www.mbd.ase.ro/journal

Analysis of the Relationship Between Sustainable Development and Economic Growth

Elena Raluca Moisescu (Duican)
Academy of Economic Studies, Bucharest
raluca.duican@yahoo.com

An economic development is based on economic growth. Nowadays, these concepts are related to each other more than ever. This paper presents the sustainable development concept which is described through its three dimensions (social, economic, environmental). The economic growth concept is included in economic development and it is based, especially, on gross domestic product. On the other hand, the sustainable development model is a multidisciplinary concept and it relies on reducing resource consumption, producing clean alternative energy, protection of environment factors, quality of life in its complexity.

Key words: economic growth, sustainable development, economic development

JEL classification: Q01, Q56.

1. Introduction

The theory of economic development studies the problems of efficiency in resource allocation, social and institutional phenomena, but also social and political mechanisms used to raise living standards.

Economic dictionary defines the concept of economic development as a ”manifestation of macroeconomic dynamics, which involves, in addition to the economic growth of countries, a set of quantitative, structural and qualitative transformations, both in economy and in scientific research, and technology manufacturing, in organizational and functional mechanisms and structures of the economy, in people's thinking and behavior.”

Development as a complex process, is the ability of a national economy to generate and sustain an annual growth of macroeconomic indicators tells Caracota (2004).

Besides the phenomenon of gross domestic product (GDP) growth with positive effects on the population, are discussed in the literature other problems, such as poverty, unemployment and inequality income distribution. It can be said that as people get more income, they consume more resources. Permanent change of technologies, support for research and development processes are possible solutions to the problems facing humanity, especially with the limited resources with the population growing.

2. Literature review

Chivu et al. (2012) treats the concept of sustainable development as the link between economic growth, environmental sustainability and human development. They presented the three dimensions of sustainability (economic, social and environmental). There is no sustainability without environmental protection. People have a negative influence on the environment, voluntarily or involuntarily, by industry (air pollution, waste liquids and solids), deforestation and intensive cultivation of the land, or by wasting the water.

Moving from natural capital, sustainable development concept includes three dimensions: environmental sustainability (development must be compatible with the main ecological processes, biological and natural resources), social and cultural sustainability (development should maintain and strengthen the identity of individuals and communities) and economic sustainability (development must be economically efficient, all operators should have the resources to reach future generations).

Developing a single dimension can adversely affect the system, is not sufficient to achieve sustainable development of the human system. The three dimensions have specific objectives: economic (growth, equity and efficiency), social (participation, social mobility, social cohesion) and environmental (ecosystem integrity, biodiversity).

Arifa and Gan (1996) presents a model of choice between current consumption and future growth through changes in capital stock. It is shown that sustainable growth limit the choice, but it’s not a cause.

The model shows a trade-off between current consumption and growth rate. A limit of the model is that it does not allow technological changes over generations.

Boldea (2012) shows in his work that macroeconomic indicators such as GDP, are not the most viable in measuring sustainable development because it does not take into account the underground economy, education and health indicators, relying solely on the relationship between level of income and welfare of a country. The concept of economic growth has captured the attention of many economists because it has significance to the entire population.

Social factors are divided into demographic and cultural factors. Demographic influence on economic growth is due to changes in age structure and economic behavior of people ranging lifetime. Population structure has three mechanisms for determining growth: human capital, savings and labor supply. Cultural influence on economic growth can be shown by three aspects: the direct impact that culture has on expectations, consumer preferences have an impact on economic performance and that the idea of mutual causality, from culture to economy and economics to culture.

Troanca (2013) examines the relationship between economic growth and sustainable development, presenting conceptual delimitations, theories and models of economic growth. The concept of growth is a complex one, for his understanding must be taken into account: the evolution of economic outcomes should be monitored for a period of time, the study of growth in real terms, correlation with demographic dynamics and macroeconomic growth.

In the literature we meet several concepts of economic growth: zero growth (leads to a constant per capita results), negative growth (indicates a decrease in macroeconomic outcomes), extensive growth (quantitative factors that leads to the increase of macroeconomic indicators) and intensive growth (the increase of macroeconomic indicators is based on a qualitative contribution).

Factors that determine economic growth are set in two categories: direct factors (natural resources, human resources, innovation, research and development) and indirect factors (efficiency of the banking system, savings rate, labour migration, tax policy etc.).

