CORRELATIONS BETWEEN THE POVERTY INDICATORS OF THE SDGS AND THE EVOLUTION OF ECONOMIC GROWTH IN THE PRE-PANDEMIC PERIOD 2009-2019 IN THE EU27

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Abstract: In the context of the COVID-19 pandemic, achieving the goals of sustainable development seems even harder, causing beyond the medical crisis, which is unfortunately still ongoing, large-scale economic and social crises from one end of the world to the other, millions of people being pushed into extreme hunger and poverty. Given the precariousness of data sources, this article focuses on the pre-pandemic period 2009-2019, in order to capture the evolutions of the main indicators of the first target of the SDGs: no poverty. The article also captures an econometric analysis related to the link between economic growth and the most important indicators of the first target of the SDGs.

Key words: poverty, economic growth, European Union.

JEL Classification: I32, Q01, C01.

1. Introduction

The goals of sustainable development (SDGs), although important at EU level, are not seen usually in direct correlation with economic growth. But the first target, which refers to the contingency of poverty, however, has elements, with direct and indirect link with economic growth. In this sense, the present article aims at showing, through an econometric analysis, how the poverty indicators connect with each other and at the same time with the economic growth for the EU27 countries for the period 2009-2019. According to the United Nation, in his "2021 Financing for Sustainable Development Report", the COVID-19 has set back SDG progress dramatically, global economy has deepened into the worst recession in 90 years and almost 120 million of people have fallen back in extreme poverty.

According to Eurostat data, the evolution of economic growth (see Figure no. 1) in Romania in the context of COVID-19 pandemics is at far better level comparing with 2009 level of Romania's real GDP growth rate, when the global crisis hit. Also, the level is at a much better level comparing with EU27 average (-6,1%) in the year 2020. We can also see that the EU27, seen as average, and the euro area were hit more substantially by the pandemic crisis than in 2009, when global crisis has hit.

When considering the first two indicators of the first target of SDGs: People at risk of poverty or social exclusion (Parpose, %) and At risk of poverty rate (Arpr, %) at EU27 average level, we can see that there has been no remarkable evolution over time for either indicator. Instead, the evolution of the above indicators was substantial for Romania, with a positive trend of reduction for People at risk of poverty or social exclusion, but it is still at unacceptably high levels compared to the EU27 average (see Figure no.2).

Figure no. 1 – **The evolution of Real GDP growth rate (%) in the period 2009-2020 for EU27, EA19 and Romania**
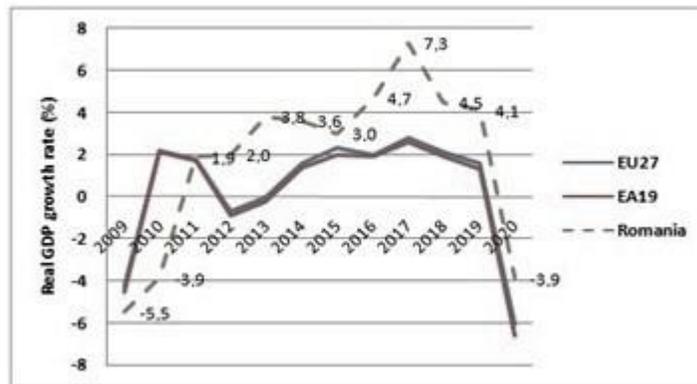
Source: Eurostat data, author's processing.

