

**The relations, differences and controversies
between “economic growth”, “economic
development” and “sustainable
development” – the case of Romania**

Scientific Reviewers:

Professor PhD. H. C. Marin ANDREICA

The Bucharest University of Economic Studies,
Bucharest, Romania

“Commercial Academy” from Satu Mare, Romania

Foundation *“Commercial Academy”* from Satu Mare,
Romania

Associated Professor PhD. Liviu Cătălin ANDREI

The National School of Political and Administrative
Sciences, Bucharest, Romania

Professor PhD. Paul MARINESCU

University of Bucharest, Romania

The Bucharest University of Economic Studies,
Bucharest, Romania

Gheorghe N. POPESCU
Veronica Adriana A.V. POPESCU
Cristina Raluca Gh. POPESCU

**The relations, differences and
controversies between “economic
growth”, “economic development”
and “sustainable development” –
the case of Romania**



Editura C.H. Beck
București 2016



AVERTISMENT!

Având în vedere amploarea luată de fenomenul fotocopierii lucrărilor de specialitate, mai ales în domeniul Dreptului, atragem atenția că, potrivit art. 14 și 140 din Legea nr. 8/1996 privind dreptul de autor și drepturile conexe, reproducerea operelor sau a produselor purtătoare de drepturi conexe, dacă respectiva reproducere a fost efectuată fără autorizarea sau consimțământul titularului drepturilor recunoscute de legea menționată, constituie infracțiune și se pedepsește cu închisoare sau cu amendă. Prin *reproducere*, conform legii, se înțelege realizarea, integrală sau parțială, a uneia ori a mai multor copii ale unei opere, direct sau indirect, temporar ori permanent, prin orice mijloace și sub orice formă.

Nu vă faceți părtași la distrugerea cărții!

Editura C.H. Beck este acreditată CNATDCU și este considerată editură cu prestigiu recunoscut.

The relations, differences and controversies between “economic growth”, “economic development” and “sustainable development” – the case of Romania

**Gheorghe N. Popescu, Veronica Adriana A.V. Popescu,
Cristina Raluca Gh. Popescu**

Copyright © 2016 – Editura C.H. Beck

Toate drepturile rezervate Editurii C.H. Beck.

Nicio parte din această lucrare nu poate fi copiată fără acordul scris al Editurii C.H. Beck.

Drepturile de distribuție în străinătate aparțin în exclusivitate editurii.

Editura C.H. Beck

Str. Serg. Nătu Ion nr. 2, sector 5, București

Tel.: 021 410.08.47; 021 410.08.09;
021 410.08.73; 021 410.08.46

Fax: 021 410.08.48

E-mail: comenzi@beck.ro

Redactor: Andreea Alexe
Tehnoredactor: Cătălin Mantu

CONTENTS

Preface	VII
Prologue	XI
Cuvânt-înainte	XIII
1. Introduction.....	1
2. The place of “economic growth”, “economic development” and “sustainable development” in the economic analysis. What do these concepts stand for?	3
2.1. Defining “economic growth”, “economic development” and “sustainable development”, creating the general framework and going beyond “traditional” patterns.....	4
2.2. “Economic growth”, “economic development” and “sustainable development” – entering the sphere of misleading differences, endless controversies and unfortunate confusions	8
2.2.1. “ <i>Economic growth</i> ” – meanings, evolution and implications	9
2.2.2. “ <i>Economic development</i> ” – necessary comparisons	29

“Economic growth”, “economic development”, “sustainable development”

2.2.3. *“Sustainable development” – going beyond
“economic growth” and “economic
development” – a step into the future 31*

**3. Key examples concerning the evolution of
“economic growth”, “economic development”
and “sustainable development”35**

4. Conclusions.....41

Appendix A45

References.....53

PREFACE

The study *“The relations, differences and controversies between “economic growth”, “economic development” and “sustainable development” – the case of Romania”* aims to present the place of *“economic growth”, “economic development”* and *“sustainable development”* in the economic analysis and create a general framework able to provide the necessary information in order to show what these concepts stand for.

The basic structure of the work is as follows: the first section is meant to present the place of *“economic growth”, “economic development”* and *“sustainable development”* in the economic analysis by defining these notions and by creating the general framework by entering the sphere of misleading differences, endless controversies and unfortunate confusions; the second section emphasises the role of these three concepts by providing relevant examples concerning their evolution in time.

The case studies are directly linked to Romania’s economic, social and political evolution (*before being part of the European Union and as part of this organism*) in this context and relevant comparison with other countries such as Moldavia, Ukraine, Hungary, Serbia and Bulgaria (*Romania’s neighbours*) or specific regions such as Europe and Central Asia.

Moreover, the authors state that both *“economic growth”* and *“economic development”* are two limited notions. Furthermore, the authors believe that

“Economic growth”, “economic development”, “sustainable development”

“sustainable development” should be seen in a much broader context, due to the fact that it involves not only economic development and growth, but it successfully accomplishes to create a link between economic development and economic growth, human development, environmental protection, as well as the general concern for present and future generations.

As a general overview, the notions of *“economic growth”, “economic development”* and *“sustainable development”* are seen throughout this paper both interconnected and differentiated. Moreover, these correlations and in the same time these differences that exist between them generated a number of controversies, confusions and somewhat intriguing assumptions.

Furthermore, this work stresses the fact that there are similarities existing between *“economic growth”, “economic development”* and *“sustainable development”*, but in the same time there are also several differences among these concepts. Due to this fact, the authors came to the conclusion that one can easily notice that there is a fine line between them.

“Economic growth” represents a quantitative change or expansion noticed in the evolution of a country's economy, which is conventionally measured as the percentage increase in *gross domestic product (GDP)* or *gross national product (GNP)* during the time period of one year. In the same time, *“economic development”* represents a quantitative change in a country's economy seen in correlation with both technological and social progress. All in all, *“economic growth”* and *“economic development”* are two interconnected concepts.

Preface

“Sustainable development” (*“sustainable economic development”*) encompasses the sphere of both *“economic growth”* and *“economic development”*, taking into consideration *“human development”* able to combine successfully all aspects of individuals’ well-being, such as their health situation, their economic status and their political freedom, which are measured in terms of life expectancy, adult literacy, and access to all three levels of education, individuals’ average income and people’s freedom of choice.

The authors emphasize the fact that *“economic growth”* and *“economic development”* are two concepts that *“limit”* somehow, in one way or another, one’s perspective while reflecting on the future and on a country’s resources, its economic, social and political opportunities and also its *“timeless”* perspective.

The role of *“sustainable development”* is derived from the need to generate economic and social progress on the long-run and in a constructive manner, due to the fact that, in some cases, economic growth failed to deliver the most needed, wanted and expected future also at the level of individuals development. The concept addresses a much profound and valuable issue: the main concern, the future generations itself and its wellbeing (*with all the implications deriving from it*). *“Sustainable development”* finds itself into the posture of addressing economic growth with a great concern to social norms as well as to environmental frameworks. Moreover, *“sustainable development”* is seen in relation with *“economic growth”* in the light of human development, such as bringing improvements in individuals’ knowledge

“Economic growth”, “economic development”, “sustainable development”

and skills, corroborated with their efficient use, provided by more and better jobs, as well as better conditions for new businesses to be created and developed. Furthermore, by ensuring *“sustainable development”* in a country should also imply a higher level of democracy.

The research turns out to be useful not only for academics but also for all the individuals and institutions concerned with and operating with aspects interconnected with *“economic growth”, “economic development”* and *“sustainable development”*.

Professor PhD. H. C. Marin ANDREICA

The Bucharest University of Economic Studies,
Bucharest, Romania

“Commercial Academy” from Satu Mare, Romania

Foundation *“Commercial Academy”* from Satu Mare, Romania

Associated Professor PhD. Liviu Cătălin ANDREI

The National School of Political and Administrative Sciences,
Bucharest, Romania

Professor PhD. Paul MARINESCU

University of Bucharest, Romania

The Bucharest University of Economic Studies,
Bucharest, Romania

PROLOGUE

The study *“The relations, differences and controversies between “economic growth”, “economic development” and “sustainable development” – the case of Romania”* presents the common points, differences, controversies and confusions regarding the concepts of *“economic growth”, “economic development”* and *“sustainable development”*.

The basic structure of the work is as follows: the first section is meant to present the place of *“economic growth”, “economic development”* and *“sustainable development”* in the economic analysis by defining these notions and by creating the general framework by entering the sphere of misleading differences, endless controversies and unfortunate confusions; the second section emphasises the role of these three concepts by providing relevant examples concerning their evolution in time.

The case studies are directly linked to Romania’s economic, social and political evolution (*before being part of the European Union and as part of this organism*) in this context and relevant comparison with other countries such as Moldavia, Ukraine, Hungary, Serbia and Bulgaria (*Romania’s neighbours*) or specific regions such as Europe and Central Asia.

Moreover, it is our strong belief that both *“economic growth”* and *“economic development”* are two limited notions.

“Economic growth”, “economic development”, “sustainable development”

Furthermore, in the meanwhile, *“sustainable development”* should be seen in a much broader context, due to the fact that it involves not only economic development and growth, but it successfully accomplishes to create a link between economic development and economic growth, human development, environmental protection, as well as the general concern for present and future generations.

In our opinion, the research turns out to be useful not only for academics but also for all the individuals and institutions concerned with and operating with aspects interconnected with *“economic growth”, “economic development”* and *“sustainable development”*.

