EUROPEAN UNION AND SUSTAINABLE DEVELOPMENT INDICATORS

Art, Kovačič

Faculty of Commercial and Business Studies, Lava 7, 3000 Celje, SLOVENIJA, artkovacic@gmail.com,

ABSTRACT: Assessment of sustainable position of selected countries is the important challenge in the last years. The sustainable theory has changed from the years of Rio conference and the availability of statistical resources is becoming better. Sustainable development is an important objective for each country. Enlargement of the EU has brought the current priorities and future direction of EU environmental policy sharply into focus. Enlargement process has increased the standards of environmental protection and social development. Significant environmental investments are necessary and the new members need to speed up their preparation for implementing the Gothenburg strategy "sustainable strategy".
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1. INTRODUCTION

CEE countries and also SEE countries are implementing sustainable development approach through integration process with European Union. So, the national strategies and development programmes are taking sustainability approach with EU documents. Sustainable development has long been on the political agenda of the European Union, with the creation of its Sustainable Development Strategy (EU SDS) and the respective sustainable development indicators (SDI) set. The EU Sustainable development strategies brings together the many strands of economic, social and environmental policy under one overarching objective — to continually improve the quality of life and well-being for present and future generations. The Eurostat monitoring report, published every two years, provides an objective, statistical picture of progress towards the goals and objectives of the EU Sustainable development strategies based on the EU Sustainable development indicators set (European Commission, 2016). In the article I will show the European Union approach toward sustainable development. The Slovenian system of indicators will be analysed. By Spearman coefficient I will calculate the correlations among economic, social and environmental indicators. Trade offs and synergies will be explained. I will test three hypothesis. **First hypothesis** is that we need a wider set of sustainable development indicators, if we want to measure synergies among different parts of sustainable development. **Second hypothesis** is that CEE and SEE countries will need to integrate the sustainable development approach in national policies and strategies. **Third hypothesis**: by analysing the sustainable development position we can find the main development steps for improving our position.

Development must take into account the qualitative view of improvement. It deals with the quality of life. Quality of life is becoming the important objective of each country. Assessing the development position of countries takes more in the view the quality of life, because the people needs are the motor of development process. There are many possibilities to measure quality of life, especially in the last years. So, it is not just the environment-economy relationship, but also the social development. For new member countries is the creation of systems of sustainable development indicators (SDI) an important tool for policymakers and strategy writers. For new member countries is the creation of systems of sustainable development indicators (SDI) an important tool for policymakers and strategy writers. Slovenia, Hungary, Czech, R., Slovakia, Estonia, Latvia, Litva, Poland, Malta and Ciper are less developed compared to old EU countries. The French translation of the term perhaps makes the concept of economic sustainability cleaner, when they talk about "development durable", i.e. which last in time. What kind of economy lasts in time, or in other words, what are the economic aspects which may be managed with local or national interventions? On which factors should development be based to enable the area and local public institutions to intervene or guide it, and above all for it to durable in time? Sustainable development means integrating the economic, social and environmental objectives of society, in order to maximize human well being in the present without compromising the ability of future generations to meet their needs. Our sensibility is that we need a more encompassing definition of sustainable development. It would include programs and policies that promote a more equitable distribution of new jobs and income while boosting a national capacity to innovate. It would foster economic stability and increase the economic and political empowerment of the citizenry. It includes more equal roles for women and minorities, improved health and raised levels of educational attainment, access to better housing, a more effective public transport system, safer workplaces, greater energy and

minerals efficiency, and decreased toxics usage among producers. If we observe the development process from the long perspective, the more important weight have management and government, because they have an influence on other determinants. We can explain this by analysing main groups as domestic economy, internationalization, government, financial markets, infrastructure, management, science and technology, human capital, biodiversity, energy and preserving the environment. All groups have the same weight. From the long term perspective have quality of government and management stronger weight, because they influence on other determinants. Policies and strategies on governmental and on enterprise level are becoming more important. The EU countries have accepted concept of sustainable development in their documents and also in programme directions. The more developed part of EU now finance the development process of other part. New member countries are forced to implement the higher cultural and ecological standards. EU is passing new members on many ways. Building new infrastructure and improving the quality of business development are the basic elements for economic growth. Market must be integrated with some elements of regulation, that takes into account the human, cultural and environmental field. Eco-social model of economy is the most important element of sustainability. Measuring the sustainable position means also the valuation of relations among different dimensions: economic, environmental, institutional and social. The environmental dimension is most concerned about natural capital while the social one is most concerned about social capital. There are some problems connected with sustainable economy creation.

Benchmark selected countries by economic, social, environmental and institutional indicators shows us where we have to act in the way of improving our position. The evaluation of sustainable development is the basic approach to the assessment of the development path of the particular country. The selected indicators serve the government/society as the framework for long term policy making. Environmental, social, institutional and economic developments are strongly linked. They are crucially important for the well being of the current as well as future generations. But environmental and social policies are sometimes formulated without due regard to their economic consequences. The term sustainability evokes the image of an economic system able to evolve without deterioration from its current state into the long-term future, being in balance with nature. This balance may be as much psychological as material and energetic (O'Connor 1997). Sustainable development has become the watchword for international aid agencies, the jargon of development planners, the theme of crowded conferences, the topic of learned papers, and the slogan of developmental and environmental activists. It appears to have gained the broad-based support that earlier development concepts such as eco-development lacked, and is poised to become the developmental paradigm of the century. The sustainable theory has implemented the business view in the last years. Without implementation of sustainability on micro level we can't really improve our development position. One of the main thesis is that we must be first competitive if we want to reach sustainable development. A lot of studies about systems of SDI (sustainable development indicators) has been produced in the last years. The current shift in thinking and action towards a more people-centred, human development paradigm has necessitated a concurrent re-orientation of the policies and programmes pursued by development strategy makers and governments. Indicators of sustainable development are created for assessment of sustainable position