Figure no. 2 – **The evolution of People at risk of poverty or social exclusion and At risk of poverty rate in the period 2009-2019 for EU27, EA19 and Romania**
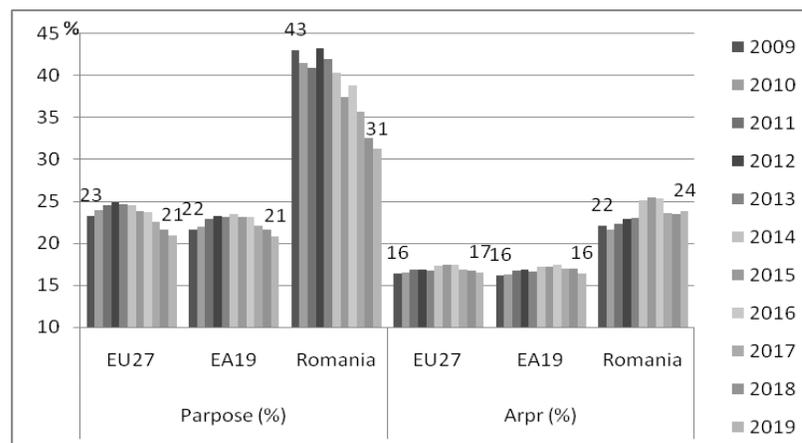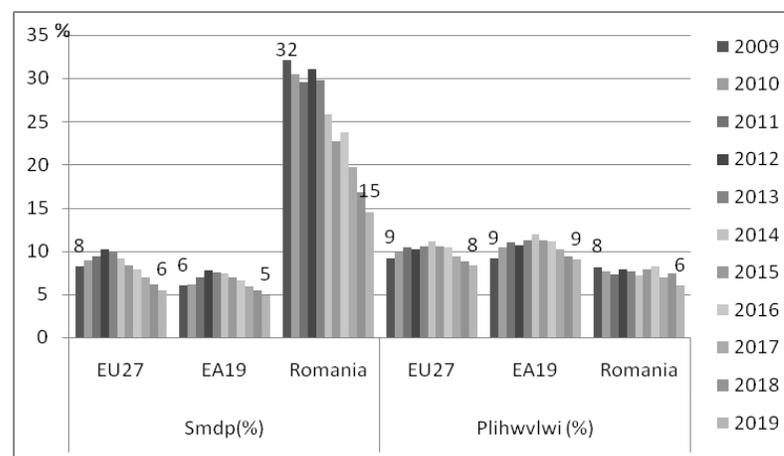

Source: Eurostat data, author's processing. Note: Parpose (%) - People at risk of poverty or social exclusion; Arpr (%) - At risk of poverty rate (cut-off point: 60% of median equivalised income after social transfers)

Instead, At the risk of poverty rate for Romania shows some sharp increases and reversals for the analyzed period, which are likely to become chronic in the short term in the context of the COVID-19 crisis. Note that, according to Eurostat methodology, the persons are considered to be at risk of poverty after social transfers, if they have an equivalised disposable income below the risk-of-poverty threshold - set at 60 % of the national median equivalised disposable income.

When considering the indicator of Severely materially deprived people (Smdp) expressed as percentage (more exactly the persons that according to Eurostat methodology have living conditions severely constrained by a lack of resources, experiencing at least 4 out of 9 following deprivations items: 1) to pay rent or utility bills, 2) keep home adequately warm, 3) face unexpected expenses, 4) eat meat, fish or a protein equivalent every second day, 5) a week holiday away from home, 6) a car, 7) a washing machine, 8) a colour TV, or 9) a telephone) we can see that no important evolution can be recorded for EU27 and Euro Area. On the other hand, regarding Romania, for the analysis period we can see that the share of severely deprived people from a material point of view has practically halved in 2019 compared to 2009 level, but even so, it far exceeds, more precisely 3 times, the level euro area of 5% (see Figure no.3).

Figure no. 3 – *The evolution of Severely materially deprived people and People living in very low work intensity households in the period 2009-2019 for EU27, EA19 and Romania*

Source: Eurostat data, author's processing. Smdp (%) - Severely materially deprived people, Plihwvlwi (%) - People living in households with very low work intensity

Regarding the share of people with low work intensity we can see at the level of the euro area 19 and EU27, that the level remains relatively constant, however for Romania this level is below that of the EU27 average and the euro area throughout the analysis period, even with a certain tendency of reduction until

2019. It should be noted that, according to Eurostat, people living in households with very low work intensity are those aged 0-59 living in households where the adults (aged 18-59) work 20% or less of their total work potential during the past year. The indicator People living in households with very low work intensity for Central and Eastern European countries it finds one of its explanations through the substantial migration of the young and good working population from these countries to the western states of the EU and the world.

When considering the share of people in work but they are at-risk-of-poverty (more exactly, have an equivalised disposable income below the risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income, after social transfers), in the EU27 and EA19 has rather unchanged levels over the whole period (2009-2019), no more than 10%.