Keywords: *economic growth; economic development; sustainable development; gross domestic product (GDP); gross national product (GNP); natural resources; human resources; economic capital; environment protection; developed countries.*

Professor PhD. Gheorghe N. POPESCU

The Bucharest University of Economic Studies,
Bucharest, Romania

Associated Professor PhD. Veronica Adriana A. V. POPESCU

“Commercial Academy” from Satu Mare, Romania
The Bucharest University of Economic Studies,
Bucharest, Romania

Associated Professor PhD. Cristina Raluca Gh. POPESCU

University of Bucharest, Romania
The Bucharest University of Economic Studies,
Bucharest, Romania

CUVÂNT-ÎNAINTE

Lucrarea științifică *„Relațiile, diferențele și controversele dintre „creșterea economică”, „dezvoltarea economică” și „dezvoltarea durabilă”*. Studiu de caz pe situația României în acest context” prezintă elementele comune, diferențele și controversele legate de conceptele de *„creștere economică”, „dezvoltare economică” și „dezvoltare durabilă”*.

Lucrarea este structurată astfel: în cadrul primei părți este prezentat locul conceptelor de *„creștere economică”, „dezvoltare economică” și „dezvoltare durabilă”* în cadrul analizei economice, pornind de la definițiile acestor noțiuni, prin crearea cadrului general necesar înțelegerii diferențelor dintre concepte care au generat o serie de confuzii și de controverse; în cadrul celei de-a doua părți sunt prezentate rolul și importanța celor trei concepte prin furnizarea unor exemple relevante legate de evoluția acestora în timp.

Studiul de caz se axează pe situația României în contextul evoluției sale economice, politice și sociale (*înainte de a face parte din Uniunea Europeană și după ce a devenit membră a acestui organism*) prin realizarea unor comparații relevante cu țări precum Moldova, Ucraina, Ungaria, Serbia și Bulgaria (*vecinii României*), dar și cu alte țări din Europa și Asia Centrală.

Mai mult decât atât, în viziunea noastră *„creșterea economică” și „dezvoltarea economică”* sunt două noțiuni limitate.

“Economic growth”, “economic development”, “sustainable development”

„Dezvoltarea durabilă” este un concept care trebuie abordat într-o accepțiune mult mai largă, deoarece nu implică doar dezvoltare și creștere economică, ci creează acea legătură cheie între dezvoltarea umană, protecția mediului și grija pentru generațiile prezente și viitoare.

Cercetarea prezentă este utilă atât pentru persoanele din mediul academic, cât și pentru agenții economici și instituțiile implicați în procese legate de „creșterea economică”, „dezvoltarea economică” și „dezvoltarea durabilă”.

Cuvinte cheie: *creștere economică; dezvoltare economică; dezvoltare durabilă; produs intern brut (PIB); produs național brut (PNB); resurse naturale; resurse umane; capital uman; protecția mediului; țări dezvoltate.*

Prof. univ. dr. Gheorghe N. POPESCU

Profesor universitar doctor în cadrul
Academiei de Studii Economice din București, România
Membru al Școlii Doctorale de Contabilitate,
Domeniul Științe Economice în cadrul
Academiei de Studii Economice din București, România

Conf. univ. dr. Veronica Adriana A. V. POPESCU

Conferențiar universitar doctor în cadrul
Academiei de Studii Economice din București, România
Conferențiar universitar doctor în cadrul
“Academiei Comerciale” din Satu Mare, România

Conf. univ. dr. Cristina Raluca Gh. POPESCU

Conferențiar universitar doctor în cadrul
Universității din București, România
Membru al Școlii Doctorale de Economie I,
Domeniul Științe Economice în cadrul
Academiei de Studii Economice din București, România

1. INTRODUCTION

Two questions triggered our curiosity to go much deeper into the analysis of the concepts of *“economic growth”*, *“economic development”* and *“sustainable development”*: **1)** Which of these three notions is more relevant for the economic analysis?; and **2)** Which one of them has the ability to reflect the reality better and, in the same time, to predict the future more correctly and coherently?

First of all, the work has the main purpose of placing *“economic growth”*, *“economic development”* and *“sustainable development”* in the economic analysis:

- In order to be able to do this, the research defines the concepts of *“economic growth”*, *“economic development”* and *“sustainable development”*, creates the general framework and goes beyond *“traditional”* patterns. In the same time, in this part of the paper, relevant figures accompany the text, in order to create a better image concerning these three notions and the general background in which they activate.
- Moreover, *“economic growth”*, *“economic development”* and *“sustainable development”* are

“Economic growth”, “economic development”, “sustainable development”

analysed in the particular context in which one enters the sphere of misleading differences, endless controversies and unfortunate confusions, due to the fact that at this level there are plenty of studies that focused on them.

- Furthermore, the purpose is to present *“economic growth”* with its meanings, evolution and implications (chronologically and historically); *“economic development”* with necessary comparisons; and *“sustainable development”* in the context of going beyond *“economic growth”* and *“economic development”*, and reaching a step into the future.

Second of all, key examples concerning the evolution of *“economic growth”, “economic development”* and *“sustainable development”* are emphasised here:

- **The first important example** is the one of the GDP growth (*annual %*) for the time period 2006-2016, with relevant data referring to Romania, Europe and Central Asia (*developing only*) and European Union (*E.U.*), in order to provide a relevant comparison between them.
- **The second example** is represented by the poverty headcount at national poverty lines (*% of population*) and the chosen selection includes Romania and its neighbour countries: Moldavia, Ukraine, Hungary, Serbia and Bulgaria.

2. THE PLACE OF “ECONOMIC GROWTH”, “ECONOMIC DEVELOPMENT” AND “SUSTAINABLE DEVELOPMENT” IN THE ECONOMIC ANALYSIS. WHAT DO THESE CONCEPTS STAND FOR?

The concepts of *“economic growth”*, *“economic development”* and *“sustainable development”* (*“sustainable economic development”*) should be seen, in the same time, both interconnected and differentiated. In our opinion, the correlations as well as the differences existing between them generated, over time, a number of controversies and confusions.

So, which are, in fact, the similarities existing between *“economic growth”*, *“economic development”* and *“sustainable development”*? What makes all these concepts so special? Why the need to understand them? In the same time, which differences do exist between these concepts? Moreover, what are the controversies and confusions that can be found by analysing carefully *“economic growth”*, *“economic development”* and *“sustainable development”*? Furthermore, is there a link between these concepts (*do all these notions have a common point*) and if so, what is that link? And, going even deeper into the analyses, which one of them is more important? It is our belief that one can easily notice that there is a fine line between them.

2.1. Defining “economic growth”, “economic development” and “sustainable development”, creating the general framework and going beyond “traditional” patterns

Firstly, in order to provide an answer to these questions, it is imperative to reflect on some of the definitions given by specialists in this particular matter, as well as on some connections existing between these notions.

The first notion brought to the attention is “*economic growth*”. *“Economic growth”* represents a quantitative change or expansion noticed in the evolution of a country’s economy, which is conventionally measured as the percentage increase in *gross domestic product (GDP)* or *gross national product (GNP)* during the time period of one year. There are two forms in which *“economic growth”* can be found: the first form is the one in which an economy grows *“extensively”* (*situation in which more resources, such as physical, human, or natural capital are used*) or *“intensively”* (*situation in which the same quantity of resources is used, but in a more efficient or more productive manner*). *“Economic growth”* and *“economic development”* are two interconnected concepts, due to the fact that in order to achieve intensive economic growth the presence of economic development becomes a must [1] (p. 96).

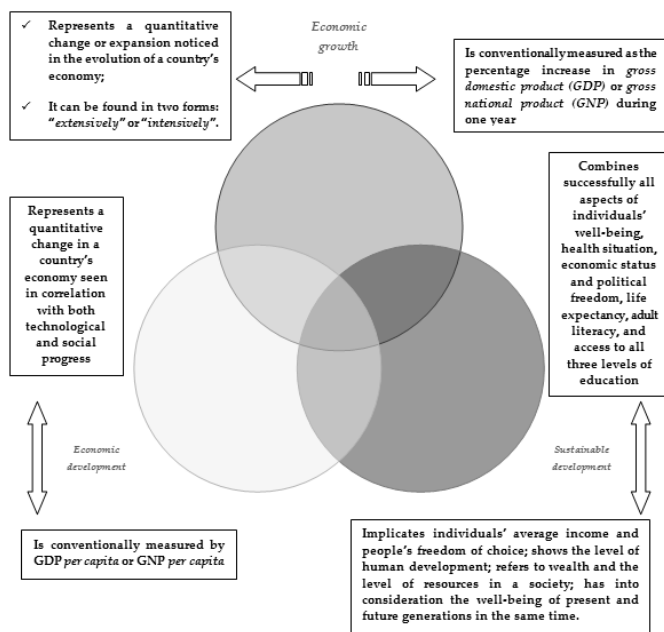
The second notion that requires attention is “*economic development*”. *“Economic development”* represents a quantitative change in a country’s economy seen in correlation with both technological and social progress. Increasing *GDP per capita* or *GNP per capita* are the main indicators that show the existence of economic development, offering information on the increase in the economic productivity and average material well-being of a country’s individuals [1] (p. 96).

The third notion that needs a particular attention is “*sustainable development*” (“*sustainable economic development*”). In order to correctly and coherently define this concept, the aspect of understanding what *“development”* really means while discussed and analysed in relation to a country arises. In this case, one can notice several controversies concerning the means to determine which countries are more developed and which are less developed, and, in the same time, which countries are richer and which are poorer. Some questions arise here in a most natural way: Based on which assumptions/on what indicators one can differentiate between developed and less developed countries or on richer and poorer ones?; Is there a proper, relevant and capable to reflect the reality itself way to generate accurate country rankings?; Will these data be helpful for policy makers for example, and not only, of course?