and for balance the development process. There are some things that are very important for development of system of indicators. They must be specific and measurable in that they have an explicit scale ranging from undesirable states to desirable states that enables them to be used for assessment purposes. Because we want to write a policy application we must take into account some things. Indicators must be policy oriented so as to provide practical information by being able to record either changes in the means recommended by policy or changes in the development impact attributable to policy. Indicators must be readily collectable and, thereby, lowering the technical and collection costs. Preference should be given to indicators for which existing data-collection mechanisms exist or can be adapted to fulfill the purpose of collecting data. Michael Porter have added a lot of competitiveness characteristics to sustainable development concept. One win-win strategy or no-regrets solution is the one identified by the so-called Porter hypothesis i.e. that environmental regulation is a dynamic source of innovation at the firm level and competitiveness at the national level (Porter et al.,1995). Rather than implementing an environmental regulation or being a follower in developing eco-products, the firm adopts proactive environmental strategies. Often innovations of this type favour concentration and the constitution of firm networks e.g.. for processing waste, packaging, etc. These innovations are costly and seldom accessible to small firms (Faucheux et al., 1998). However, the rationale and empirical evidence in favour of the Porter hypothesis or its converse i.e. that environmental regulation decreases competitiveness, is not strong. Some proactive strategies seem advantageous in the short-run but may prove to be unsustainable in the long-run while firms are locked in environmentally suboptimal strategies (Faucheux et al., 1998). It has been shown in a vintage model of physical capital for the profit maximizing firm subject to an environmental policy that two effects are at work: a static productivity (downsizing) effect and a dynamic profit-emission (modernisation) effect. The first indicates an increase in the average productivity of physical capital if the firm's downsizing caused by the policy takes the form of eliminating less productive older and cheaper machines. The second indicates that both profits and emissions decrease at the margin with a stricter policy; however, this effect is smaller on profits and higher on emissions if the firm's downsizing affects heterogenous vintage capital than in the homogeneous vintage case. Therefore, if this model is a correct representation of the real world, downsizing and modernisation rather than innovation (profit increase) are at work. However, both competitiveness (average productivity of capital) and environmental quality (decreased emissions) may be enhanced. In the last ten years the implications of environmental regulation for competitiveness in the countries of the European Union has also moved up the political agenda. Measuring sustainability reduces to the problems of measuring quality of life or human welfare and of measuring environmental impact. We can also plan the sustainable position in the future. A planning and control system is essential for the diffusion of the principles of sustainability. The majority of those systems, today, do not seem to have fully embraced the philosophy of sustainable development. For some, it is because they are limited by measurement systems that were developed to gauge economic/financial performance, and are not equipped to measure social and environmental performance like the Balanced Scorecard. Other frameworks, while accepting all three dimensions as equal, continue to favour the economic/financial performance dimension over the environmental and social dimensions. In last years the 20

modelling approach is very common. But we can't measure the sustainable development with modelling approach. We can plan some development years in the energy sector.

2. SYSTEM OF INDICATORS FOR SD

Sustainable development is a fundamental and overarching objective of the European Union, aiming to continuously improve the quality of life and well-being for present and future generations, by linking economic development, protection of the environment and social justice. The 2006 EU Sustainable Development Strategy (EU SDS) describes how the EU will more effectively meet the challenge of sustainable development. The overall aim is to achieve a continuous improvement in the quality of life of citizens through sustainable communities that manage and use resources efficiently and tap the ecological and social innovation potential of the economy, so as to ensure prosperity, environmental protection and social cohesion. Measuring progress towards sustainable development is an integral part of the EU SDS, and it is Eurostat's task to produce a monitoring report every two years based on the EU set of sustainable development indicators (EU SDIs). Eurostat has so far published three monitoring reports, in 2005, 2007 and 2009. This fourth report charts progress in the implementation of the strategy's objectives and key challenges. The SDS defines objectives and targets intended to put the European Union on a path towards sustainable development. Given these objectives and targets, this report provides a quantitative assessment of whether the EU is moving in the right direction as reflected in the developments revealed by the EU SDIs. The overall aim of the EU SDS is to improve the quality of life The use of indicators to measure progress is an integral part of the strategy This report assesses progress towards the targets and objectives of the EU SDS Is the European Union on a sustainable development path? This report does not aim to give an absolute assessment of whether the EU is sustainable, as there is no political or scientific consensus on what this state of sustainability would be, or on the optimal levels for many of the indicators presented here. It aims rather at an assessment of progress towards the objectives and targets of the EU SDS, which are intended to put the European Union on what has been implicitly defined as a path to sustainable development. As such, the report provides a relative assessment of whether the EU is moving in the right direction given these objectives and targets. In doing so, the focus is on 'sustainable development' rather than 'sustainability.