Many economists have had as a subject the concept of economic growth. Smith, Malthus and Ricardo analyzed the natural factor limitation and population growth. Samuelson and Dornbusch developed a model that highlights the influence of technological change and capital accumulation have on economy. There are costs and benefits of economic growth. The benefits may be: poverty might be countered using growth, consuming new products might change people's lifestyle. On the other hand, there are social and personal costs of economic growth.

Pohoață (2012) adds to the list other negative outcomes of economic growth:

- pollution of the environment (major changes in the environment were caused by mineral deposit);
- emissions and waste resulting from the production process;
- reduction of the natural resources from increasing output in order to minimize production costs;
- widening the gap between the poor and the rich countries;
- the image on welfare is not always consistent with reality;
- the human relationships are becoming mercantile.

Some economists state that economic growth conduct to degradation of environment and some others believe that economic growth can improve the link between man and environment.

The Kuznets curve presents the relationship between the evolution of average income and inequality of income distribution in the economy. Negative environmental impact is small when a society is in its early condition of development. After the impact increases up to a point, the level of development is inducing improvement in negative environmental impact.

Scutaru (2013) shows the features of two models of development, the economic development model based on consumption and pollution, that includes economic growth, and it doesn't take into account poverty, unemployment, education, health, population migration, social inclusion, and, on the other hand, the model of development based on concepts like sustainable development and offering solution to many pronlems like producing clean alternative energy. Nicholas Georgescu-Roegen brings to discution the needs and security of future generations. He has conceived a plan called "The minimal bio-economic program" with the following ideas: the termination of wars so that productive forces can help poor countries, great responsibility in using the natural resources and avoiding unnecessary energy losses, feeding the population with only organic agriculture and manufacturing goods with high durability. The concept od sustainable

development might be explained through the Program of 6 R: review, restructuring, redeployment, reduction, reuse, and recycling.

3. Hystory of the development concept

Natural resources inefficiently used are a restriction on development. Compared to a country with more resources, a poor country will achieve harder economic growth. Some countries have shown the opposite (Japan, Singapore, Taiwan). Thus, if a country has abundant reserves of natural resources does not mean that this ensures growth.

Rapid population growth can be another restriction. Thomas Malthus argued that food production tends to increase in arithmetic progression, and the population tends to increase in a geometrical progression. Malthus's conclusion was that population growth will always bring forward the increase in world food supply. This coctrine is partially correct for that Malthus had underestimated the importance of changing production technology.

History of the concept of sustainable development starts in the 70s, since the Stockholm Conference on the Human Environment (1972) where there is a need to respond to issues raised by environmental damage.

The problem was studied by the Club of Rome, in 1970, the work ,,Limits to Growth". In their view, resources, population, agricultural production, industrial production and pollution constrain growth.

As Caracota (2004) states, sustainable development is a strategy that community seeks ways of growth, benefitingof the environment and can benefit to the quality of life.

Definitions of sustainable development are numerous:

- Beth E Lachman (Critical Technologies Institute, Linking Sustainable Community Activities to Pollution Prevention: A Sourcebook, April 1997): ,,Many people think it is better that such problems are treated by means of cooperative and holistic approach because, such problems are confusing, multidisciplinary, multiorganizational, multiple stakes and multisectorial in nature."
- Musco Martin (A Sustainable Community Profile, 1995): ,,The word sustainable (supporting) has roots in Latin, meaning the *stem/retain* or *bottom support*. A community must be supported from below by current and future residents. Some places, by combining specific physical, cultural and spiritual can, inspiring people to care for their community. These are places where sustainability has the best chance of being. "

In the 1987 in Report Brundland is used for the first time the concept of sustainable development. The definition of sustainable development presented in the report ,,Our common future" is ,,the development needs of the present proceed without compromising the future generations to meet ability of their own needs". The report's findings recommended qualitative economic growth and the creation of committees and directions of public bodies to take various strategic sectors nationally and internationally. There are noted two main factors: human needs and limitations of the global system. It is not too clearly explained the term quality of life.

Offering an analysis of the situation at that time and some recommendations for the future, the report involves synthesis of three aspects: one economic, one social and one environmental. This report led to the Conference on Environment and Sustainable Development in Rio de Janeiro in 1992.