*Figure no. 4 – **The evolution of In work at-risk-of-poverty and Population living in dilapidated dwelling in the period 2009-2019 for EU27, EA19 and Romania***
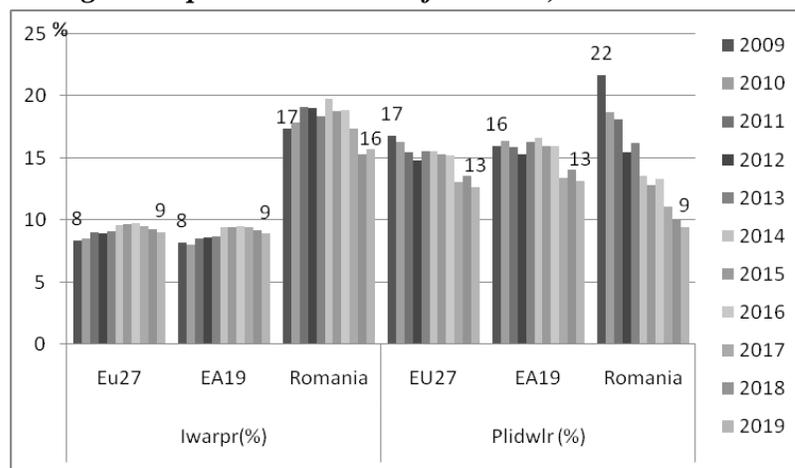
Source: Eurostat data, author's calculations. Iwarpr (%) - In work at-risk-of-poverty ratePlidwlr(%) - Population living in a dwelling with a leaking roof, damp walls, floors or foundation or rot in window frames of floor by poverty status

On the other hand, Romania seems to be unable to get rid of poverty in the field of employment, the indicator for this country being at a level almost double by the comparison with the EU level, throughout the whole analysis period. For the indicator of the population living in poor housing we can see that there are decreasing trends, so favorable, in the EU27, EA19 and especially in Romania, which has substantially improved its indicator over time, well below the EU27 and EA19 averages, reaching 9%in 2019.

Other indicators of poverty, which can be found in other sections of the SDGs such as: Self-reported unmet need for medical examination and care by sex, Population having neither a bath, nor a shower, nor indoor flushing toilet in their household by poverty status, Population unable to keep home adequately warm by poverty status and Overcrowding rate by poverty status are not the subject of this study, although two of them show an advanced degree of backwardness for Central and Eastern European countries such as Romania.

2. LITERATURE REVIEW

The link between the poverty indicators between them is relatively obvious, which is why some of them have been systematized in the poverty category of the Eurostat SDGs. However, empirical studies that fully support this systematization are relatively precarious.

Also, there has been a lot of ink about poverty and economic growth, including growth per capita. Thus, there are many studies that believe that economic growth is able to reduce poverty (e.g. Romer and Gugerty, 1997; Bhagwati,2000; Deaton and Dreze, 2001; Besley and Cord, 2007; Datt and Ravalion, 2002; Agrawal, 2008, Roser, 2021) and others that the link between them is less substantial or conclusive (e.g. Ravallion, 1995; Fields, 1989; Rodrik, 2000; Lustig et al., 2002, Bigsten et al., 2003, Salvatore, 2004) being connected mostly with income distribution or other phenomena.

For example, in Romer and Gugerty study's (1997, pp.1) there is examined whether economic growth tends to reduce poverty (poverty being measured by the incomes of the poorest 20% and 40% of a population) and shows that an increase in the rate of GDP growth translates into a direct one-for-one increase in the rate of growth of average incomes of the poorest 40% and a GDP growth of 10% is associated with income growth of 9.21%. Also, the authors mention that countries with better macroeconomic policies grow faster, and this growth alleviates poverty, concluding also that economic growth appears to be one of the best ways to reduce poverty (Romer and Gugerty, 1997, pp.22-23). Also, using province-level data, considering the case of Kazakhstan, Pradeep Agrawal 2008's study shows that provinces with higher growth rates achieved faster decline in poverty, growth conducing to increased employment and higher real wages decreasing poverty. Also, this study shows that social sectors financing through government expenditure significantly contribute to poverty alleviation.

In conclusion, numerous studies address the link between growth and poverty, often pointing to the need for integration and other explanatory variables in the model, although in a first phase, for the poorest countries or areas of the world economic growth proves to be a dynamizer of poverty reduction.