“Economic growth”, “economic development”, “sustainable development”

By attempting to answer these profound and pressing questions, one should take into consideration the fact that the indicators of wealth existing at a country's level are meant to reflect the quantity of resources available to a society (*see, in this matter, **Figure no 1: Main characteristics and links between “economic growth”, “economic development” and “sustainable development”***). Although these indicators are extremely important for each and every society as a whole, they do not have the power to provide relevant information about the allocation of those resources: for example, information on the income's distribution among social groups or the effects of production and consumption on the environment [1] (p. 7).

Figure no. 1: Main characteristics and links between “economic growth”, “economic development” and “sustainable development”



Source: The Authors based on literature [1-3]

Moreover, in practice there are numerous examples of countries having similar average incomes that are substantially differentiated when the issue of people's quality of life comes into discussion (people's quality of life is reflected, for instance, in access to education and health care, employment opportunities, availability of clean air and safe drinking water, the threat of crime) [2] (pp. 1-364).

Furthermore, **the key element or, in other words, the strong link between "economic growth", "economic development" and "sustainable development"** is provided by the content of the document entitled *"Human Development Report"* (1996), who **stresses the role of "human development" and draws attention to both the structure and the quality of "economic growth"**. According to this document, *"human development"* should be able to combine successfully all aspects of individuals' well-being, such as their health situation, their economic status and their political freedom, which are measured in terms of life expectancy, adult literacy, and access to all three levels of education, individuals' average income and people's freedom of choice. All in all, from these ideas one should draw the conclusion that *"economic growth"* represents the means, while *"human development"* is, in fact, the final target to be achieved [3] (pp. iii-iv; p. 1; p. 5-10).

2.2. “Economic growth”, “economic development” and “sustainable development” – entering the sphere of misleading differences, endless controversies and unfortunate confusions

Secondly, in order to provide an answer to the questions that exist in the opening of our work, it is crucial to understand the historical background of these concepts and their evolution in time.

2.2.1. “Economic growth” – meanings, evolution and implications

Is there a *“beginning” (chronologically and historically speaking)* regarding specialists’ attention given to *“economic growth”*? Moreover, will it ever be an *“end”* to the discussions on *“economic growth”*?

On one hand, in one way or another, economists were at all times aware of the importance of *“economic growth”* and its key role in the society. On the other hand, by analysing the studies related to *“economic growth”* that were made until present (*in a chronological order, by going back in time and coming to these days*), one can notice an interesting combination between theoretical and empirical research:

- a) The first aspect that should be taken into account is the one stating that economists such as Smith (1759 and 1776), Malthus (1798), Ricardo (1817),**

Ramsey (1928), Young (1928), Fisher (1930), Schumpeter (1934), Harrod (1939), Knight (1944), and Domar (1946) based their theories of “economic growth”, on the behaviour and dynamic balance of competition, the role of diminishing returns and the existing links between returns and the accumulation of physical and human capital, the connections that exist between *income rates capita* and the *population growth rate* on the effects generated by progress at the technological level that arises, on one hand, from the increased specialization of the labour and, on the other hand, from the creation of new products and production methods and the role of monopoly power seen as an incentive for technological progress.

In the lines below there are some relevant examples of research done in the field of *“economic growth”*:

- Going back in time, from this particular group of economists, Ramsey and Fisher are the ones who generated the starting point for the modern theory of economic growth by bringing into discussion the conditions of optimality (also known as *“growth models with consumer optimization”*) [4] (pp. 16-17). In these economic models the consumer’s behaviour is seen as essential [4] (p. 85).

- Much more recently, Barro and Sala-i-Martin (2004) were interested in extending Ramsey's economic growth model in several directions, by taking into consideration the government expenditures as well as other types of taxes, the "*installation costs in the process of physical capital investment*", and, in the same time, by creating the framework specific to an opened to international borrowing and lending economy, but analysed under the strict condition of "*finite lifetimes*" [4] (p. 143).
- In addition, Harrod and Domar made the attempt to integrate the Keynesian analysis in the context of economic growth. They made use of the production functions with little substitutability among the inputs having the final scope of proving that the capitalist system is unstable [4] (pp. 16-17).

b) The second aspect that needs further analyses and reflection is the one referring to the contributions of Solow (1956) and Swan (1956).

One may notice by analysing Solow's statements, that he strongly believed that the "*Harrod-Domar general-equilibrium model*" is inconsistent, due to the fact that, in his opinion, its assumptions were formulated in an unrealistic manner: the first element of inconsistency stated in his work is represented by the model's comparison between the natural rate of

“Economic growth”, “economic development”, “sustainable development”

growth (depending on the fluctuations registered at the level of the labour force) and the warranted rate of growth (depending on the manner in which individuals and companies decide to save or to invest); the second element of inconsistency is the one referring to the assumption that production occurs in the situation of fixed proportions; the third element of inadvertency emphasised by him is the fact that this model is constructed on the idea of excluding technological change [5] (p. 65). Not only that Solow presented all the inconsistencies stressed in the lines above, but, in the same time, he also acknowledged that the model assumption that labour cannot be substituted for capital in production was incorrect [5] (p. 65). Moreover, he expressed the opinion that this model addresses long-run problems, mistakenly solved by the use of short-run tools [5] (pp. 65-66).

The two economists Solow and Swan created the *“Solow-Swan general-equilibrium model”*, a neo-classical form of the production function combined with a constant saving rate rule, from which two theses derive [4] (pp. 16-17):

- **The first thesis refers to conditional convergence**, stating the fact that the lower the starting levels of GDP *per capita* will get, in turn, the faster the growth rate will become, both on the steady state position or the long run. In this moment, a key question becomes necessary: Is

the concept of “*conditional convergence*” relevant and powerful enough for further researches concentrated on “*economic growth*” theme? Fortunately, the answer to this question is affirmative, due to the fact that “*conditional convergence*” has a profound, even tremendous influence on analysis concentrated on regions’ and on countries’ “*economic growth*”.

- **The second thesis refers to the relation existing between technological progress and “*economic growth*”**, stating the fact that “*economic growth*” will get to an end (*GDP per capita*), unless substantial and continuous improvements will take place in technology (important and constant technological progress) (these ideas go back to the work of economists Malthus and Ricardo). While having in mind this statement, some additional questions make place into discussion: Is the correlation “*economic growth*” – technology – technological progress that relevant? Is there a clear declining tendency noticeable at the level of “*economic growth*” while correlated with technology improvement and technological progress? Unfortunately, the answer to these questions is negative, due to the fact that, according to existing studies based on the “*Solow-Swan general-equilibrium model*” “*economic growth*” (*GDP per capita*) showed positive rates over a

“Economic growth”, “economic development”, “sustainable development”

long period of time, with no obvious decreasing tendency when considering the evolution of technology and technological progress.

As a general conclusion, given the arguments stated above, the *“Solow-Swan general-equilibrium model”* is considered to have several inconsistencies and deficiencies, connected to elements referring to, for example, the rate of technological progress and the growth rate of population [4] (p. 18).

In the same time, the *“Solow-Swan general-equilibrium model”* presented great importance to Barro and Sala-i-Martin (2004) who brought two changes to it: the first one refers to fixing the average level of the saving rate, and, the second one concentrates on its evolution (if any) in case an economy registers growth. Among the results provided by their work, there can be noted elements such as the fact that the saving rate depends on the interest rate as well as on wealth and in the same time, there exists a similar trend between the evolution of the saving rate and *“economic development”* which, in turn, influences the transitional dynamics, mainly the level of convergence. In fact, in the opinion of Barro and Sala-i-Martin, the *“Solow-Swan general-equilibrium model”* in which a constant saving rate exists is nothing else but a particular case of the Ramsey’s model [4] (p. 85), [5].

This new context stirs a number of interesting and intriguing questions: Can an economic growth model be taken into account, seen as relevant and realistic in the absence of direct involvement of monetary factors on real consumption and investments? And furthermore, can an economic growth model prove to be consistent enough in an economy, unless one may clearly address the role of policy implications, among which, the most important are the monetary policies (such as tax, money, and budget policies) [5] (pp. 93-94), [6] (p. 577), [7]?

c) The third aspect that needs further analyses and reflection is the one presenting the controverted vision embedded in Shearer's (1961) studies. In fact, most of the statements made by Shearer in those days turned out to encompass the time barriers and proved to have the same validity today as then.

On one hand, by closely studying Shearer's work, a number of questions come to life: In the context in which the theory of economic growth is based on the *"omnibus"* as well as the *"pseudo-quantitative"* notion of *"aggregate economic welfare"*, corroborated with the *"best approximation"* situations which are required in most cases, and quantitative analysis generally seen as *"the sine qua non of scientific social studies"*, and moreover, obvious research ambiguities, inconsistencies and limitations arising due to data's availability, social phenomenon's intangibility, as well

"Economic growth", "economic development", "sustainable development"

as subjectivity, randomness and somewhat *"spontaneous"* observations, can it be relevant enough for any type of economy? Moreover, can the theory of economic growth provide *"practical"* solutions, by acting far above its *"abstract"*, *"speculative"*, and *"academic"* level and somehow *"philosophical"* framework which legitimizes it and reach a higher state? Furthermore, in what manner is it possible to make the theory of economic growth *"operational"* for each and every type of economy?

On the other hand, Shearer's belief is that only by creating a *"relevant"* economic growth model and a *"perfectly functional"* theory of economic growth, the critic and agnostic attitude surrounding this concept will be diminished [8] (p. 497).

So, all in all, should the economic growth be seen as *"ill"*? And, by means of extrapolation, should the economy itself be regarded, in turn, as being also *"ill"*?

According to Shearer's studies, the economic growth's, and by extrapolating, the economy itself diagnosis is, unfortunately, not favourable, due to the inconsistencies and sometimes, even major differences existing between developed and underdeveloped countries, the lack of coherence concerning the development policies, the fluctuation registered at the level of economic performance, technology and novelties in production methods, implementation of technologic progress, human capital – where one might put an

accent on traditions, particularities and other kind of specificities occurring while analysing any culture, personality types and traits, consumption motivations, patterns, and even largely acknowledged behaviours. Due to all these elements (that should not be accounted as limited), the results that come to light by using the theories and models specific to economic growth are insufficient and even misleading [8] (p. 498).