World Conference on Environment and Sustainable Development in Rio de Janeiro from 1992 discusses 27 principles of sustainable development, including: integration of environmental protection in economic development, equity between rich and poor, recognizing the importance of women in society and their role in educating young people. Only by changing attitudes and behavior of the whole world can be made the desired changes. Agenda 21 brings together specific programs relating to protection of water resources, the role of local communities, poverty reduction, the role of technological development etc.

In 1997 it is negotiated the Kyoto Protocol which was meant to reducing negative environmental impacts. In 1999 Romania develops the National Strategy for Sustainable Development.

In 2002 takes place in Johannesbourg, South Africa, the Earth Summit. It represents the transition from concept to action. They discussed topics such as sustainable development, poverty, irrational consumption and unsustainable lifestyles.

In 2005 the European Commission reviewed Sustainable Development Strategy, and in 2007 Romania reviews the National Sustainable Development Strategy.

Regarding the European Union (EU) stands Europe 2020, from 2010, in Gothenburg and it includes smart growth, sustainable growth and inclusive growth.

To measure progress in the goals achieved by Europe 2020 were set five major objectives: employment (employment rate of 75% working population aged between 20 and 64 years), the allocation of 3% of GDP to research and development, climate change and energy, education (reducing school dropout) and reducing poverty and social exclusion.

In 2012 takes place the last Earth Summit in Rio de Janeiro in which participants tried to agree on the concept of green economy, the sustainable use of water, energy sources and food security in the world.

4. The economic and social context in Romania

Our country has a key objective and also a goal, that to achieve economic growth in order to consume more goods and services and improving the life standards.

From the economic point of view, Romania's economic growth is forecast for this year to 2.7% and for 2016 to 2.9%, supported mainly by domestic demand and a stable labor market, and gradual recovery of the global economy. Based on private consumption and exports, as well as on investors contribution, our country has recorded growth in 2014 of 3%.

The purchasing power of households is supported by low inflation, declining interest rates and improving labor market conditions. It is expected investment return both private and public. Exports will have a slow growth both in 2015 and 2016. On the other hand, imports will have a higher growth rate due to domestic demand. In recent years, the labor market has been stable, with the unemployment rate in constant values that were located around 7%.

Regarding inflation, after a minimum of 0.9% in June 2014, it can be said that it began to rise in recent months. From 3.2% in 2013, it reached 1.4% in 2014 and it is forecast to be 1.2% in 2015. The decrease of inflation is due to reduced value added tax (VAT) on bakery products, a good harvest and lower energy prices. Fiscal consolidation should continue in 2015. The budget deficit was reduced from 2.2% in 2013 to 1.8% in 2014, reaching 1.5% in 2015.

Following the Lisbon Strategy, launched in 2000, the Europe 2020 Strategy was adopted by the European Council in June 2010 and supports smart, sustainable and inclusive growth as the way to improve productivity and competitiveness.

Following these three objectives, the European Union adopted five targets on employment, research and development, climate change and energy, education and poverty and social exclusion. These are monitored using nine headline indicators. They were transformed into national targets, reflecting the extent to which is each country member of the EU and the state of implementation of the Europe 2020 strategy.

For a long time, GDP was used to show the well-being of a society. But lately there were new approaches to measure progress, some of the proposals being in the Stiglitz-Sen-Fitoussi's report (2009). They propose 12 recommendations (see Table 1) to a better measure of economic performance, sustainability and prosperity of society.

1.When evaluating material well-being, look at income and comsumption rather than production.	7. Quality-of-life indicators in all the dimensions covered should assess inequalities in a comprehensive way.
2. Emphasise the household perspective.	8. Surveys should be designed to assess the links between various quality-of-life domains for each person, and this information should be used when designing policies in various fields.
3. Consider income and consumption jointly withvwealth.	9. Statistical offices should provide the information needed to aggregate across quality-of-life dimensions, allowing the construction of different indexes.
4. Give more prominence to the distribution of income, consumption and wealth.	10. Measures of both objective and subjective well-being provide key information about people's quality of life. Statistical offices should incorporate questions to capture people's life evaluations, hedonic experiences and priorities in their own survey.
5. Broaden income measures to non-market activities.	11. Sustainability assessment requires a well-identified dashboard of indicators. The distinctive feature of the components of this dashboard should be that they are interpretable as variations of some underlying „stocks".