3. METHODOLOGY OF RESEARCH

In the present paper it is assed, empirically, the correlations between the elements of the first section of SDGs - aiming at reducing and eliminating poverty. Also, it is analyzed the main series of poverty indicators in relation with economic growth for EU27 average. At the same time, in order to have a consistent series, the data for the EU27 countries were arranged in a panel form. Thus, first, it is constructed a simple correlation matrix for EU27 average for the period 2009-2019, and it is constructed a regression equation to give us some general clues about the connection between indicators. But this series is extremely short with only 11 records; therefore by systematizing the information in panel form, the number of observations becomes consistent with 297 records. Thus, it is then repeated the correlation matrix on panel data, and applied a unit root test under 2 forms Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests and then constructed another regression and applied a Granger causality test. The unit root test is used in order to examine the stationarity properties of the level and first difference of variables, but because good results are recorded even at level, the first difference of variables is not presented also in the article. The data source is Eurostat, using annual data.

The data at the EU27 average are somewhat more homogeneous, so the results are more satisfactory but the series is too small to make them reliable. By systematizing the EU27 data in the panel form, the number of observations becomes satisfactory but the result must be viewed also with carefulness, because the series no longer shows a considerable homogeneity, as in the other versions of the approach.

4. EMPIRICAL RESULTS

In this paper, it is assessed the correlations between fist goal of SDGs –no poverty indicators and the implication one over the others and over real GDP growth rate (%). The sample data covers the 6 selected poverty indicators: People at risk of poverty or social exclusion (Parpose, %), At risk of poverty rate (cut-off point: 60% of median equivalised income after social transfers)(Arpr,%), Severely materially deprived people (Smdp, %), People living in households with very low work intensity (Plihwvlwi,%), In work at-risk-of-poverty rate (Iwarpr,%), Population living in a dwelling with a leaking roof, damp walls, floors or foundation or rot in window frames of floor by poverty status (Plidwlr,%). The first correlation matrix investigates the link between the above indicators and economic growth but for the EU27 average as a whole, so only for 11 records, related to the period 2009-2019. Thus, we note on the one hand the natural negative correlations between economic growth and poverty indicators, only indicator In work at-risk-of-poverty rate shows a significant positive correlation (over 60%), pointing out the idea that economic growth can be built also on poverty at work, or that, more likely, economic growth cannot prevent the increase of poverty of the labor force. We also observe that People at risk of poverty or social exclusion is strongly and positively correlated with Severely materially deprived people, with People

living in households with very low work intensity and with Population living in a dwelling with a leaking roof, damp walls, floors or foundation or rot in window frames of floor. Also, At risk of poverty rate is substantially correlated with People living in households with very low work intensity and In work at-risk-of-poverty rate. Strong positive correlations are also shown between Severely materially deprived people and People living in households with very low work intensity and with Population living in a damaged dwelling (Plidwlr).

*Table no. 1 – **Correlation matrix for EU27 average between real GDP growth rate and selected poverty indicators for the period 2009-2019***

	RGDPgr (%)	Parpose (%)	Arpr (%)	Smdp(%)	Plihwvlwi (%)	Iwarpr(%)	Plidwlr (%)
RGDPgr (%)	1						
Parpose (%)	-0,2027	1					
Arpr (%)	0,4517	0,3613	1				
Smdp(%)	-0,2903	0,9817	0,2029	1			
Plihwvlwi (%)	0,1042	0,9010	0,6656	0,8204	1		
Iwarpr(%)	0,6177	-0,0266	0,8916	-0,1796	0,3591	1	
Plidwlr (%)	-0,4919	0,7309	0,0220	0,7274	0,5867	-0,3623	1

Source: Authors' research, using Eurostat data and Excel data analysis soft. The marked cells indicate relative strong correlations.

As we know, correlation matrix does not show any causality, so in Table 2 are shown the results of the regression equation formulated as follows:

$$RGDPgr = \beta_0 + \beta_1 Parpose + \beta_2 Arpr + \beta_3 Smdp + \beta_4 Pilhwvlwi + \beta_5 Iwarpr + \beta_6 IPildwlr + \varepsilon \qquad (1)$$

Where: β_i=0-5 – are coefficients of the equations, ε – error term, and the above notations are preserved.