The ideas related to *"economic growth"*, the well-being of individuals, society, and environment and methods of *"healing"* the economy can be found at present as well, in the studies belonging to Popescu C. R. (2008, 2009, 2010 and 2011), and Popescu V. A. (2011) and Popescu Gh. (2011) [9-15].

d) The fourth aspect that requires immediate attention and consideration refers to the line of work specific to Kaldor (1963), Denison (1974), Christensen, Cummings, and Jorgenson (1980), Maddison (1982), Jorgenson, Gollop, and Fraumeni (1987), Elias (1990), Dougherty (1991), and Young (1995). In their acceptation, *"economic growth"* had one/several/all of the following characteristics: the output *per capita* has an ascending trend in time and the *"economic growth"* does not become descending; the physical capital calculated per individual has also an ascending trend; the capital's return rate is almost constant; the labour's and physical capital's percentage in the national income are

also almost constant; and the output’s *“economic growth”* rate per individual is substantially different from one region or one country to another [4] (p. 12).

- e) **The fifth aspect that should be stressed is the work of Cass (1965) and Koopmans (1965).** The two economists created what is called in the economic literature *“the equilibrium of Cass-Koopmans”*, another version of the *“neoclassical growth model”*, bringing Ramsey’s theory (1928) at a higher level, by putting an emphasis on consumers, saving rate (*as an endogenous element*), technological progress (*as an exogenous element*), productive factors (*labour and capital*), and conditional convergence, and by analysing them in a decentralized and competitive context, where the outcomes’ specificity is Pareto optimality [4] (p. 18).

All in all, the studies of Cass and Koopmans completed the basic neoclassical growth model. In the same time, it should be noted that the basic neoclassical growth model was extended with the work of Barro (1999), who incorporated time inconsistent preferences in the model, and Caselli and Ventura (2000), who allowed heterogeneity among households [4] (p. 18), [16, 17].

- f) The sixth aspect that should be strengthened is the one related to the ideas of Arrow (1962), Uzawa (1965), Sheshinski (1967), and Shell (1966, 1967, and 1973) who constructed models in which the key points related to the sphere of *"unintended by-products of production or investment"*, a mechanism described as *"learning-by-doing"*. According to these models once a discovery is made it instantaneously overflows the economy by automatically engaging in its processes, as a consequence of the fact that knowledge is seen as a non-rival good. In addition to the ideas above, Shell's model is based on the assumption that all of the non-rival research, regarded, in fact, as a classic public good, is funded by the government through involuntary taxes [4] (p. 18), [18-25].**
- g) The seventh aspect that should be considered is the influence of Kuznets (1973 and 1981) on the modern theory of *"economic growth"*.**

According to his research, the economy experiences massive structural transformations due to the changes that occurred after [4] (p. 12), [26] (p. 1, p. 12, p. 18, p. 28):

- Switching from an agrarian to an industrial society;
- Technology's and the technological progress growing importance in comparison to the role previously played by the natural resources;

“Economic growth”, “economic development”, “sustainable development”

- The foreign commerce increasing proportion in the economy;
- Introducing income's distribution as a key element of an economy;
- Other factors, such as, social, demographic, and political ones, due to the importance of social and demographic patterns, as well as the shifts in individuals' behaviour generated by turning to an industrial society, giving more meaning to technology and the technological progress instead of natural resources.

While examining Kuznets studies, there is no doubt that he was extremely preoccupied about the link between the evolutions of *“economic growth”* and the fluctuations appearing in an economy due to income's unequal distribution.

In our opinion, the issues related to income inequalities are more persistent today than ever before in discussion forums, in politicians' debates, in studies and research papers. In this context, an aspect that comes into discussion is represented by the relations that exist between elements such as rich and poor individuals, quality of life, and equal or unequal income distribution in a country, as well as measuring instruments able to determine and to compare in an accurate manner income's distribution in a region or country.

Immediate questions come to mind: How can one measure the level of individuals' quality of life? Moreover, how can one comprehend what elements lay behind rich and poor individuals, as well as life's quality? Furthermore, what instruments can be used in order to identify a country's correct economic and social situation, put the correct “*diagnosis*” and, in addition, find useful, viable and possible to implement solutions?

The answers that can be offered here are the following one: in order to be able to grasp the general features imbedded in a region or in a country, one should focus, as a starting point, on the way life is there, the quality of life, the percentage of poor individuals, and the manner in which income is distributed (equally or unequally); the second point one should take into account is that a country's income *per capita* is not relevant enough to make correct statements about individuals' quality of life [1] (p. 27); the third point derives immediately from the previous one and refers to the way in which economists are able to measure income inequalities in a country, provide accurate measurements, make correct statements, compare specific values, make future predictions and offer coherent solutions: so, Lorenz curves and GINI indexes are the ones used in this case [1] (p. 28).

In the lines below some of the key elements belonging to Lorenz curve and GINI index are offered, in order to show their importance:

- **The Lorenz curve** describes the cumulative percentages of the total national income received in comparison with the cumulative percentages of individuals, starting with the poorest one [27, 28].
- **The GINI index** offers a better perspective than the one given by Lorenz curve, especially when it comes to compare income inequality among several countries. The GINI index is measured as the area between the Lorenz curve and the line of absolute equality, expressed as a percentage of the area under the line [28-31].

After previously showing the connection that exists between total national income – individuals’ income – and *“economic growth”*, there are also some effects derived from major income discrepancies on *“economic growth”* that require immediate attention: a particular attention should be given to a country’s political stability, as well as to a country’s market instruments, such as prices (see, in this case, individuals’ access to electricity and hot water), and also, additionally, to specific norms of behaviour among individuals or companies in terms of trust, loyalty, and moreover, commitment [1] (p. 30).

All in all, “*economic growth*” and “*individuals’ welfare*” are interconnected. Moreover, according to some specialists aggregate growth is probably the single most important element that affects individual’s levels of income [4] (p. 6). Furthermore, by understanding the factors that generate aggregate economic growth, one would become able to raise individuals’ living standards and decrees poverty far more then in a country, the final target being the world itself [4] (p. 6).

h) The eighth aspect that should be brought into discussion is the economic research done by Romer (1986, 1987, and 1990), Lucas (1988), Young (1991), and Rebelo (1991), which aimed to continue the ideas provided by Arrow (1962), Uzawa (1965), Sheshinski (1967), and Shell (1967), with direct references to the work belonging to Knight (1944).

Concerning the information provided by the studies done by Romer, Lucas, and Rebelo, there are some points that need further inquiry:

- **The first element** that is important here is that Romer, Lucas, and Rebelo demonstrated the fact that a competitive environment can be maintained in order to discover the rate of technological progress in the year to balance, but the growth rate would usually not Pareto optimal [4] (pp. 19 – 20), [32].

- **The second element** that comes into discussion refers to the situation in which the competitive structure breaks (generating, in this way, imperfect competition) if the findings depend partly on individuals' research and development (R&D) efforts and innovations, gradually extended to other manufacturers [4] (pp. 19 – 20), [32].
- **The third element** that needs further consideration emphasises, on one hand, the assumption made by this group of economists on decreasing returns to reproducible factors, and, on the other hand, the necessity of adding human capital to the physical one. The notion of *“broad capital”* with its specificities (constant or even increasing returns to scale) comes into the newly created context [33] (p. 13).

In order to conclude the ideas presented in the lines above, the work of Romer, Lucas, Young, and Rebelo introduces externalities in the context of physical capital' accumulation, which, in turn, will generate, on one hand, lower private returns to scale, and, on the other hand, constant or growing social returns, both triggered by the process named *“learning-by-doing”* [33] (p. 13).

- i) **The ninth aspect that should require proper attention is the one referring to the research published on the topic of “economic growth” after the 1990's:**

- **One example is represented by the studies belonging to Grossman and Helpman (1991), and Aghion and Howitt (1992),** who brought significant contributions to Romer’s theory [4] (p. 20). A notable fact is that their models were also based on imperfect competition (as a general framework pattern) and the importance and the role played by research and development (R&D) in an economy. Another issue that needs to be stated is that the models take into consideration the fact that purposive R&D activity will generate an advance at the technological level, form of economic activity repaid by a certain an ex-post monopoly power. In this context, the economic growth rate will remain positive in the long run as long as the economy will be constantly provided with new ideas/inventions (the inventive activity). However, one should have in mind the fact that the economic growth rate and the new ideas/inventions are not Pareto optimal due to the process of generating new goods and production methods. Moreover, one should take into account the fact that, in the long run, the level of the economic growth is highly influenced by governmental actions (among which can be mentioned taxes level, security measures, and ability to provide infrastructure services) and other activities related to the economic background and not only. At this

point, there are some questions that would require further attention: In what way do the governmental actions influence the economic growth? Are these governmental actions meant to do good at all times, or in some cases, some “*ill*” practices and “*ill*” results could come up? Does a balance between “*good*” and “*ill*” governmental actions exist?

As a conclusion to the ideas relaxed in the lines above, but, in the same time, to the ones that acknowledge the work of the work of Romer, Lucas, Young, and Rebelo – previously summarized, the economists Grossman and Helpman, and Aghion and Howitt studies use externalities in the context of physical capital’ accumulation, which, in turn, will generate, on one hand, lower private returns to scale, and, on the other hand, constant or growing social returns, both triggered, this time, by R&D activities [33] (p. 13).