The EU Sustainable Development Strategy includes objectives of environmental protection, equity and social cohesion, economic prosperity and the implementation of commitments at the international level, taking into account broader and global dimension of current challenges. This strategy presents a consistent approach to deal with the challenges of sustainable development at the EU level, such as climate change and clean energy, sustainable transport, sustainable consumption and production, protection of natural resources and waste management, public health, social inclusion, demography and migration, challenges of global poverty and sustainable development (Council of the European Union, 2006). The renewed EU Strategy thus sets out the directions of the long-term vision of sustainability in which elements such as economic development, social cohesion and environmental protection are mutually reinforced. As a result of further EU action in this area, the Commission adopted an updated EU Sustainable Development Strategy in July 2009 (European Commission, 2009), which stressed that sustainable

development was included over recent years in various areas of EU policy, in particular measures related to climate change and promoting low-carbon economy have been taken. Another strategic document taking into account sustainability issues is the strategy "Europe 2020" adopted by the European Commission in 2010 (European Commission, 2010). The aim of this strategy is to support innovation and development of knowledge, resource efficiency, competitiveness and environmental protection and increase of employment, social and territorial cohesion. Sustainable development is one of three strategic priorities, next to the development of smart (based on knowledge and innovation) and inclusive growth (which consists in supporting economy with a high level of employment).

Sustainable development and, in particular protecting, conserving and improving the environment for present and future generations and overcoming consequences of climate change occupy an important place in the European political agenda. Measuring progress and evaluating the effectiveness of EU policies and programs require adequate information. For this purpose monitoring should be regularly conducted. The measurement of sustainable development in the European Union An effective policy in strategic areas requires statistical information from various fields. Reliable empirical and statistical data are necessary for measuring progress and assessing the effectiveness of EU policies and programs. An important role is played by monitoring, including monitoring of processes (e.g. quality and scope of participation, information systems), effects and possible changes in the baseline measurement. The primary tools for monitoring progress in implementation of the EU Sustainable Development Strategy are indicators. The term "indicator" is defined as the aggregate measurement, connected with an issue or phenomenon, made on the basis of a series of observed facts. For the development of sustainable development indicators and its measurement at the EU level is responsible the Eurostat (European Union, 2013). In order to ensure methodological consistency and comparability between countries, the calculation of indicators based on raw data from the national statistics is implemented in Eurostat. Therefore, in some cases there may be differences between the rates as calculated and made available by individual countries and those presented in the Eurostat database. The indicators are used to determine objectives and monitor their implementation as a positive target states in a given timeframe. As a result, they allow the direct analysis and assessment of the strategic areas of the EU policy and global policy. The indicators do not always reflect all aspects of the development and change, however, they contribute to their explanations and comparing at a certain time. Countries and regions thereby support the decision making process. The primary role of sustainable development is its operationalization for the monitoring of strategy implementation by identifying a set of measures. To measure the progress in this area, which is an integral part of the EU Sustainable Development Strategy, is based on a set of sustainable development indicators developed by the European Commission in cooperation with Member States, EFTA (European Free Trade Association) and EU candidate countries. Monitoring the EU Sustainable Development Strategy is carried out on the principles and development objectives for each dimension (Borys, 2014). Considering the category of "dimension" indicators of sustainable development relate to (European Union, 2009): social dimension – indicators of improving life quality of society, economic dimension – indicators related to an effective socio-economic

development, environmental dimension – indicators taking into account protection and rational shaping of the natural environment, global and institutional dimension – indicators covering the challenges of global partnership and good governance. All these dimensions provide for an integrated approach to sustainable development. Order basis for developing an integrated system creates strategic objectives in social, economic, environmental (ecological) and institutional as well as political area. Within these dimensions themes relating to specific objectives and priorities for sustainable development have been developed. The general process for building a set of sustainable development indicators illustrates a multi-level pyramid shown in the figure below, including indicators of the main objectives (level 1), the operational objectives (level 2) and activities (level 3), which are complemented by context indicators, relating to specific areas, but do not monitor directly objectives of the Strategy. The set of sustainable development indicators also includes contextual indicators, which admittedly not directly monitor the strategy's objectives, however, provide additional information on issues directly related to sustainable development and can be useful for analytical purposes (Spangenberg, 2002). Currently, a set of sustainable development indicators is so flexible that it has been supplemented with new indicators, depending on changes in priorities for sustainable development or the occurrence of new problems. At present, the set of indicators includes ten thematic areas related to economic social and environmental aspects, as well as institutional issues and global partnership. It should be emphasized that these themes also relate to the main objective of the EU Sustainable Development Strategy, namely the achievement of a prosperous economy, based on the principles of sustainable development, as well as a leading principle of good governance.

Sustainable development policy aims to achieve a continuous improvement in citizens' quality of life and well-being. This involves the pursuit of economic progress while safeguarding the natural environment and promoting social justice. The economic, environmental and social dimensions are all part of the EU Sustainable Development Strategy (EU SDS) adopted in 2001 and renewed in 2006. The EU SDS also includes an institutional and a global dimension, involving the adoption of good governance practices in the EU and the promotion of a global partnership for worldwide sustainable development. In view of these five dimensions, the EU SDS defines objectives and targets aimed at putting the EU on a path to sustainable development. This monitoring report provides a quantitative assessment of whether the EU is moving in the right direction. Progress towards the EU SDS objectives is evaluated using a set of sustainable development indicators (SDIs) grouped into ten thematic areas. More than 100 indicators structured around the ten themes are presented in this report. Each theme has a headline indicator that shows whether the EU has made overall progress towards EU SDS objectives and targets. One development that may affect future versions of this monitoring report will be the adoption of Sustainable Development Goals (SDGs) by UN Member States in September 2015. These goals will shape the global agenda for sustainable development for the coming decades. The European system of sustainable development indicators can be assessed in relation to various aspects. Based on the Eurostat methodology, the structure of sustainable development indicators allows the assessment of actions undertaken to promote sustainable development and of achieved progress in this regard. Overall evaluation of the results of monitoring can be done according to thematic areas based on headline indicators. Therefore, in the further part the

