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## **SUSTAINABLE DEVELOPMENT AND NATIONAL COMPETITIVENESS: THE CASE OF THE REPUBLIC OF SERBIA**

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***Abstract:** Improving the competitiveness of Serbian economy and achieving sustainable development is an actual theme at least for two reasons. First, the Republic of Serbia has clearly confirmed its strategic commitment to inclusion in the European integration process. Thereupon rising the overall competitive ability of Serbian economy is necessary prerequisite for coping with the pressure of competition within the EU. Secondly, the Republic of Serbia is committed to its development being built on the principles of sustainable development, which in the context of the transition process involves the strategic management of economic reforms in order to maintaining the conditions for recognition of a model of development that will contribute to better meeting their socio-economic needs of the people, while eliminating or minimizing adverse impacts on the environment and natural resources. Providing that, this paper primarily aims to contribute to a clearer understanding of the interconnectedness and mutual dependence between sustainable development and national competitiveness. The work will be carried out analysis of the competitive position of the Republic of Serbia on the scale of global competitiveness, according to the Global Competitiveness Report of the World Economic Forum, in order to establish a link between sustainable development goals and the pillars on which the GCI is based and get a clearer insight into the interdependence of these two phenomena.*

***Keywords:** sustainable development, national competitiveness, Republic of Serbia*

### **1. Introduction**

In contemporary conditions issues and problems in the field of sustainable development are highly topical area of interest to the policymakers, and the business

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community and civil society as well. With the increasing awareness of the unsustainability of the current growth models and their destructive impact on the environment and the development of a coherent society, the need of taking concrete strategic activities has grown in the direction of finding new methods of growth and development that contribute to the simultaneous achievement of economic, ecological and social progress. On the other hand, competitiveness as a measure of the success of the development process was and still is the main economic topics, both theory and practice, and its importance as a developmental phenomenon further emphasized by the recent global financial and economic crisis with all the associated consequences and manifestations. The key question is how these two concepts are interrelated and how they can contribute to achieving balanced development.

Simultaneous achievement of the objectives of sustainable development and improvement of competitiveness is one of the challenges with which are facing policy-makers all over the world. At the EU level as the deepest integration in the world, recognized the importance of taking energetic activities towards achieving these two concepts at the moment when began to manifest deficiencies in the functioning of the global economy due to the crisis. This is best evidenced by the abandonment of the Lisbon strategy by the Council of Europe and the design of the new strategy "Europe 2020". Despite the fact that both the European strategy aimed at improving competitiveness and achieving sustainable development, the fact is that the Lisbon Strategy has failed to pass the test of practical applicability, or to enable the achievement of desired results.

The Republic of Serbia is facing today afore the challenge to resolve two strategic problems important for its future prosperity: improving the national competitiveness while simultaneously achieving sustainable development goals. The actuality of this topics can be explained primarily by the fact that, first, the Republic of Serbia has clearly confirmed its strategic commitment to inclusion in the European integration process. For this reason, rising the overall competitive ability of Serbian economy is necessary prerequisite for coping with the pressure of competition within the EU. Secondly, the Republic of Serbia is committed to its development being built on the principles of sustainable development, which in the context of the transition process involves the strategic management of economic reforms in order to maintaining the conditions for recognition of a model of development that will contribute to better meeting their socio-economic needs of the people, while eliminating or minimizing adverse impacts on the environment and natural resources.

According to the laid goal this paper is structured as follows. After introduction, in the first part of the paper shall be carried out the analysis of the key features of the concept of the national competitiveness. The second part of the paper is dedicated to the explanation of the sustainable development concept. After performed analysis of the competitive position of the Republic of Serbia, the fourth part will establish the link between sustainable development and national competitiveness. Finally, the main conclusions that have been reached in the study will be given in the concluding observations.

## **2. An Overview of the Competitiveness Concept**

The competitiveness of countries can be defined in different ways depending on the approach of the one who does it.