- **A second relevant example is the one represented by the importance, the role and the influence of scale effects on “*economic growth*”, as reflected in the studies of Jones (1995), and Hall and Jones (1999), or the one analysing whether technological progress will generate an increase in the labour dimension or in the capital one, as seen through the research done by Sala-i-Martin (1997a, 1997b), Acemoglu**

(2002), Acemoglu, Johnson, and Robinson (2002), Sala-i-Martin, Doppelhoffer, and Miller (2003), Acemoglu and Robinson (2012), or the one measuring the role of competition on “*economic growth*”, as presented in the research of Aghion *et al.* (2001 and 2002) [4] (p. 20), [34-44].

In the lines below our focus will be on the book recently written by Acemoglu and Robinson (2012), due to its consistency and valuable ideas [38]. In our opinion, the book written by Acemoglu and Robinson provides some interesting historical examples and it is spread with a multitude of challenging ideas. The basic theme of their book is that what matters most for some countries to succeed does not have as many might probably expect the starting point in factors such as economic, political, geographical, cultural values that guide them, but more likely institutions and, more specifically, political institutions that determine economic institutions. Moreover, the authors believe that political institutions can be divided into two types: “*extractive*” (*institutions in which a “small” group of people do their best to exploit the rest of the population*) and institutions “*inclusive*” (*where “many” individuals are involved in the process of government, therefore, the operation of exploitation is either*

“Economic growth”, “economic development”, “sustainable development”

weakened or absent). Furthermore, they argue that any successful economic and political institutions must be centralized enough to provide basic public services, including justice, enforcing contracts and education. According to their statements, inclusive institutions enable innovation and lead to continued growth, exemplified by the Industrial Revolution; while extractive institutions may also provide an increase, but only if the economy is far from the technological frontier. Interestingly enough, in their opinion, these extractive institutions will not succeed in the end, however, when innovation and *“creative destruction”* are needed to push the border. In this context, the first challenge the authors of the paper are facing is to explain the whole history of mankind by dividing the world into “extractive” and “inclusive” institutions; and the second challenge arises when they face the problem of quantifying what represents a *“small”* group or a *“large”* group of individuals. A possible conclusion that could be drawn from their study is that at the present time, there is no way to know exactly whether the current *“inclusive”* institutions will continue to deliver continued growth in the future.

The elements stated in this section (*““Economic growth” – meanings, evolution and implications”*) are

summarized in **Appendix A: Table A1: “A brief historical evolution of economic growth”**.

2.2.2. “Economic development” – necessary comparisons

Going back in time, an important vision concerning “*economic development*” brought into discussion belongs to Shearer (1961).

In addition to Shearer’s beliefs about “*economic growth*” (stated above), it is also noticeable that he is also extremely preoccupied of “*economic development*”. He presents two different opinions concerning “*economic development*”: the first one states that this concept refers to a whole sphere of “*non-economic*” elements left to be analysed with the aid of the economic theory and the second one raises into discussion the fact that this notion is in essence an economic process but its range of action encompasses the one of the traditional economic theory, due to the specificities, the unique character and behavioural patterns of this concept.

Moreover, according to his work he emphasises the fact that between concepts such as “*economic growth*” and “*economic development*” exist far too many inconsistencies, misleading statements and somewhat even deceiving arguments that basically conduct to confusion.

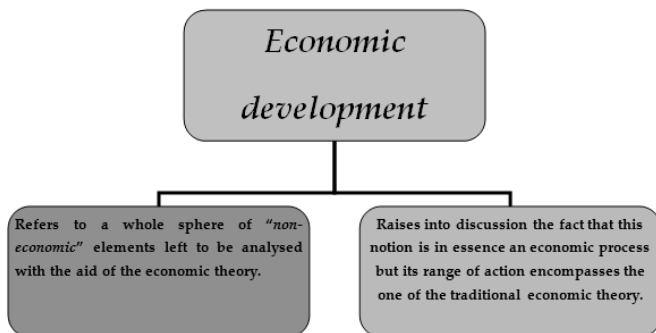
"Economic growth", "economic development", "sustainable development"

Furthermore, he stresses the fact that the notion of *"economic development"* is not explicit enough, and usually in studies and discussions in general term used is *"economic growth"*. Although some might consider both notions one and the same and see them as synonymous, Shearer argues that these two represent *"different types of concepts"*: *"economic growth"* having in essence an *"objective"* content, due to the fact that it relates to potentially measurable criteria, situations and phenomenon, while *"economic development"* having in essence a *"subjective"* content, due to the fact that it addresses economic performance in terms of criteria which refer to personal and social values [8] (p. 499).

According to Shearer's vision, the concept of *"economic growth"* can be easily and uniquely defined, while the notion of *"economic development"* brings to light numerous definitions triggered either by one's personal values, or, in more general terms, societies' values.

However, as he points out while deepening his analysis, interestingly enough there are some similarities between the measures that generate and accelerate *"economic growth"* and *"economic development"*. So, *"economic development"* is one way or another derived from *"economic growth"* and its approaches lie in the theory of economic growth [8] (p. 500) (see, in this matter, **Figure no. 2: Main characteristics of *"economic development"***).

Figure no. 2: Main characteristics of “*economic development*”



Source: The Authors based on literature [1-8]

2.2.3. “*Sustainable development*” – going beyond “*economic growth*” and “*economic development*” – a step into the future

In our opinion, “*economic growth*” and “*economic development*” are two concepts that “*limit*” somehow, in one way or another, one’s perspective while reflecting on the future and on a country’s resources, its economic, social and political opportunities and also its “*timeless*” perspective. And why should an economy “*limit*” itself? What possible reason might it have instead of breaking all boundaries and leaving all the limited notions and perspectives and step into the future? So, this is the place where “*sustainable development*” steps into discussion.

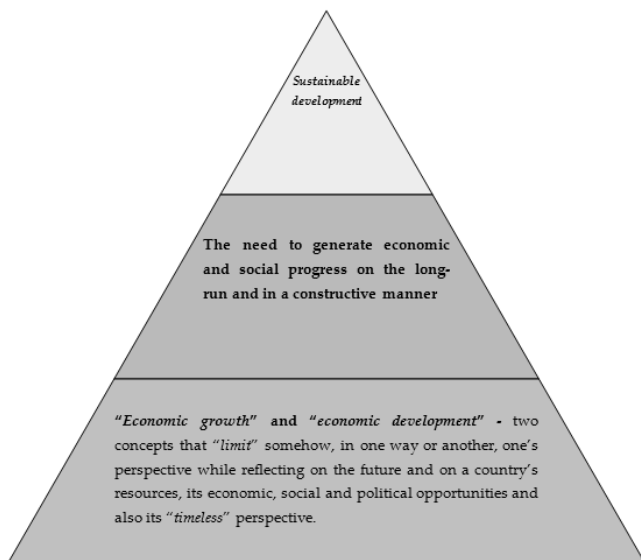
“Economic growth”, “economic development”, “sustainable development”

The role of *“sustainable development”* is derived from the need to generate economic and social progress on the long-run and in a constructive manner, due to the fact that, in some cases, economic growth failed to deliver the most needed, wanted and expected future also at the level of individuals development. Cases do exist in which both *“economic growth”* and *“economic development”* were registered, but with the price of much consistent income inequities, much higher unemployment rate, much less correct use of natural resources, overconsumption, loss of cultural identity, and individual’s and society’s values, profoundly instable and affected political systems.

So, *“sustainable development”* is the concept that encompasses the sphere that belongs to the notions of *“economic growth”* and *“economic development”*, and addresses a much profound and valuable issue: the main concern, the future generations itself and its wellbeing (*with all the implications deriving from it*). *“Sustainable development”* finds itself into the posture of addressing economic growth with a great concern to social norms as well as to environmental frameworks. Moreover, *“sustainable development”* is seen in relation with *“economic growth”* in the light of human development, such as bringing improvements in individuals’ knowledge and skills, corroborated with their efficient use, provided by more and better jobs, as well as better conditions for new businesses to be

created and developed. Furthermore, by ensuring “sustainable development” in a country should also imply a higher level of democracy [1] (p. 8), [3] (*see, in this matter, Figure no. 3: “Sustainable development” – as a concept derived from the need to generate economic and social progress on the long-run and in a constructive manner*).

Figure no. 3: “Sustainable development” – as a concept derived from the need to generate economic and social progress on the long-run and in a constructive manner



Source: The Authors based on literature [1, 8, 44-47].

“Economic growth”, “economic development”, “sustainable development”

All in all, according to the United Nations World Commission on Environment and Development (1987), *“sustainable development”* refers to meeting the needs of the present generations without compromising in any way what so ever the ability of future generations to meet their own needs as well [44, 45].

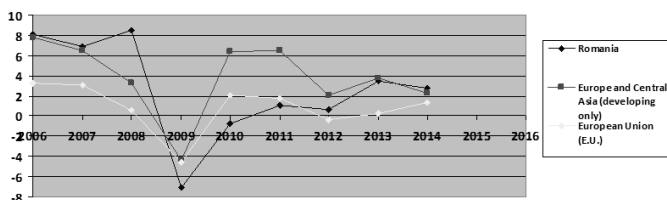
In the same time, *“economic development”* has the purpose of changing individuals’ mentalities as well as changing their attitude towards environmental protection, limited natural resources, economic growth and development, quality of human life, and future generations’ perspectives, in the context of improper use of natural resources, increased level of poverty, and alarming environmental pollution and accumulation waste [44, 46, and 47].

3. KEY EXAMPLES CONCERNING THE EVOLUTION OF “ECONOMIC GROWTH”, “ECONOMIC DEVELOPMENT” AND “SUSTAINABLE DEVELOPMENT”

This section is designed to present several relevant examples concerning the evolution of “*economic growth*”, “*economic development*” and “*sustainable development*” worldwide.