degree of implementation of the European Strategy for Sustainable Development in the EU with special emphasis on Poland will be analyzed, based on key indicators relating to economic, social, environmental, institutional and political dimensions since 2005. The economic dimension of sustainable development is monitored by two headline indicators, which is the size of real GDP per capita and resource productivity. By analyzing the indicator of real GDP per capita Poland has a leading position against the background of the EU average. The high level of this indicator in the years 2007-2014 has also been achieved in Bulgaria, Lithuania, Romania and Slovakia (European Commission, 2015).

Table 1. Economic indicators of sustainable development

1	ECONOMIC INDICATORS
1.1	Domestic Economy
1.1.1	Size and growth of economy
	GDP per capita (ppp)
	Growth of GDP
1.1.2	Investment and saving
	Investment in basic things
	Gross domestic savings
1.1.3	Productivity
	Productivity
	Growth of productivity
1.1.4	Economic structure
	Real growth- agriculture, industry, services
1.1.5	Public finance
	Current account balance
	Balance of public finance
	Bilance of foreign trade
	Inflation
1.2	Indicators of innovativeness
1.2.1	Human capital
	Researchers in three sectors
1.2.2	Creation of new knowledge
	Application of new patents EPO
	Growth of applications of new patents EPO
	Applications of patents EPO per capita
1.2.3	Application of new knowledge
	Creation of new enterprises – starts ups (number of permitions)
	Creation of new enterprises – starts ups (number of days)
	Management and the entrepreneurship orientation
	Number of certifications ISO 9000
	Venture capital is available for enterprise development
	Culture risk orientation (flexibility and adaptively of people).
1.2.4	Financing of innovations
	Expenditures for R&D
	Expenditures for R&D in three sectors
1.3	Infrastructure
1.3.1	Housing and urbanisation
	Number of rooms per capita
	Urbanization
1.3.2	Transport
	Density of roads
	Density of railroads
	Effectiveness of infrastructure
	Maintaining and development of infrastructure

	Number per persons per car
1.3.3	Energy sector
	Production of primary energy
	Energy self-efficiency
1.3.4	Information society
	Number of hosts per 100 habitants
	Internet users
	Number of mobile users
	Availability of IT experts on labour market

Source: own creation

In Slovenia we have chosen three groups for measuring the economic development: domestic economy, innovativeness and infrastructure. For a valuation of sustainability readiness it is very important that we don't measure just the technological infrastructure, but also the implementation of new knowledge into business. So the creation of new knowledge is the very important sign of sustainability readiness. The infrastructure is measured by modern methods. The energy sector and also the information society are part of infrastructure.

Table 2. Social indicators of sustainable development

2.	SOCIAL INDICATORS
2.1	Population
	Growth of population (yearly)
	Density of population
2.2	Employment
2.2.1	Classical indicators of employment
	Number of employed persons under 15 years old
	Employment by sectors
	Unemployment rate
2.2.2	Employment by age groups
	Youth unemployment – 15-24 years
	Employment rate - 55-64 years
2.2.3	Labour market flexibility
	Share of employed persons for shorter working time
	Share of self-employment
	Regulation of labour market and flexibility
2.3	Competitive orientation of policies
	Political system is flexible for economic challenges
	Legal system support the competitiveness of economy
	Competition legislation is efficient in preventing unfair competition
2.4	Educational level
2.4.1	Education and knowledge
	The educational system meets the needs of a competitive economy
	The % op people with university diplomas on the field of science and technology (20-29)
	University education meets the needs of a competitive economy
2.4.2	Connectivity and investments
	Higher education achievement
	Total public expenditure on education
2.4.3	Efficiency
	Economic literacy
2.5	Health
2.5.1	Health financing
	Total health expenditure
	Public expenditure (% of total health expenditure)
2.5.2	Health infrastructure
	Health infrastructure
	Doctors on 100.000 people
2.5.3	Health problems
	Mortality due to selected key illnesses
	Life expectancy at birth
	Healthy life expectancy
	Infant mortality
2.6	Quality of life and sustainable development
2.6.1	Quality of life and social inequality
	Income inequality
	Quality of life
	Reported crimes
2.6.2	Sustainable development as a policy objective
	Sustainable development
	Social cohesion
	Quality of government
2.6.3	Sustainable responsibility of managers
	Social responsibility of managers
	Health and environment

Source: own creation

We have chosen six groups for measuring the social development: population, employment, competitive orientation of policies, educational level, health and quality of life. Modern way for measuring the employment level foster us to measure also the labour market flexibility. For business and for capital is good that we have a high labour market flexibility. But for people it is not so well that we have high labour market flexibility. For sustainable society it is important, that we have a good health system. Social sustainability is also obviously linked to economic sustainability. The goal of equality and equal pend. Jobs affect the poverty rate and the poverty rate is related to crime. Air quality, water quality and materials used for production have an effect on health. They may also have an effect on stockholder profits: if a process requires clean water as an input, cleaning up poor quality water prior to processing is an extra expense, which reduces profits. Likewise, health problems, whether due to general air quality problems or exposure to toxic materials, have an effect on worker productivity and contribute to the rising costs of health insurance.

