gallo, Mihalcova, Stofova and Szaryszova [29], examined the relations between innovation, economic sustainability and

competitiveness, considering the results of performance assessment models within the EU countries. Paper results revealed a positive relationship among composite indicators.

All above-mentioned studied (including literature review) are in line with this paper findings and lead to the conclusion that innovation potential, conditions for entrepreneurship, corruption problems and human resources belong to the key determinants of sustainable economic growth.

6 Conclusion

Understanding the progress countries make over time, both overall and at the level of specific dimensions, is critical to setting more-effective national priorities and strategies. Ongoing economic, social, political changes, and many other factors, cause the differences in the global sustainability of economies. In this context, Kiselakova, Sofrankova, Onuferova and Cabinova [24] investigated the relations between various multicriteria macroeconomic indices. This paper was elaborated as a continuation of the previous research.

The main aim of paper was to reveal the impact of selected global multicriteria indices (GII, DBI, EFI, CPI and HDI) on sustainable economic development (representing by SEDA indicator) for the years of 2011 to 2018. To perform the analysis, the aggregation of EU(28) countries was chosen. The research aim assigned was met.

Based on the achieved average values of the selected global multicriteria indices and by their comparison within the European Union area was found:

- In the case of the Sustainable Economic Development Assessment (SEDA), the Finland achieved the best-performed (84.51), while Romania was ranked to the worst-performed countries (56.52).
- In the case of the multicriteria determinants (represented by global indices such as GII, DBI, EFI, CPI an HDI), to the best-performed country belong Denmark (80.48) and, as the worst-performed country was identified Greece (57.58).
- By comparison of EU(28) member states, the most significant score range (on average) was recorded within CPI assessment (49.88) and the lowest score range was found within the HDI assessment (13.14).
- Results of the panel data regression analysis confirmed that sustainable economic development is influenced significantly by such determinants as innovation and technology, business conditions, corruption environment and potential of human resources.

Sustainable development is every country's goal, and the ability to convert wealth into well-being varies widely among countries, reflecting different societal choices and policy decisions. Governments grapple every day to balance competing priorities. Deciding where and how to deploy their effort and resources is a central challenge. In this regard, presented results could be useful in fulfilling the already established EU priorities for the period 2019- 2024 [30]: A European Green Deal, A Europe fit for the digital age, An economy that works for people, A stronger Europe in the world, Promoting European way of life, and A new push for European democracy.

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