Analyzing the value of the determination coefficient or R^2, which is used to measure the intensity of the correlation between the endogenous variable and its determinants, it is observed that the value of 0.720966 is quite good for the data used, and the adjusted R^2, equal to 0.441931 at the sample level it is much less significant, questioning the intensity of the connections in the model, which is mainly due to the limited series.

*Table no.2 – **Results for regression equation for EU27 average between real GDP growth rate and selected poverty indicators for the period 2009-2019***

Dependent Variable: RGDPGR				
Method: Least Squares				
Date: 06/03/21 Time: 18:45				
Sample: 1 11				
Included observations: 11				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
PARPOSE	-0.599652	4.410515	-0.135960	0.8972
ARPR	4.821614	6.766404	0.712581	0.5080
SMDP	-2.711941	3.167341	-0.856220	0.4310
PLIHWVLWI	7.228136	3.442622	2.099602	0.0898
IWARPR	-9.216082	6.973190	-1.321645	0.2435
PLIDWLR	-2.081761	0.984435	-2.114675	0.0881
R-squared	0.720966	Mean dependent var		1.036364
Adjusted R-squared	0.441931	S.D. dependent var		2.047082
S.E. of regression	1.529252	Akaike info criterion		3.989887
Sum squared resid	11.69306	Schwarz criterion		4.206921
Log likelihood	-15.94438	Hannan-Quinn criter.		3.853077
Durbin-Watson stat	2.405315			

Source: Authors' research, using Eurostat data and Eviews11 soft.

The coefficients of independent variables are mainly significant different from zero but have a p-values over 0.05, only People living in households with very low work intensity and Population living in a dwelling with a leaking roof, damp walls, floors or foundation or rot in window frames of floor having a closer result to the necessary probability value. Thus, the model in this form is still inappropriate. Therefore, we resort to a systematization of the data by countries, in panel form; the series reaching 297 entries and redoing the correlation matrix (see table no.3).

*Table no. 3 – **Correlation matrix between real GDP growth rate and selected poverty indicators for EU27 panel data for the period 2009-2019***

	RGDPgr (%)	*Parpose (%)*	*Arpr (%)*	*Smdp(%)*	*Plihwvlwi (%)*	*Iwarpr(%)*	*Plidwlr (%)*
RGDPgr (%)	1						
Parpose (%)	-0.0910	1					
Arpr (%)	-0.0501	0.7990	1				
Smdp(%)	-0.0880	0.9186	0.5544	1			
Plihwvlwi	-0.0021	0.3477	0.2112	0.1889	1		
Iwarpr(%)	-0.0653	0.5789	0.7255	0.4017	-0.0809	1	
Plidwlr (%)	-0.1568	0.2985	0.2034	0.2678	0.0043	0.2057	1

Source: Authors' research, using Eurostat data and Excel data analysis soft.

In this form, economic growth seems to be completely decoupled from poverty indicators. However, the fact that all poverty indicators have negative correlations indeed indicates the ability of economic growth to contingent on the negative effects of poverty, or the need for poverty parameters to be addressed in order to improve the economic growth. Also, People at risk of poverty or social exclusion (Parpose) is strongly correlated with At risk of poverty rate(Arpr), Severely materially deprived people (Smdp) and with In work at-risk-of-poverty rate (Iwarpr). The Arpr is showing significant correlations with Smdp and with Iwarpr.

That is why, in addition to correlation and regression, it has been performed a unit root test (see Table no.4).

Table no. 4 – Augmented Dickey - Fuller and Pillips-Peron Unit Root Tests for EU27 for real GDP growth rate and selected poverty indicators