Table 3. Environmental indicators of sustainable development

3.	ENVIRONMENTAL INDICATORS
3.1	Energy and environment
3.1.1	Agriculture and forest
	Forest cover
	Forest management
	Regeneration expenditure
3.1.2	Energy
	Depletion of non renewable resources
	Energy consumption
	Road transport energy use
	Capacity of nuclear and renewable fuels
3.2	Indicators of pressure
3.2.1	Climate change
	Per capita emissions of greenhouse gases
	Consumption of ozone depleting substances
3.2.2	Emissions
	Emissions of carbon dioxide
	Nitrogen dioxide concentrations
3.2.3	Water quality

	Quality of bathing water	
3.2.4	Waste	
	Communal waste	
	Dangerous waste	
	Industrial waste	
3.3	Land	
3.3.1	Land	
	Agriculture area	
	Agriculture productivity	
	Environmentally managed land	
	Designated and protected areas	
3.3.2	Biodiversity	
	Native species at risk	
	Habitat fragmatation	
	Plant diversity in streamside	
	Lakes and ponds	
3.4	Infrastructure	
3.4.1	Infrastructure	
	Car use and total passenger travel	
	Short journeys	
	Real changes in the cost of transport	
	Freight traffic	
3.4.2	Water resources	
	Licensed abstractions and effective rainfall	
	Low flow alleviation	
	Abstractions for public water supply	
	Demand and supply of public water	

Source: own creation

We have chosen four groups for measuring the environmental development: energy and environment, environmental pressure, land and infrastructure. It is very important that we find the balance between environmental quality and environmental infrastructure. Some states ranges higher by environmental infrastructure than by environmental quality. We can't expect that Slovenia will reach so high environmental infrastructure as Belgium. Brussels, Antwepen are important metropolis in Europe, so they need stronger environmental infrastructure than Slovenia.

Environmental sustainability is perhaps more immediately understandable: the culture of the environment and its protection, a through difficult, is today a widespread phenomenon, even at local level. The setting up new business enterprises or the support of economic growth must take the impact of production activity into account, both in terms of the pollution produced and resources consumed. National reports about sustainable development have different set of determinants. Determinants of SD are: growth of domestic economy, overall productivity, entrepreneurship, quality of management, public finance, quality of infrastructure, quality of institutions, technological development, financial sector, development of information society, employment, labour market, competition regulation, educational level, social inclusion, population change, intensity of energy use, material consumption, air quality, agriculture, forests, urbanisation, water quantity and quality, biodiversity. Some of statistical indicators have the same definitions (standards) in all EU countries. Some statistical indicators are different (working hours per week can differ 10%). There are many questions regarding sustainable development in EU economies:

1. Can we evaluate the sustainable development of EU countries on the same way (with the same methodologies) as in our national reports?
2. Can we evaluate the EU region as one entity as opposed to single countries in the case of limited statistical sources (on some fields)
3. Can we benchmark the EU-27 region with the best country (Finland), with the Canada or benchmark the EU-27 region with the EU average.
4. After evaluation of the sustainable development for EU by different methodologies the policy application must be written. The most important development steps are found on the basis on SD indicators. Because of using different methodologies compared to existing studies different solutions for development process are usually found.
5. Can we made the land used policies assessment on the base of sustainable development indicators
6. Can we use modelling for energy sector or for forecasting some of the parts of development process.

New measurements called "Indicators of Sustainability" are designed to provide information for understanding and enhancing the relationships between the economic, energy use, land used policies, environmental, and social elements inherent in long-term sustainability. Indicators serve as valuable tools for profiling local energy consumption patterns as a sustainability benchmark. An indicator is something that helps you understand where you are, which way you are going and how far you are from where you want to be. A good indicator brings you to a problem before it gets too bad and helps you recognize what needs to be done to fix the problem. Indicators of a sustainable community point to areas where the links between the economy, environment and society are weak. They allow you to see where the problem areas are and help show the way to fix those problems. Sectors of the economy generate wealth and welfare for households, enterprises, government and other actors. Economic activity, and indeed households themselves, can however create pressure on the environment, through consumption of resources and output of pollutants. The quality of the environment in turn can impact on the welfare households and individuals and other actors. The actors respond to changes in the state of the economy and of the environment, through behavioral and policy changes which either directly affect the environment, or alter the pressures on it from the economic sectors. Indicators of sustainability are different from traditional indicators of economic, social, and environmental progress. Traditional indicators such as stockholder profits, asthma rates, and water quality measure changes in one part of a community as if they were entirely independent of the other parts. Sustainability indicators reflect the reality that the three different segments are very tightly interconnected, as shown in the figure below. Rather than developing a single index of sustainability, for which important measurement difficulties exist, the identification of a confined set of indicators-focusing on each of the three pillars of sustainable development and linked through an organising framework-appears as a more useful approach.