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**Table 1: Definitions of the competitiveness of nations**

Definitions	Sources
-Country's ability to generate the resources required to meet its national needs	HMSO, 1985
-Country's ability to create, produce and distribute service products in international trade while earning rising returns on its resources	Scott & Lodge, 1985
-Competitiveness is seen as the ability to perform well; it is the generation and maintenance of competitive advantages; and it is the process of managing decisions and processes in the "right" way -Competitiveness cannot be considered as a static concept, but rather as an ongoing process	Buckley, Pass & Prescott, 1988
-Competitiveness is the degree to which a nation can, under free and fair market conditions, produce goods and services which meet the test of international markets, while simultaneously maintaining and expanding the real incomes of its people over the longer term	OECD, 1992
-Competitiveness is the ability of a country to achieve sustained high rates of growth in GDP per capita	WEF, 1996
-A nation which fails to match other nations in productivity or technology will face the same kind of crisis as a company that cannot match the costs or products of its rivals	Krugman, 1996
-Competitiveness in the short run has been equated with the level of the real exchange rate, ensured internal and (broadly defined) external balance (i.e. desirable level of the current account) -Turning to the longer-run aim of rising living standards, a possible definition of international competitiveness could be the highest possible growth of productivity that was compatible with external equilibrium	Boltho, 1996
-The "wholeness" is an important characteristic of competitiveness -Competitiveness analyses how nations and enterprises manage the totality of their competencies to achieve prosperity or profit -Competitiveness is the ability of a nation to create and maintain an environment that sustains more value creation for its enterprises and more prosperity for its people; the ability of a country to create added-value and thus increase national wealth by managing assets and processes, attractiveness and aggressiveness, globality and proximity, and by integrating these relationships into an economic and social model	IMD, 2005

*Source:* Kyung, 2009, 46

By publishing the annual World Competitiveness Report, starting in 1980, the World Economic Forum has established key criteria against which they can assess national performance.

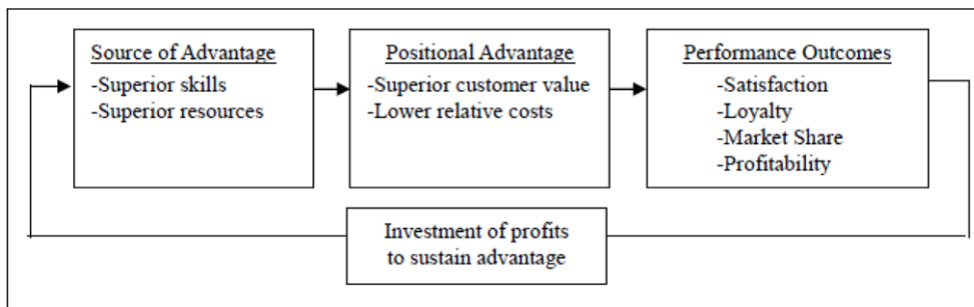
The ability of countries to produce competitive resources based on national needs and international trade while maintaining a competitive advantage, is the essence of competition. It can not be accessed as a static concept, but rather as a process flow, which is a critical aspect of the competitiveness research. Consideration of competitiveness involves a holistic approach to the country's ability to sustain national economic and social development. This approach makes it possible to define competitiveness as the ability of a

nation to produce products and services that meet global market needs, to create and manage property that adds value, processes, attractiveness and globalization.

The Organisation for Economic Co-operation and Development (OECD) indicates that competitiveness represents: “The ability of companies, industries, regions, nations or supranational regions to generate, while being and remaining exposed to international competition, relatively high factor income and factor employment levels on a sustainable basis” (Balkytė, Tvaronavičienė, 2010, 343).

The dynamics of competitiveness is a complex concept that is necessary to be clarified, given that individual measures of competitiveness do not include all the elements of the concept. Competitive advantage is maintained through the Integrated Framework (Fig. 1) that makes up the source of advantage, positional advantage and performance outcomes.