Series Label	Augmented Dickey-Fuller unit root test				Phillips-Perron unit root test			
	Level		Critical Value		Level		Critical Value	
			5%	1%			5%	1%
	Constant & Trend				Constant & Trend			
RGDPgr (%)	t-statistic	-4,4598	-3,4257	-3,9906	t-statistic	-12,8126	-3,4251	-3,9894
	prob.*	0,0021			prob.*	0,0000		
Parpose (%)	t-statistic	-4,0167	-3,4251	-3,9894	t-statistic	-4,5127	-3,4251	-3,9894
	prob.*	0,0092			prob.*	0,0017		
Arpr (%)	t-statistic	-4,7013	-3,4251	-3,9894	t-statistic	-4,7185	-3,4251	-3,9894
	prob.*	0,0008			prob.*	0,0008		
Smdp(%)	t-statistic	-5,0586	-3,4252	-3,9896	t-statistic	-4,6650	-3,4251	-3,9894
	prob.*	0,0002			prob.*	0,0010		
Plihwvlwi (%)	t-statistic	-5,8613	-3,4251	-3,9895	t-statistic	-4,5126	-3,4251	-3,9894
	prob.*	0,0000			prob.*	0,0017		
Iwarpr(%)	t-statistic	-4,2966	-3,4251	-3,9894	t-statistic	-4,3959	-3,4251	-3,9894
	prob.*	0,0036			prob.*	0,0026		
Plidwlr (%)	t-statistic	-4,0421	-3,4251	-3,9894	t-statistic	-4,1007	-3,4251	-3,9894
	prob.*	0,0085			prob.*	0,0070		

Source: Authors' research, using Eurostat data and Eviews11 soft.

In order to make correct specification and to adjust the model, it has been realized a unit root test in levels in the form of ADF and PP tests in order to determine univariate properties of the data series.

As presented in Table no. 4, the results show that it could be rejected the null hypothesis of unit roots for RGDPgr, Parpose, Arpr, Smdp, Plihwvlwi, Iwarpr and Pildwlr in level forms for trend with intercept, because t critical value was in module below t-statistic. Although the ADF test is generally considered to perform better, the Pillips-Peron test seems to be more suitable for a longer series, having the advantage of a robust, nonparametric model, further verifying heteroschedasticy and autocorrelation consistency. Thus, for PP test the results are suitable, the null hypothesis being rejected when the PP test was applied in level form. It means that the calculated ADF and PP statistics are more than their critical values in level for the analyzed variables, suggesting that the variables are level stationary.

Using the above regression equation (equation 1) but, this time, with the systematization of the information in the form of a panel, based on the previous correlation matrix (see table no. 3) we obtain the results from table no. 5.

Table no.5 – **Results for regression equation for EU27 panel data for real GDP growth rate and selected poverty indicators for the period 2009-2019**

Dependent Variable: RGDPGR
Method: Least Squares
Date: 06/03/21   Time: 11:28
Sample: 1 297
Included observations: 297

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.193293	1.312214	2.433516	0.0156
PARPOSE	-0.182535	0.247436	-0.737706	0.4613
ARPR	0.163034	0.189623	0.859777	0.3906
SMDP	0.081549	0.146196	0.557811	0.5774
PLIHWVLWI	0.057459	0.107973	0.532162	0.5950
IWARPR	-0.022269	0.110301	-0.201893	0.8401
PLIDWLR	-0.072143	0.035580	-2.027639	0.0435

R-squared	0.029679	Mean dependent var	1.531987
Adjusted R-squared	0.009603	S.D. dependent var	3.701272
S.E. of regression	3.683457	Akaike info criterion	5.468867
Sum squared resid	3934.678	Schwarz criterion	5.555925
Log likelihood	-805.1268	Hannan-Quinn criter.	5.503720
F-statistic	1.478349	Durbin-Watson stat	1.480023
Prob(F-statistic)	0.185314		

Source: Authors' research, using Eurostat data and Eviews11 soft

In table no. 5, we find of course that R2 and adjusted R2 are completely inadequate, insignificant, the coefficients of the independent variables are not different from zero, but the probability attached to the indicator Population living in a dwelling with a leaking roof, damp walls, floors or foundation or rot in window frames of floor by poverty status (Plidwlr, %) is indeed below the p-value 0.05 threshold. Thus, is the only indicator which can be accepted for explaining the model. Looking at the Durbin-Watson statistics, which tests the null hypothesis that the residuals from an ordinary least-squares regression are not autocorrelated against the alternative that they are, we are noticing that the value R2 is below DW statistics, which indicates that the regression performed is not spurious. Therefore, by adjusting the model and / or introducing intermediate explanatory variables, we can see more clearly the link between poverty

indicators and economic growth. So far, housing conditions seem to have their say, mainly through their impact on economic growth. Establishing that all variables are integrated in the same order, it has been proceed with the Granger Causality Test (Table no.6).