Table 4. Identification of critical development points for Slovenia against EU

Indicator	Relative position (rank) - 2014	Relative position (rank) - 2016
Energy intensity	14/18	12/18
Emission SO$_2$ per capita	16/18	18/18

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Indicator	Relative position (rank) - 2014	Relative position (rank) - 2016
Protected areas (%)	15/18	13/18
Land under organic treatment	18/18	16/18
Connectivity with cleaning machines	8/18	16/18
Share of service economy in value added	15/18	17/18
GDP per capita (ppp-USD)	16/18	14/18
Number of physicians per 100000 inhabitants	16/18	16/18
Expenditure for R&D (% in GDP)	15/18	11/18
Child mortality (to 5 years)	13/18	15/18
Tertiary educational attainment	13/18	15/18
Number of smoked cigarettes per persons	18/18	15/18
Female to male share in labour force	15/18	14/18
Life expectancy	15/18	16/18
Expenditure for health per capta	13/18	15/18

Source: own evaluation

Slovenia marked an improvement in ten years period. It was successful in lowering the energy intensity, and in improving the classical instruments for environmental protection. The agriculture policy improved in the years of enlargement process. Privatization process, institutional harmonization and relationship between academic and business sphere also improved. But there are still some problems on the sustainable way. SO2 emission are still very high, compared also with new member states. Slovenia needs to increase the investment in environmental infrastructure in the near future. The share of service economy has increased more in other new member countries. The economic structure is not satisfied from the sustainable view. If we want to foster the changing of economic structure we must improve the entrepreneurship conditions. The Slovenian export in EU countries is on the same position in last years. So, we must make some improvements on entrepreneurship field and also on the technological field. In the health sector could be seen that we don't have enough doctors and nurses per inhabitants. The good connection with doctors is one of the important sustainability indicator. The educational system does not meet the challenges of competitive economy and we don't have enough qualified engineers on labour market. In the next years the system of indicators will improve. Questionnaire will be more common tool for sustainability evaluation. Questionnaire indicators give as a more qualitative view on competitiveness. The modern way of measuring national competitiveness by using questionnaires allow us to evaluate the dynamic evolution of one economy, the qualitative competitiveness and the expectations of the business managers. Managers often evaluate the quality of business environment in which they operate. They also try to forecast the economic situation of the country in the near future.

The need to develop and use indicators of sustainable development is based on the approach that only what can be measured can be managed. Developing indicators, however, require a clear vision of sustainable development, and the definition of a framework for structuring these indicators. Once this framework is in place, data from existing monitoring programs, accounting system, and statistical surveys can be used to quantify the indicators. Where the data basis is missing or insufficient, new routines can be established (OECD, 2002). In Slovenia, an own system of indicators for sustainable development was created. The transition and the enlargement process of Slovenia were taken into account. The quality of institutions was an important determinant of sustainable development when the Acquis Communautaire was accepted. The creation of environmental policy is still not influenced enough by the business sector. Since it is impossible to measure human or ecosystem well-being directly, assessments must select the indicators of the main features of each. Many environmental problems arise from market and regulatory failures, but other issues can be traced to inefficiency and waste, reflecting ignorance or mistakes on the part of polluters and natural resource users. In fact, a significant percentage of pollution does not arise from emissions intentionally sent up the smokestack or out the effluent pipe to avoid control costs, but from materials or energy that are unwittingly under-utilised in fabrication or elsewhere in a product's life cycle. Such "inadvertent" pollution can be traced to poorly designed goods, outdated technologies, unnecessarily wasteful packaging, and general in attention to the dictates of environmental management. Data on the losses attributable to such mistakes, as well as easy access to information about alternative production or consumption practices, promise to improve resource productivity, enhance consumer welfare, and improve corporate competitiveness (Porter and van der Linde, 1995; Esty and Porter, 1998). They challenge the conventional view of the exclusively negative productivity impact of environmental regulations. They maintain that strict regulations, if properly designed, can stimulate firms to discover cost-effective ways of complying with environmental regulation. The revenues from such innovations can outweigh the compliance costs. Furthermore, firms may gain first mover advantages through the development of environmental technology, which can be beneficial later on when other countries introduce stricter environmental legislation as well. Because more possibilities for greener products can be seen on the European internal Market, the relationship among competitiveness and sustainable development is harder. Without any doubt, as the cost of performance data and information in general falls, there are new opportunities to reduce environmental impacts while simultaneously improving competitiveness emerge.

3. CORRELATIONS BETWEEN DETERMINANTS OF SUSTAINABLE DEVELOPMENT

Environmental performance requires improvements in a country's institutional foundations. Without institutional quality, we cannot accept the stronger environmental standards and laws. In practice, a nation's economic and legal context and its environmental regulatory regime are connected. This association demands further exploration, but the preliminary evidence developed here suggests that countries would benefit *environmentally* from an emphasis on developing the rule of law, eliminating corruption, and strengthening their governance structures. The strong association between income and environmental performance also carries important implications. Among other things, it provides powerful corroboration for a policy emphasis on poverty alleviation and the promotion of economic growth as a key mechanism for improving environmental results. The correlations are calculated among economic, social and environmental indicators. The Sperman correlation coefficient is used. In principle, ρ is simply a

special case of the product-moment coefficient in which the data are converted to ranking before calculating the coefficient. In practice, however, a simpler procedure is normally used to calculate ρ. The raw scores are converted to ranks, and the differences *d* between the ranks of each observation on the two variables are calculated.

If there are no tied ranks, i.e.

$$\neg \exists_{i,j} i \neq j \wedge (x_i = x_j \vee y_i = y_j)$$

then ρ is given by:

$$\rho = 1 - \frac{6 \sum d_i^2}{n(n^2 - 1)}$$

where:

d_i = the difference between each rank of corresponding values of *x* and *y*, and

n = the number of pairs of values.