The first example that is considered important for this study reflects the GDP growth (*annual %*) for the time period 2006-2016, with available data from the World Bank until 2014 [48]. The relevant data selected refers Romania, Europe and Central Asia (*developing only*) and European Union (*E.U.*), in order to provide a relevant comparison between them (*see, in this matter, Figure no. 4: The GDP growth (annual %) for the time scale 2006-2016, with available data until 2014, for Romania, Europe and Central Asia (developing only) and European Union (E.U.).*).

Figure no. 4: The GDP growth (annual %) for the time scale 2006-2016, with available data until 2014, for Romania, Europe and Central Asia (developing only) and European Union (E.U.)



*Source: Based on the data provided
by The World Bank [48].*

Taking into consideration the existing data, there are several elements that need to be stressed while analysing the elements reflected in the graphic relaxed above [48]: first of all, the GDP growth (*annual %*) refers to the annual percentage growth rate of GDP at market prices based on constant local currency; second of all, the aggregates are based on constant 2005 U.S. dollars; third of all, between 2006-2007, one can notice a relatively similar decreasing evolution while comparing Romania and the Europe and Central Asia (*developing only*) and, in the same time, an almost constant trend while measuring European Union's evolution; fourth of all, between 2007-2008, Romania registered an increase at the level of the GDP growth (*annual %*), while, in the meantime, in Europe and Central Asia (*developing only*) as well as in the European Union a decrease can

be noticed – which marks, in fact, the beginning of the global economic crisis; fifth of all, between 2008-2009 a severe decrease can be seen when analysing Romania, Europe and Central Asia (*developing only*) and European Union – compared to Europe and Central Asia (*developing only*) and European Union, Romania's decrease is by far much more severe; sixth of all, while continuing the analysis, one can notice that immediately after 2009 an increase at the level of GDP growth (*annual %*) can be encountered, with a much pronounced growing rate between 2009-2010 and with some ups and downs between 2010-2014.

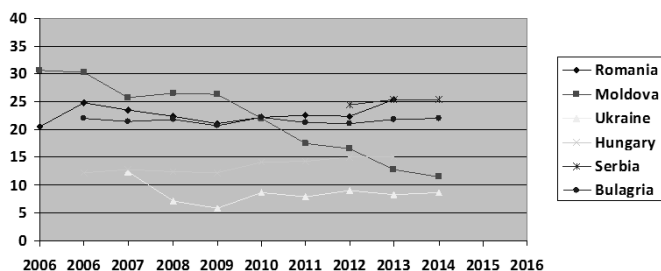
As a general conclusion of the analysis provided here, it should be taken into consideration the fact that the GDP is seen as total of gross value added by all producers having the status of residents in the economy taken under analysis to which are added any product taxes and eliminated any subsidies not included in the value of the products, but without taking into account the depreciations existing at the level of fabricated assets as well as the depletion/degradation of natural resources (*which, in turn, are ones of the main targets when talking about "sustainable development" – with additional references to present and future generations' well-being, environmental protection, human development and human resources and the capacity of regeneration embedded in some of the resources*).

“Economic growth”, “economic development”, “sustainable development”

The second example is represented by the poverty headcount at national poverty lines (*% of population*). The data taken into account is the one provided by the World Bank (Global Poverty Working Group), where the *“national poverty headcount ratio represents the percentage of the population living below the poverty lines”*, and, in this context, according to the World Bank: *“national estimates are based on population-weighted estimates from household surveys”* [49].

For this example, the chosen selection includes Romania and its neighbour countries: Moldavia, Ukraine, Hungary, Serbia and Bulgaria (*as seen on the map, going from East – North – West – South*) (see, in this matter, **Figure no. 5: The poverty headcount at national poverty lines (% of population) for the time scale 2006-2016. The chosen selection includes Romania, Moldavia, Ukraine, Hungary, Serbia and Bulgaria**).

Figure no. 5: The poverty headcount at national poverty lines (% of population) for the time scale 2006-2016. The chosen selection includes Romania, Moldavia, Ukraine, Hungary, Serbia and Bulgaria



Source: Based on the data provided by The World Bank (Global Poverty Working Group) [49]

Taking into account the graphic presented above, several aspects may be emphasised as follows: first of all, Romania's poverty headcount at national poverty lines (% of population) registered between 2006-2013 the following values: 24,8%; 23,4%; 22,4%; 21,1%; 22,2%; 22,6%; 22,4% and 25,4%, which implicates a similar trend; second of all, Moldova's poverty headcount at national poverty lines (% of population) registered between 2006-2014 the following values: 30,2%; 25,8%; 26,4%; 26,3%; 21,9%; 17,5%; 16,6%; 12,7% and 11,4%, which means that starting with 2010 an improvement could be encountered at this level, but generally speaking noticeable fluctuations can be clearly remarked at this level; third of all, Ukraine's poverty headcount at national poverty lines

(% of population) registered between 2007-2014 the following values: 12,4%; 7,1%; 5,8%; 8,6%; 7,8%; 9,0%; 8,3% and 8,6%; fourth of all, Hungary's poverty headcount at national poverty lines (% of population) registered between 2007-2013 the following values: 12,3%; 12,7%; 12,4%; 12,3%; 14,1%; 14,3%; 15% and 15%; fifth of all, Serbia's poverty headcount at national poverty lines (% of population) registered between 2012-2014 the following values: 24,5%; 25,4% and 25,4%; sixth of all, Bulgaria's poverty headcount at national poverty lines (% of population) registered between 2006-2014 the following values: 22,0%; 21,4%; 21,8%; 20,7%; 22,2%; 21,2%; 21,0%; 21,8% and 22%, which implicates a similar trend.

4. CONCLUSIONS

The study aims to present the place of “*economic growth*”, “*economic development*” and “*sustainable development*” in the economic analysis and create a general framework able to provide the necessary information in order to show what these concepts stand for.

As a general overview, the notions of “*economic growth*”, “*economic development*” and “*sustainable development*” are seen throughout this paper both interconnected and differentiated. Moreover, these correlations and in the same time these differences that exist between them generated a number of controversies, confusions and somewhat intriguing assumptions. Furthermore, in our opinion it is a clear fact that there are similarities existing between “*economic growth*”, “*economic development*” and “*sustainable development*”, but in the same time there are also several differences among these concepts. This made us come to the conclusion that one can easily notice that there is a fine line between them.

“*Economic growth*” represents a quantitative change or expansion noticed in the evolution of a country’s economy, which is conventionally measured as the percentage increase in *gross domestic product*

“Economic growth”, “economic development”, “sustainable development”

(GDP) or gross national product (GNP) during the time period of one year. In the same time, *“economic development”* represents a quantitative change in a country’s economy seen in correlation with both technological and social progress. All in all, *“economic growth”* and *“economic development”* are two interconnected concepts [1] (p. 96).

“Sustainable development” (*“sustainable economic development”*) encompasses the sphere of both *“economic growth”* and *“economic development”*, taking into consideration *“human development”* able to combine successfully all aspects of individuals’ well-being, such as their health situation, their economic status and their political freedom, which are measured in terms of life expectancy, adult literacy, and access to all three levels of education, individuals’ average income and people’s freedom of choice [3] (pp. iii-iv; p. 1; p. 5-10).

In our opinion, *“economic growth”* and *“economic development”* are two concepts that *“limit”* somehow, in one way or another, one’s perspective while reflecting on the future and on a country’s resources, its economic, social and political opportunities and also its *“timeless”* perspective. The role of *“sustainable development”* is derived from the need to generate economic and social progress on the long-run and in a constructive manner, due to the fact that, in some cases, economic growth failed to deliver the most needed, wanted and expected future also at the

level of individuals development. The concept addresses a much profound and valuable issue: the main concern, the future generations itself and its wellbeing (*with all the implications deriving from it*). “Sustainable development” finds itself into the posture of addressing economic growth with a great concern to social norms as well as to environmental frameworks. Moreover, “sustainable development” is seen in relation with “economic growth” in the light of human development, such as bringing improvements in individuals’ knowledge and skills, corroborated with their efficient use, provided by more and better jobs, as well as better conditions for new businesses to be created and developed. Furthermore, by ensuring “sustainable development” in a country should also imply a higher level of democracy [1] (p. 8), [3].

APPENDIX A

Table A1: “A brief historical evolution of economic growth”

First group of economists: Smith (1759 and 1776), Malthus (1798), Ricardo (1817), Ramsey (1928), Young (1928), Fisher (1930), Schumpeter (1934), Harrod (1939), Knight (1944), and Domar (1946)	
Economic growth:	Reflects the behaviour and dynamic balance of competition.
	Refers to the role of diminishing returns and the existing links between returns and the accumulation of physical and human capital.
	Expresses the connections that exist between income rates capita and the population growth rate.
	Needs to be analysed together with the conditions of optimality (Barro and Sala-i-Martin (2004)).
	Should take into account government's expenditures and other taxes.
Second group of economists: Solow (1956) and Swan (1956)	
The “Solow-Swan general-	1) Firstly, conditional convergence, stating the fact that the lower the starting

<p><i>equilibrium model”</i> was created.</p> <p>From this model derive two theses:</p>	<p>levels of GDP <i>per capita</i> will get, in turn, the faster the growth rate will become, both on the steady state position or the long run.</p>
	<p>2) Secondly, the relation existing between technological progress and “<i>economic growth</i>”, stating the fact that “<i>economic growth</i>” will get to an end (GDP <i>per capita</i>), unless substantial and continuous improvements will take place in technology.</p>
<p>The “<i>Solow-Swan general-equilibrium model</i>”:</p>	<ul style="list-style-type: none"> ▪ Is considered to have several inconsistencies and deficiencies, connected to the rate of technological progress and the growth rate of population. ▪ Presented great importance to Barro and Sala-i-Martin (2004) who brought two changes to it: the first one refers to fixing the average level of the saving rate, and, the second one concentrates on its evolution (if any) in case an economy registers growth.
<p><u>Third group of economists: Shearer (1961)</u></p>	
<p>Shearer’s belief is that only by creating a “<i>relevant</i>” economic growth model and a “<i>perfectly functional</i>” theory of economic growth, the critic and agnostic attitude surrounding this concept will be diminished.</p>	