Table no.6 – *Granger causality test results for EU27 for real GDP growth rate and selected poverty indicators*

Pairwise Granger Causality Tests
Date: 06/03/21   Time: 11:43
Sample: 1 297
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
PARPOSE does not Granger Cause RGDPGR	295	1.47170	0.2312
RGDPGR does not Granger Cause PARPOSE		3.67293	0.0266
ARPR does not Granger Cause RGDPGR	295	0.32790	0.7207
RGDPGR does not Granger Cause ARPR		0.59294	0.5534
SMDP does not Granger Cause RGDPGR	295	1.49350	0.2263
RGDPGR does not Granger Cause SMDP		3.34614	0.0366
PLIHWVLWI does not Granger Cause RGDPGR	295	2.53463	0.0810
RGDPGR does not Granger Cause PLIHWVLWI		16.5923	2.E-07
IWARPR does not Granger Cause RGDPGR	295	0.36377	0.6954
RGDPGR does not Granger Cause IWARPR		0.62390	0.5366
PLIDWLR does not Granger Cause RGDPGR	295	1.04049	0.3546
RGDPGR does not Granger Cause PLIDWLR		0.26565	0.7669
ARPR does not Granger Cause PARPOSE	295	2.05272	0.1302
PARPOSE does not Granger Cause ARPR		2.47961	0.0856
SMDP does not Granger Cause PARPOSE	295	1.05277	0.3503
PARPOSE does not Granger Cause SMDP		0.17291	0.8413
PLIHWVLWI does not Granger Cause PARPOSE	295	0.60843	0.5449
PARPOSE does not Granger Cause PLIHWVLWI		4.52128	0.0117
IWARPR does not Granger Cause PARPOSE	295	0.37065	0.6906
PARPOSE does not Granger Cause IWARPR		0.62855	0.5341
PLIDWLR does not Granger Cause PARPOSE	295	3.81237	0.0232
PARPOSE does not Granger Cause PLIDWLR		1.10719	0.3319
SMDP does not Granger Cause ARPR	295	1.59265	0.2052
ARPR does not Granger Cause SMDP		0.28816	0.7499
PLIHWVLWI does not Granger Cause ARPR	295	1.04777	0.3520
ARPR does not Granger Cause PLIHWVLWI		1.91410	0.1493
IWARPR does not Granger Cause ARPR	295	0.15188	0.8592
ARPR does not Granger Cause IWARPR		0.15653	0.8552
PLIDWLR does not Granger Cause ARPR	295	2.65343	0.0721
ARPR does not Granger Cause PLIDWLR		2.14178	0.1193
PLIHWVLWI does not Granger Cause SMDP	295	0.14737	0.8630
SMDP does not Granger Cause PLIHWVLWI		3.44723	0.0331
IWARPR does not Granger Cause SMDP	295	0.04719	0.9539
SMDP does not Granger Cause IWARPR		0.80283	0.4491
PLIDWLR does not Granger Cause SMDP	295	3.70506	0.0258
SMDP does not Granger Cause PLIDWLR		0.36700	0.6931
IWARPR does not Granger Cause PLIHWVLWI	295	1.78824	0.1691
PLIHWVLWI does not Granger Cause IWARPR		0.26779	0.7653
PLIDWLR does not Granger Cause PLIHWVLWI	295	0.64996	0.5228
PLIHWVLWI does not Granger Cause PLIDWLR		0.16107	0.8513
PLIDWLR does not Granger Cause IWARPR	295	2.18794	0.1140
IWARPR does not Granger Cause PLIDWLR		2.13525	0.1201

Source: Authors' research, using Eurostat and Eviews11 soft

In table no.6 the Granger causality test reflects that the probability under 0.05 is accomplished only for RGDPgr as a cause for PARAPOSE, SMDP, PLIHWVLWI, reflecting that economic growth

cause poverty evolutions rather than opposite. Also, PARAPOSE and SMDP do Granger cause PLIHWVLWI, so the risk of poverty or social exclusion and severely materially deprivation makes us not go to work. Also, PLIDWLR does Granger cause PARAPOSE and SMDP, so the dwelling conditions make as still be at risk of poverty or social exclusion and severely materially deprived people.