Table 5. Correlations among economic and social indicators in Slovenian SD system

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. GDP per capita (USD-ppp)		0.752	0.030	0.119	0.412	0.476	0.433	-0.051	0.161	0.211	0.426	0.347	0.637
2. Expenditures for R&D			0.809	0.799	0.390	0.588	-0.105	-0.572	0.740	0.482	0.707	0.584	0.889
3. Number of hosts per 100 habitants				0.753	0.515	0.612	0.309	-0.588	0.819	0.272	0.693	0.346	0.751
4. Users of internet per 100 habitants					0.492	0.614	-0.035	-0.582	0.646	0.370	0.454	0.524	0.716
5. Number of permitions to start a business						0.800	0.075	0.053	0.311	0.468	0.277	0.066	0.166
6. Number of days to start a business							0.007	-0.179	0.550	0.475	0.410	0.244	0.213
7. Density of the roads								-0.065	0.412	-0.198	-0.036	0.110	0.004
8. Unemployment rate (ILO)									0.393	0.372	-0.054	-0.002	0.254
9. Employment in service sector										0.309	0.551	0.649	0.532
10. Part time employment											0.054	0.161	0.114
11. University education												0.195	0.519
12. Life expectancy at birth-man													0.384
13. Infant mortality rates													

Source: own evaluation

In the table the strongest correlation in economic-economic group of indicators can be seen between expenditures for R&D and the number of hosts per 100 habitants (0.809). A strong correlation between expenditures for R&D and the users of Internet (0.799) can also be seen. We can conclude that the information technology development is connected with classical technological development. A strong correlation between the number of permissions to start a business and the number of days to start a business (0.800) can also be seen from the table. Both indicators show the level of entrepreneurship in the country. The strongest correlation in the economic-social group of indicators can be seen among expenditures for R&D and infant mortality (0.889). The technological progress has a strong influence on the quality of life. A strong correlation can be seen between the number of hosts per 100 habitants and employment in service sector (0.819). The information technology development increases the service sector in economy. A strong correlation is also seen between the number of hosts per 100 inhabitants and infant mortality (0.751). Information technology development has strong influence on the quality of life. We can see a high position by both indicators for the Scandinavian countries.

Table 6. Correlations between economic and environmental indicators in Slovenian SD system

	1	2	3	4	5	6	7	8	9	10	11	12
1. GDP per capita (USDppp)		0.752	-0.030	-0.119	0.412	0.476	0.433	0.165	-0.549	0.709	0.168	0.203
2. Expenditures for R&D			0.809	0.799	0.390	0.588	-0.105	0.048	-0.576	0.659	-0.445	-0.303
3. Number of hosts per 100 habitants				0.753	0.515	0.612	0.309	-0.009	0.511	0.651	-0.002	0.225
4. Users of internet per 100 habitants					0.492	0.614	-0.035	0.149	-0.419	0.642	-0.142	-0.358

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	1	2	3	4	5	6	7	8	9	10	11	12
5. Number of permissions to start a business						0.800	0.075	-0.311	-0.564	0.181	0.340	0.266
6. Number of days to start a business							0.007	0.315	-0.383	0.360	0.094	0.110
7. Density of the roads								-0.425	-0.293	-0.305	0.440	0.379
8. Renewable energy production									0.140	0.298	-0.226	-0.318
9. Emissions CO2/capita										-0.147	-0.439	0.523
10. Emissions SO2/ capita											-0.235	0.153
11. Emissions SO2												0.009
12. Emissions NOx/ capita												

Source: own evaluation

In the table above the strongest correlation can be seen in the economic-environmental group of indicators between GDP per capita (ppp) and emissions of SO2 per capita (0.709). There is also a strong correlation between expenditures for R&D and emissions SO2/capita (0.659). A strong correlation can be seen between expenditures for R&D and certificates ISO 14001 (0.645). Entrepreneurship sustainability is connected with technological progress. The users of Internet per 100 habitants have a positive correlation with emissions SO2/capita (0.642). Therefore, it can be concluded that the information technology development has a positive influence on air pollution.

Table 7. Correlations between social and environmental indicators in Slovenian SD system

	1	2	3	4	5	6	7	8	9	10	11	12	13
1.Unemployment rate (ILO)		0.393	0.372	-0.054	-0.002	0.254	0.218	0.051	-0.291	0.354	0.267	-0.267	-0.137
2. Employment in service sector			0.309	0.551	0.649	0.532	-0.509	-0.086	-0.307	0.765	-0.104	-0.012	0.593
3. Part time employment				0.054	0.161	0.114	-0.015	0.074	0.149	0.358	-0.254	-0.056	0.193
4. University education					0.195	0.519	-0.079	0.163	0.012	0.232	-0.407	-0.286	0.325
5. Life expectancy at birth-man						0.384	-0.288	0.237	0.098	0.616	-0.325	0.096	0.404
6. Infant mortality rates							0.125	0.496	-0.218	0.695	-0.175	-0.142	0.368
7. Criminal								0.446	0.137	-0.249	0.058	-0.247	-0.400
8. Renewable energy production									0.140	0.298	-0.226	-0.318	-0.249
9. Emissions CO2/capita										-0.147	-0.439	0.523	0.074
10. Emissions SO2/capita											-0.235	0.153	0.449
11. Emissions SO2												0.009	-0.225
12. Emissions NOx/capita													0.309
13. Certificates ISO 14001													

Source: own evaluation

The table shows the strongest correlation in the social-environmental group of indicators between Infant mortality rates and emissions SO2 per capita (0.695). A strong correlation is also seen between Life expectancy at birth-man and emissions SO2 per capita (0.616). Employment in service sector correlates positively with Certificates ISO 14001 (0.593). When countries reach the higher development stage, they have the strongest entrepreneurial sustainability and a more developed service sector. Correlation information between the indicators of sustainable development shows us the important steps for catching up. The catching-up of the new member states with the EU countries in terms of welfare and economic growth is associated with the application of new technology and knowledge imported from the more developed EU countries.