	A monetary index of sustainability has its place in such a dashboard but, under the current state of the art, it should remain essentially focused on economic aspects of sustainability.
6. Quality of life depends on people's objective conditions and capabilities. Steps should be taken to improve measures of people's health, education, personal activities and environmental conditions. In particular, substantial effort should be devoted to developing and implementing robust, reliable measures of social connections, political voice, and insecurity that can be shown to predict life satisfaction.	12. The environmental aspects of sustainability deserve a separate follow-up based on a wellchosen set of physical indicators. In particular, there is a need for a clear indicator of our proximity to dangerous levels of environmental damage (such as associated with climate change or the depletion of fishing stocks).

Table 1. 12 recommendations from the Stiglitz-Sen-Fitoussi commission
Source: Report by the Commission on the Measurement of Economic Performance and Social Progress, 2009

In Romania (see Figure 1), until 2012, were reduced greenhouse gas emissions in non-ETS sectors by 6.5%, but is well below the target of 19%. Developments were recorded between 2008 and 2013 for tertiary educational attainment, reaching 22.8%, four percentage points below the target of 26.7%. On the expenditure on Research and Development, they were 0.39% of GDP, and it is far from the target of 2%.

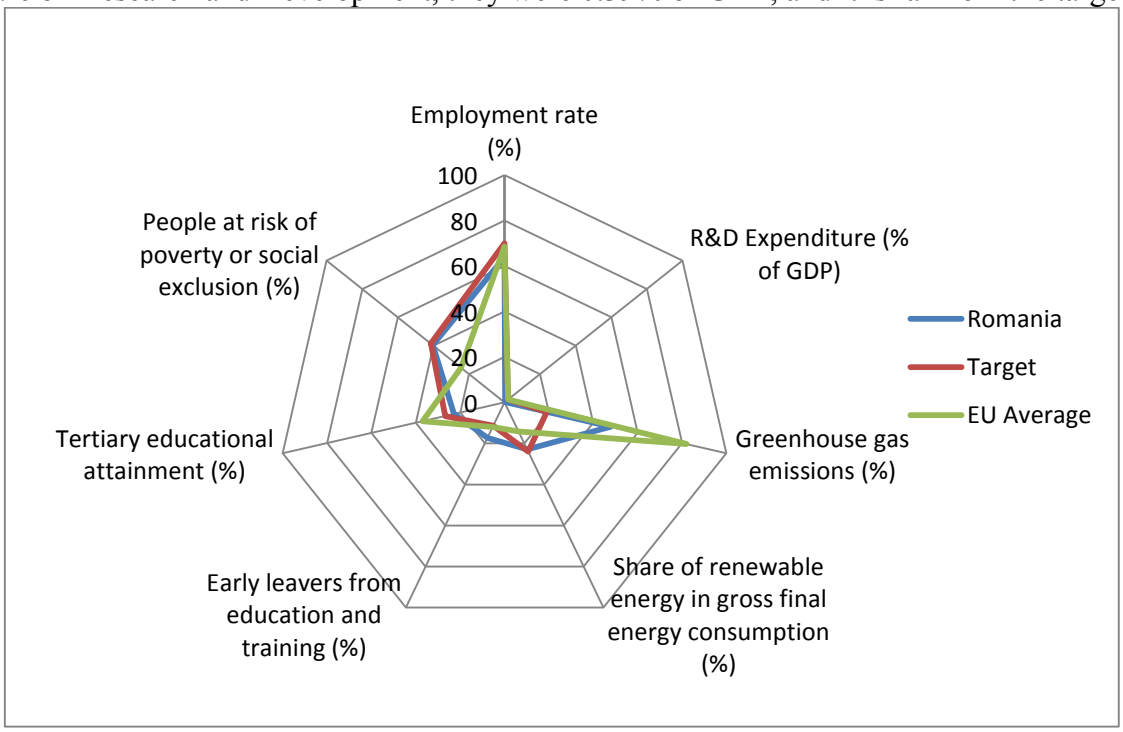

Figure 1. Comparison with EU average and national targets for Romania
Source: Own calculations based on Eurostat, Europe 2020 headline indicators

Indicators for measuring the economic growth, like GDP, are not always consistent with the reality on welfare. This represents one of the reasons why the United Nations Development Program has calculated the composite indicator named „Human Development Index" (HDI) since 1990. It measures the average performances in three aspects: a long and healthy life, access to knowledge and a decent standard of living. Thus, it indicates whether the growth is reflected or not in the human sustainable development.