According to Shearer's studies, the economic growth's and the economy itself diagnosis are not favourable, due to:	<ul style="list-style-type: none"> ▪ The inconsistencies and sometimes, even major differences existing between developed and underdeveloped countries;
	<ul style="list-style-type: none"> ▪ The lack of coherence concerning the development policies;
	<ul style="list-style-type: none"> ▪ The fluctuation registered at the level of economic performance, technology and novelties in production methods, implementation of technologic progress, human capital.
<u>Fourth group of economists:</u> Kaldor (1963), Denison (1974), Christensen, Cummings, and Jorgenson (1980), Maddison (1982), Jorgenson, Gollop, and Fraumeni (1987), Elias (1990), Dougherty (1991), and Young (1995)	
Economic growth is characterized by:	<ul style="list-style-type: none"> ▪ The output <i>per capita</i> has an ascending trend in time and the "<i>economic growth</i>" does not become descending;
	<ul style="list-style-type: none"> ▪ The physical capital calculated per individual has also an ascending trend;
	<ul style="list-style-type: none"> ▪ The capital's return rate is almost constant;
	<ul style="list-style-type: none"> ▪ The labour's and physical capital's percentage in the national income are also almost constant;

“Economic growth”, “economic development”, “sustainable development”

	<ul style="list-style-type: none"> ▪ The output’s <i>“economic growth”</i> rate per individual is substantially different from one region or one country to another.
<u>Fifth group of economists: Cass (1965) and Koopmans (1965)</u>	
<p><i>“The equilibrium of Cass-Koopmans”</i> is another version of the <i>“neoclassical growth model”</i>, bringing Ramsey’s theory (1928) at a higher level, by putting an emphasis on consumers, saving rate (as an endogenous element), technological progress (as an exogenous element), productive factors (labour and capital), and conditional convergence, and by analysing them in a decentralized and competitive context, where the outcomes’ specificity is Pareto optimality.</p>	
<p>The work of Cass and Koopmans completed the basic neoclassical growth model.</p>	
<p>The basic neoclassical growth model was extended with the work of Barro (1999), who incorporated time inconsistent preferences in the model, and Caselli and Ventura (2000), who allowed heterogeneity among households.</p>	
<u>Sixth group of economists: Arrow (1962), Uzawa (1965), Sheshinski (1967), and Shell (1966, 1967, and 1973)</u>	
<p>They constructed models in which the key points relate to the sphere of <i>“unintended by-products of production or investment”</i>, a mechanism described as <i>“learning-by-doing”</i>.</p>	
<p>According to these models once a discovery is made it instantaneously overflows the economy by automatically engaging in its processes, as a consequence of the fact that knowledge is seen as a non-rival good.</p>	

Shell's model is based on the assumption that all of the non-rival research, regarded, in fact, as a classic public good, is funded by the government through involuntary taxes.	
<u>Seventh group of economists: Kuznets (1973 and 1981)</u>	
His work is on the modern theory of " <i>economic growth</i> ".	
The economy experiences massive structural transformations due to the changes that occurred after:	❖ Switching from an agrarian to an industrial society;
	❖ Technology's and the technological progress growing importance in comparison to the role previously played by the natural resources;
	❖ The foreign commerce increasing proportion in the economy;
	❖ Introducing income's distribution as a key element of an economy;
	❖ Other factors: social, demographic, and political ones.
He was preoccupied of the link between the evolutions of " <i>economic growth</i> " and the fluctuations appearing in an economy due to income's unequal distribution.	
Economic growth and " <i>individuals' welfare</i> " are interconnected.	
<u>Eighth group of economists: Romer (1986, 1987, and 1990), Lucas (1988), Young (1991), and Rebelo (1991)</u>	

<p>According to Romer, Lucas, and Rebelo the elements that need further inquiry are:</p>	<ul style="list-style-type: none"> ▪ The first element that is important here is that Romer, Lucas, and Rebelo demonstrated the fact that a competitive environment can be maintained in order to discover the rate of technological progress in the year to balance, but the growth rate would usually not Pareto optimal.
	<ul style="list-style-type: none"> ▪ The second element that comes into discussion refers to the situation in which the competitive structure breaks (generating, in this way, imperfect competition) if the findings depend partly on individuals’ research and development (R&D) efforts and innovations, gradually extended to other manufacturers.
	<ul style="list-style-type: none"> ▪ The third element that needs further consideration emphasises, on one hand, the assumption made by this group of economists on decreasing returns to reproducible factors, and, on the other hand, the necessity of adding human capital to the physical one. The notion of <i>“broad capital”</i> with its specificities (constant or even increasing returns to scale) comes into the newly created context.

Romer, Lucas, Young, and Rebelo introduce externalities in the context of physical capital' accumulation, which, in turn, will generate, on one hand, lower private returns to scale, and, on the other hand, constant or growing social returns, both triggered by the process named " <i>learning-by-doing</i> ".	
<u>Ninth group of economists:</u> the ones who published on the topic of "<i>economic growth</i>" after 1990	
Grossman and Helpman (1991), and Aghion and Howitt (1992):	❖ They brought significant contributions to Romer's theory.
	❖ Their models were also based on imperfect competition and the importance and the role played by research and development (R&D) in an economy.
The studies of Jones (1995), and Hall and Jones (1999), or the one analysing whether technological progress will generate an increase in the labour dimension or in the capital one, as seen through the research done by Sala-i-Martin (1997a, 1997b), Acemoglu (2002), Acemoglu, Johnson, and Robinson (2002), Sala-i-Martin, Doppelhoffer, and Miller (2003), Acemoglu and Robinson (2012), or the one measuring the role of competition on " <i>economic growth</i> ", as presented in the research of Aghion <i>et al.</i> (2001 and 2002).	

Source: The Authors based on literature [1-47]

REFERENCES

1. *Soubbotina, T. P.; Sheram, K. A.* Beyond economic growth: meeting the challenges of global development; The International Bank for Reconstruction and Development/The World Bank: Washington, D.C., United States of America, 2000. Available online: http://www.worldbank.org/depweb/beyond/beyondco/beg_a11.pdf (accessed on 15 January 2016).
2. *Acemoglu, D.; Robinson, J. A.* Why nations fail: the origins of power, prosperity, and poverty, First edition; Crown Publishers, an imprint of the Crown Publishing Group, a division of Random House, Inc.: New York, United States of America, 2012; pp. 1-364.
3. United Nations Development Program (UNDP). Human Development Report; Oxford University Press: New York, Oxford, United States of America, 1996. Available online: http://hdr.undp.org/sites/default/files/reports/257/hdr_1996_en_complete_nostats.pdf (accessed on 17 January 2016).

4. *Barro, R.J.; Sala-i-Martin, X.* Economic Growth, 2nd ed.; The Massachusetts Institute of Technology (MIT) Press, Massachusetts Institute of Technology: Cambridge, Massachusetts, London, England, 2004.
5. *Solow, R.M.* A Contribution to the Theory of Economic Growth, *Q. J. Econ* **1956**, *70*, 65-94, <http://www.jstor.org/stable/1884513>. Available online: <http://piketty.pse.ens.fr/files/Solow1956.pdf> (accessed on 29 January 2016).
6. *Samuelson, P. A.* Income Stabilization for a Developing Democracy, Editor Millikan: New Haven, Connecticut, United States of America, 1953.
7. *Vickrey, W.* Post-Keynesian Economics, Reprint Edition; Routledge: New York, United States of America, 2010.
8. *Shearer, R.A.* The Concept of Economic Growth. *Kyklos* **1961**, *14*(4), 497-532, <http://hdl.handle.net/2027.42/75479>. Available online: <https://deepblue.lib.umich.edu/handle/2027.42/75479> (accessed on 1 February 2016).
9. *Popescu, C.R.* Competitivitatea pentru sanatatea intregului viu, Gestiunea Publishing House: Bucharest, Romania, 2008 (in Romanian).

10. *Popescu, C. R.* Cunoasterea in ecuatiea noii economii (Cunoasterea – punctul de plecare in identificarea potentialului viitorului angajat al unei companii in noua economie), In *Spre o nouă cultură a vietii sociale*, Popescu, C., Tasnadi, Al. Eds.; Renaissasnce Publishing House: Bucharest, Romania, 2009; pp. 43 – 57 (in Romanian).
11. *Popescu, C.R.* Globalizarea si intrarea in Era Responsabilității Practice – perspective la nivel global, In *Criza e in noi*, Costea, C., Popescu, C., Tasnadi, Al. Eds.; ASE Publishing House: Bucharest, Romania, 2010; pp. 182 – 193 (in Romanian).
12. *Popescu, C.R.* Competitivitate in complexitatea noii economii: studiu de caz pe situatia economică la nivel national si global; Mustang Publishing House: Bucharest, Romania, 2011 (in Romanian).
13. *Popescu, C.R.* Competitivitatea in noua economie globala: sa invatam din criza actuala; Mustang Publishing House: Bucharest, Romania, 2011 (in Romanian).
14. *Popescu, V.A., Popescu, C.R., Popescu N.Gh.* Globalizarea din perspectiva crizei mondiale; Mustang Publishing House: Bucharest, Romania, 2011 (in Romanian).