The sustainability of the whole can lean only upon the combined sustainability of its parts. These factors and their respective balances rely on qualitative factors, as the degree of social and political polarization, the values of society and the

level of system entropy. Based on experimentation and lessons from the field, the SD approach has been operationalized in some interactive steps:

1) Identification of the risks, assets, entitlements, livelihood activities, and knowledge bases of communities and individuals through the use participatory research techniques.
2) Analysis of macro, micro and sectoral policies which impinge on people's society.
3) Assessment and determination of key technology contributions to SD.
4) Identification of existing investment (e.g., micro-finance) opportunities.
5) Making sure that the Lisbon strategy and the national development strategy are implemented.

A framework is needed, one which brings together SD's various elements: coping and adaptive strategies, poverty reduction, sustainability and issues of process. The framework which emerges can then be treated as a heuristic tool or template (by the actors involved in implementing the SD approach) for identifying the linkages between the different elements, developing indicators for them, and evaluating outcomes. A possible option for a conceptual framework within which to place SD concept is the building the own system of indicators. Such a framework integrates the concepts of sustainable development and sustainable society. It is best conceptualized as a diagram merging two interactive triangles, one representing the cornerstones of sustainable development (economic efficiency, environmental integrity, and human well being) and other the showing those of sustainable livelihoods (local knowledge, science and technology, and policy structures). It is opined that elements and issues that make for sustainable society lie at the critical interface of human-environment interactions. Political, cultural, religious, social, economic, biological and geo-physical factors simultaneously interact with and in combination with each other to produce a variety of functions, processes and products, which shape the way a community makes a living in a given ecozone. Analysis of these factors allows policy-makers and practitioners to formulate appropriate and context-specific programmes and projects that aim to promote the sustainable development. Having made the case that one way for devising an SD programme or creating indicators for sustainable livelihoods is by outlining vulnerable livelihoods, we need some kind of theory to ground the variability and dynamism of livelihood systems and adaptive strategies. The identification of human well being as the goal of sustainable development requires indicators which point to how well policies in the economic, environmental, social fields are performing in relation to the main goal. The next step is summarising existing information that focus on well being is to select a core set of indicators addressing key issues of sustainable development. This core set approach has the benefit of using indicators that are common to different countries, that respond to different uses, and that be meaningfully compared across countries. Despite the fact that the choice of indicators may be somewhat subjective, this approach does allow key aspect of sustainable development to be considered in a simple way. However, aggregating a variety of indicators from the various dimensions, it becomes difficult to characterise whether overall economic developments are sustainable or not.

4. CONCLUSION

The creation of system of indicators for sustainable development is an important goal of each country. We must create the right indicator for making the important signals for policymakers and for the society. The correlation between competitiveness and sustainable development is strong. Scandinavian countries that rank high by IMD and WEF's competitiveness index also rank high by ESI sustainability index. Observing the OECD countries only, it is obvious that the high performance of environmental quality, GDP per capita, and competitiveness as defined by the WEF are connected. Porter and Esty state that »the countries that have had the most aggressive environmental policies also seem to be the most competitive and economically successful". Over the last few decades, a broad consensus has emerged that our standards of living are not only driven by economic success, but are also determined by the quality of the environment we live in. Today, it is widely accepted that the traditional measures of economic welfare, such as GDP or per capita incomes, can provide only an incomplete picture of how well we are doing. Yet, few issues have remained so controversial as the relative importance of economic versus environmental objectives. For many, more stringent environmental regulation is indispensable if our natural resources and the global commons are to be protected for the future generations. Others, however, have rejected such calls, pointing to the potentially adverse effects on competitiveness and economic growth. A key problem lies in the lack of critical information and the substantial amount of uncertainty regarding the causes and effects of environmental decision-making. In the absence of reliable data and sound analyses, choices have often been based on generalized observations, best guesses, and, too often, on rhetoric and emotion. It is therefore not surprising that the use of natural resources has remained sub optimal, resulting in lower standards of living than would otherwise be possible. To be sure, the need for better information and analyses concern all levels of decision-making - individuals, companies, and governments. While the need is particularly acute in the developing countries, it is by no means limited to them. Taking into account so many environmental issues is not confined to national borders; it becomes clear that measurement matters.

All hypothesis in the article stands. The EU Sustainable development strategies brings together the many strands of economic, social and environmental policy under one overarching objective to continually improve the quality of life and well-being for present and future generations. The Eurostat monitoring report, published every two years, provides an objective, statistical picture of progress towards the goals and objectives of the EU Sustainable development strategies based on the EU Sustainable development indicators set. An own system of indicators for sustainable development has been created in Slovenia. The transition and also the enlargement process of Slovenia were considered. The quality of institutions was an important determinant of sustainable development when the Acquis Communautaire was accepted. All hypothesis in the article stands. Benchmarking the Slovenian sustainable level is done with five countries: Finland, Ireland, Netherland, Portugal and Greece. These countries have the size that is close to Slovenia. I think that Slovenia can reach the higher sustainable level than Portugal and Greece. Finland and Ireland are economies that have reached the higher sustainable progress in last ten years. Netherland is close to EU average. All CEE and SEE countries will need to create on own system of indicators for measuring sustainable development. The importance of sustainability approach in these countries is higher. That is connected with the enlargement process of European union.

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