Romania belongs to the category of high human development countries, behind countries like Poland, Czech Republic, Estonia, Hungary, Slovenia, Greece, Malta, Cyprus etc.

As it is seen in table 2, HDI in Romania recorded a small increase from 0,7 in 1990 to 0,71 in 2000 and to 0,79 in 2013, a level which places our country on position 54. Bulgaria is situated on 58 place.

	1980	**1990**	**2000**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
High human development	0,53	0,59	0,64	0,69	0,7	0,71	0,72	0,72	0,73	0,73	0,74
Romania	0,69	0,7	0,71	0,76	0,77	0,78	0,78	0,78	0,78	0,78	0,79

Table 2. The evolution of the Human Development index in Romania
Source: Human Development Report 2014

5. Conclusions

In the context of Europe 2020 Strategy, our country needs to accomplish some targets about the indicators like employment rate (% of population aged 20-64), gross domestic expenditure on Research and Development (% of GDP), greenhouse gas emissions, share of renewable energy in gross final energy consumption, early leavers from education and training, tertiary educational attainment (% of population aged 30-34), people at-risk-of-poverty or exclusion (% of total population).

In order to achieve a sustained economic growth one cannot avoid environmental problems. Both economic growth and sustainable development are two of the aims that people pursue in their activities. Economic growth might become harmful or it might generate undesired effects. It is necessary to create a balance, a stability between economic growth and sustainable development.

It has become obvious that the irrational consumption of resources has to be stopped and it need to be done as soon as possible. Also, the gap between rich and poor countries need to be reduced, the poverty and ensuring food for everyone on the planet are problems that need to be solved.

It is a necessity to refocus on a sustainable development model that supports human life and the natural environment.

Acknowledgement

This work was cofinanced from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/159/1.5/S/142115 „Performance and excellence in doctoral and postdoctoral research in Romanian economics science domain"

References

ARIFA, A., GAN, Ch. (1996), A model of choice between current consumption and future economic growth, Review of Marketing and Agricultural Economics, Vol. 64, No.1, April

BOLDEA, B. (2012) Social factors influence on economic growth. The case of Romania, *Review of Applied Socio-Economic Research,* Volume 4, Issue 2, pp. 25-31, Available from http://www.reaser.eu

CARACOTA, D., CARACOTA, C.R. (2004) *Dimensiuni contemporane ale dezvoltării durabile şi competitive*, Ed. ASE, Bucharest

CHIVU, M., CHIVU, M. R., Stoeinescu E. (2012) Economic Growth Sustaining Under Environmental Sustainability and Human Development. A Global Challenge, *Journal of Knowledge Management, Economics and Information Technology,* Issue 5, October, Scientific Papers , Available from www.scientificpapers.org

POHOAȚĂ, I., (2012), *Strategii şi politici europene de dezvoltare durabilă*, Centrul de Studii Europene, Iași, 2012, Available at http://www.cse.uaic.ro/_fisiere/Documentare/Suporturi_curs/II_Strategii_si_politici_europene_de_dezvoltare_durabila.pdf

SCUTARU, L. (2013) Economic development versus sustainable development, *Ecoforum*, Volume 2, Issue 1 (2)

STIGLITZ, J.E., SEN, A., FITOUSSI, J.-P., *Report by the Commission on the Measurement of Economic Performance and Social Progress*, 2009, Available from http://www.stiglitz-sen-fitoussi.fr/documents/rapport_anglais.pdf

TROANCA, D. (2013) Between economic growth and sustainable development, *Annals of the „Constantin Brâncuşi" University of Târgu Jiu*, Economy Series, Issue 1

*** European Economic Forecast, Winter 2015

*** Eurostat Statistical Books, Smarter, greener, more inclusive? Indicators to support the Europe 2020 strategy, 2015

*** Human Development Report 2014 Available from: http://hdr.undp.org/sites/default/files/hdr14-report-en-1.pdf