15. Popescu, V. A., Popescu, C. R., Popescu N. Gh. *Societatea bazata pe cunoastere: trecut, prezent și viitor*, Mustang Publishing House: Bucharest, Romania, 2011 (in Romanian).
16. Barro, R. J. Ramsey Laibson Meets Laibson in the Neoclassical Growth Model. *Q. J. Econ* **1999**, 114, 1125–1152, DOI: 10.1162/003355399556232. Available online: <http://qje.oxfordjournals.org/content/114/4/1125.abstract> (accessed on 20 December 2015).
17. Caselli, F., Ventura, J. A Representative Consumer Theory of Distribution. *Am. Econ. Rev* **2000**, 90, 909-926, <http://links.jstor.org/sici?sici=0002-8282%28200009%2990%3A4%3C909%3AARCTO D%3E2.0.CO%3B2-A>. Available online: <http://personal.lse.ac.uk/casellif/papers/representative.pdf> (accessed on 2 December 2015).
18. Arrow, K.J. The Economic Implications of Learning by Doing. *Rev. Econ. Stud* **1962**, 29, 155–173, DOI: 10.2307/2295952. Available online: <http://restud.oxfordjournals.org/content/29/3/155.extract> (accessed on 2 January 2016).
19. Uzawa, H. Optimum Technical Change in an Aggregative Model of Economic Growth, *Int. Econ. Rev* **1965**, 6, 18-31, <http://links.jstor.org/sici?sici=0020-6598%28196501%296%3A1%3C18%3AOT CIAA%3E2.0.CO%3B2-Y>. Available online: <http://kisi.deu.edu.tr/yesim.kustepeli/uzawa1965.pdf> (accessed on 2 December 2015).

20. *Shell, K. Toward a Theory of Inventive Activity and Capital Accumulation. A.E.R. Papers and Proc. 1966, 56, 62-68.*
21. *Shell, K. A Model of Inventive Activity and Capital Accumulation. In Essays on the Theory of Optimal Economic Growth, Karl Shell Ed.; MIT Press: Cambridge, Massachusetts, United States of America, 1967.*
22. *Shell, K. Inventive Activity, Industrial Organisation and Economic Growth. In Models of Economic Growth; Mirrlees J. A. and Stern N. H. Eds.; Wiley: New York United States of America, 1973.*
23. *Sheshinski, E. Optimal Accumulation with Learning by Doing. In Essays on the Theory of Optimal Economic Growth; Shell, K. Ed.; MIT Press: Cambridge, Massachusetts, United States of America, 1967, 31-52.*
24. *Barro, R.J. Determinants of Economic Growth: A cross-country empirical study; The MIT Press: Massachusetts Institute of Technology, United States of America, 1998; p. 5. Available online: https://books.google.ro/books?id=1yc6dHlXtQoC&pg=PA5&lpg=PA5&dq=unintended+by-products+of+production+or+investment&source=bl&ots=sy9u-0HJ_r&sig=RXB0NrPhDKqRudSgyg-JiHOpHv4&hl=en&sa=X&ved=0ahUKEwiNh-vY8_zMAhWJUHQKHZwtBdMQ6AEIKDAD#v=onepage&q=unintended%20by-products%20of%20production%20or%20investment&f=false (accessed on 5 December 2015).*

25. Barro, R.J. Determinants of economic growth: Implications of the global evidence for Chile. *Cuad. Econ* **1999**, 107, 443 – 478, Available online: <http://economia.uc.cl/docs/107barra.pdf> (accessed on 5 November 2015).
26. Kuznets, S. Economic Growth and Income Inequality, *Am. Econ. Rev* **1955**, 45, 1-28. Available online: <http://piketty.pse.ens.fr/files/Kuznets1955.pdf>, http://j-bradford-delong.net/teaching_folder/Econ_210c_spring_2002/Readings/Kuznets_Inequality.pdf (accessed on 15 February 2016).
27. Lorenz, M.O. Methods of measuring the concentration of wealth. *J. Am. Stat. Assoc* **1905**, 9, 209–219. DOI: 10.2307/1937992. JSTOR 1937992. Available online: <http://www.tandfonline.com/doi/abs/10.1080/15225437.1905.10503443#.V1B ybzV95dg> (accessed on 15 March 2016).
28. <http://data.worldbank.org/indicator/SI.POV.GINI>. Available online: <http://data.worldbank.org/indicator/SI.POV.GINI> (accessed on 10 March 2016).
29. Gini, C. Concentration and dependency ratios (in Italian, 1909). English translation in *Riv. Pol. Econ* **1997**, 87, 769–789.
30. Gini, C. Variabilità e mutabilità. (1912) Reprinted in *Memorie di metodologica statistica*, Pizetti E., Salvemini, T. Eds; Libreria Eredi Virgilio Veschi, Rome, Italy, 1955.

References

31. *Gini, C.* On the Measure of Concentration with Special Reference to Income and Statistics. *Colorado College Publication* **1936**, 208, 73–79.
32. *Romer, P. M.* Endogenous Technological Change. *J. Polit. Econ* **1990**, 98, 71–102. Available online: <http://pages.stern.nyu.edu/~promer/Endogenous.pdf> (accessed on 20 March 2016).
33. *Bassanini, A., Scarpetta, S.* The driving forces of economic growth: panel data evidence for the OECD countries. *OECD Economic Studies* **2001**, 9–56. Available online: <https://www.oecd.org/eco/growth/18450995.pdf> (accessed on 12 March 2016).
34. *Jones, C. I.* R&D, Based Models of Economic Growth, *J. Polit. Econ* **1995**, 103, 759–784. Available online: <http://web.stanford.edu/~chadj/JonesJPE95.pdf> (accessed on 10 March 2016).
35. *Hall, R. E.; Jones, C. I.* Why Do Some Countries Produce So Much More Output Per Worker Than Others? *J. Q. Econ* **1999**, 114, 83–116, <http://www.jstor.org/stable/2586948>. Available online: <http://homepage.ntu.edu.tw/~kslin/macro2009/Hall%20and%20Jones%201999.pdf> (accessed on 10 March 2016).
36. *Acemoglu, D.* Technical Change, Inequality, and the Labor Market, *J. Econ. Lit* **2002**, 40, 7–72 <http://www.jstor.org/stable/2698593>. Available online: <http://economics.mit.edu/files/4124> (accessed on 10 March 2016).

37. Acemoglu, D.; Johnson, S., Robinson, J. A. Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution, *J. Q. Econ* **2002**, *117*, 1231-1294. Available online: <http://www.jstor.org/stable/4132478> (accessed on 15 March 2016).
38. Acemoglu, D.; Johnson, S., Robinson, J. A. Why nations fail: the origins of power, prosperity, and poverty, First edition, Crown Publishers, an imprint of the Crown Publishing Group, a division of Random House, Inc., New York, United States of America, 2012, pp. 1 – 364.
39. Aghion, P.; Harris, C.; Howitt, P.; Vickers, J. Competition, Imitation and Growth with Step-by-Step Innovation. *Rev. Econ. Stud* **2001**, *68*, 467-492.
40. Aghion, P.; Howitt, P.; Violante G. General Purpose Technology and Wage Inequality. *J. Econ. Growth* **2002**, *7*, 315-345.
41. Sala-i-Martin, X. I Just Ran Four Million Regressions. National Bureau of Economic Research 1997a, working paper no. 6252. Available online: <https://repositori.upf.edu/bitstream/handle/10230/418/201.pdf?sequence=1> (accessed on 15 March 2016).
42. Sala-i-Martin, X. I Just Ran Two Million Regressions. *Am. Econ. Rev* **1997b**, *87*, 178–183. Available online: http://www.iser.uaa.alaska.edu/people/colt/personal/shared_papers/salaimartin_2millionregressions.pdf (accessed on 25 March 2016).

References

43. Sala-i-Martin, X.; Doppelhofer, G.; Miller, R. Determinants of Long-Term Growth: A Bayesian Averaging of Classical Estimates (BACE) Approach. 2004, 94, 813-835. Available online: https://www.ethz.ch/content/dam/ethz/special-interest/mtec/cer-eth/resource-econ-dam/documents/research/ws-and-conf/papageorgiou-2007/salai_martin_doppelhofer_miller_04.pdf (accessed on 21 March 2016).
44. The World Commission on Environment and Development. *Our Common Future*; Oxford University Press: Oxford; New York, United States of America, 1987. Available online at <http://www.un-documents.net/our-common-future.pdf> and <http://www.worldcat.org/title/our-common-future/oclc/15489268> (accessed on 15 January 2016).
45. The High Level Panel on Global Sustainability. *Sustainable Development: From Brundtland to Rio 2012*. Background paper prepared by John Drexhage and Deborah Murphy, International Institute for Sustainable Development (IISD), 2010, United Nations Headquarters, New York, United States of America. Available online at: http://www.un.org/wcm/webdav/site/climatechange/shared/gsp/docs/GSP1-6_Background%20on%20Sustainable%20Dev.pdf (accessed on 4 April 2016).

- 46.** Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration) (1972). Available online: <http://www.unep.org/documents.multilingual/default.asp?documentid=97&articleid=1503> (accessed on 4 April 2016).
- 47.** United Nations Sustainable Development. *United Nations Conference on Environment and Development Rio de Janeiro. Agenda 21*. Brazil, 3 to 14 June 1992. Available online: <https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf> (accessed on 4 April 2016).
- 48.** World Bank national accounts data, and OECD National Accounts data files. GDP growth (annual %). Available online: <http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG/countries/RO-7e-EU?display=graph> (accessed on 4 March 2016).
- 49.** World Bank, Global Poverty Working Group. Available online: <http://data.worldbank.org/indicator/SI.POV.NAHC/countries/RO-BG-HU-MD-RS-UA?display=graph> (accessed on 4 March 2016).