This can be connected with the fact that Overcrowding rate by poverty status and Population having neither a bath, nor a shower, nor indoor flushing toilet in their household by poverty status represents dominance for the poorest EU countries. Thus, living conditions affect people's health and ability to go to work, thus the ability to escape the trap of poverty.

5. CONCLUSIONS AND RECOMMENDATIONS

This article seeks an incursion into the issue of poverty in the EU27 for the period 2009-2019. Beyond the correlations between the indicators proposed by section 1 of the SDGs - without poverty, the link with economic growth is also useful in understanding the macroeconomic and microeconomic mechanisms in order to address this issue. Poverty generates delays in economic growth, but rather anemic or poorly directed economic growth can inflame or maintain the problem of poverty.

Adequate living conditions are essential for a good start in life, and later in the field of work. They stop us from getting more precarious jobs or giving up work at some point, preventing us from getting sick and integrating us better into society, thus ensuring long-term economic growth by staying active and well paid. So the target for the programmers and public policy managers starts from ensuring satisfactory living conditions to block poverty and then the exclusion from the labor market of those categories of people. This presupposes adequate salaries and pensions, good social protection for people with disabilities, allowances and material rights corresponding to child care, etc. in order to prevent the entry or return to the poverty trap.

Poverty being the key to the shortcomings of today's world, thus, the study will probably be developed in the future with an approach at EU27 level related to migration, to salaries and wages developments and to other issues.

REFERENCES

Agrawal, P. (2008) Economic Growth and Poverty Reduction: Evidence from Kazakhstan. *Asian Development Review,* vol. 24, no. 2, pp. 90−115. Asian Development Bank. Online at: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.177.2567&rep=rep1&type=pdf.

Besley and Cord (eds.) (2007). "Delivering on the Promise of Pro-Poor Growth: Insights and Lessons from Country Experiences", World Bank.

Bhagwati, (2000) „Poverty or Reforms: Friends or Foes? In The Wind of the Hundred Days: How Washington Mismanaged Globalization". Cambridge and London: MIT Press.

Bigsten, A., Kebede, B., Shimeles, A., Taddesse, M., (2003). Growth and poverty reduction in Ethiopia: Evidence from household panel surveys. *World Development 31(1),* 87-106.

Datt, G. and Ravallion, M. (2002). Is India's Economic Growth Living the Poor Behind. World Bank, Washington, DC. Mimeo.

Deaton, A. and J. Dreze, (2001). Poverty and Inequality in India: A Reexamination. Economic and Political Weekly September:3729–48.

Dullah, M., Mori, K, Rozilee, A. and Jaratin, L. (2012). Is economic growth suficient for poverty alleviation? Empirical evidence from Malaysia. Cuadernos de economía (2012) 35, 26-32.

Fields, G.S., (1989). Changes in poverty and inequality in developing countries. World Bank Research Observer 4(2), 167-185.

Lustig, N., Arias, O., Rigolini, J., (2002). Poverty reduction and economic growth: A two-way causality. Sustainable Development Department Technical Papers Series. Inter-American Development Bank, Washington D.C.

Ravallion, M., (1995). Growth and poverty: Evidence for developing countries in the 1980s. *Economic Letters* 48, 411-417.

Rodrik, D., (2000). Growth versus poverty reduction: a hollow debate. Finance and Development, IMF, Washington, D.C.

Roemer M, and Gugerty, M.K. (1997). Does Economic Growth Reduce Poverty?Technical Paper, CAER II Discussion Paper No. 5, Harvard Institute for International Development. Online at: https://www.researchgate.net/profile/Mary-Kay Gugerty/publication/237498216_ DOES_ECONOMIC_GROWTH_REDUCE_POVERTY_Technical_Paper/links/57dc0dc708aeea1 95935bbb3/DOES-ECONOMIC-GROWTH-REDUCE-POVERTY-Technical-Paper.pdf

Roser, M, (2021). How much economic growth is necessary to reduce global poverty substantially?. Online at> https://ourworldindata.org/poverty-minimum-growth-needed.

Salvatore, D., (2004). Growth and poverty in a globalizing world. Journal of Policy Modeling 26, 543-551.

United Nation, (2021)."2021 Financing for Sustainable Development Report", Report of the Inter-agency Task Force on Financing for Development. Online at: https://developmentfinance.un.org/sites/developmentfinance.un.org/files/FSDR_2021.pdf