Figure 1: The elements of competitive advantage



Source: Kyung, 2009, 47

Factors such as infrastructure, human and physical resources, knowledge and capital resources, play a significant role in the formation of competitive advantage (Porter, 1998: 74-75). The hierarchy of sources of competitive advantage is seen as a structure of factors that contribute to sustainability. The advantages of a lower order (such as lower costs of direct labor and materials) are relatively easy to imitate, while the benefits of a higher order, such as more advanced skills and abilities, are permanent. Sources of advantages of higher order are associated with higher levels of productivity. Thus, superior skills enable companies to exploit their distinctive capabilities, which are key success factors that must be carefully managed to ensure long-term competitive efficiency. According to many theorists, assets and skills are the basis of sustainable competitive advantage. An intangible asset, whose core is the idea or knowledge, creates differential capabilities, which in turn, lead to a sustainable competitive advantage. Sophisticated industries (and industry segments), including complex technology and highly qualified human resources, provide the potential for extremely high levels of productivity, which imply sustainable growth (Porter, 1998, 10).

Strategic positioning of the nation is done on the basis of its ability to take advantage in attracting human and physical capital, both regionally and globally. Positional advantages on the market provided by activities that create value, with different benefits perceived and valued by competitors and customers. Based on the researches related to the

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external environment, some studies deal with the market conditions, such as the evolution of the market, competition and customer demand. In doing so, the categorization of the market is done into three levels, namely the financial markets, market products and services and labor markets. It also points to the typology of strategic market environment from the aspect of competitive advantage, in terms of the existence of key environmental factors in the competitive positioning. In this regard, product performance and high quality is the core of competitive advantage. The high price of positioning occurs in mature and multiple markets.

The outcome of the competitive process or the performance outcome (Table 2) provides a historical perspective and insight into the sustainability of such an effect. The best approach, in this sense, is a relative market share with the criterion of profit.

**Table 2: Performance outcome by level of analysis**

Export market share	-The percentage share of exports relative to a matched comparator
Percentage share of World manufacturing output	-Market share measured through the national share of world manufacturing.
Balance of trade	-Balance of trade between countries.
Export Growth	-Export sales growth
Profitability	-Rarely referred to in the literature as a proxy for competitiveness

*Source:* Kyung, 2009, 50

We can distinguish two general approaches to the analysis of competitiveness. The first is that the competitiveness is question of relative efficiency, which can be measured by the relative value of productivity and productivity growth. Another approach suggests that competitiveness is reflected in the relative performance of international trade. The only meaningful concept of competitiveness at the national level is national productivity (Porter, 1998). Globalisation means a continuous process of growth of international trade and investment.

The main difference between the competitiveness of nations and the competitiveness of enterprises is reflected in the place where it creates economic value in society. According to some theorists, the economic value is created only in the company, and nations can establish an environment that will hinder or support the activities of the company.

At the enterprise level, important are factors that create a “competitive advantage”, as well as the opportunities and processes which help to maintain this advantage. At the regional level, important are support institutions, clusters of companies. At the national level, are analyzed the innovation, the quality of education, lifelong learning, physical and intangible infrastructure, trust, etc. In any case, the relevant are factors and processes that will increase revenues and provide employment in the long run.

Michael Porter points out that companies compete for market share and profitability, while “nations compete in providing a platform for operating at high levels of productivity and therefore attracting and retaining an ample investment in those activities that support high returns to capital and high wages”. Also, “the productivity of a country is ultimately set by the productivity of its companies. An economy cannot be competitive

unless companies operating there are competitive, whether they are domestic firms or subsidiaries of foreign companies. (...) Companies in the nation must upgrade their ways of competing if successful economic development is to occur. Broadly, companies must shift from competing on endowments or comparative advantages (low cost labor or natural resources) to competing on competitive advantages arising from superior or distinctive products and processes "(Ogrea, Herciu 2010, 97).

In the current global context, the company is a major determinant of the competitiveness; most scientists agree on this topic. However, there are a large number of possibilities and the variables that can thereby be taken into consideration. According to Porter, there is a "five competitive forces that shape strategy," and the evolution of the industry depends on the strategic choices of the company.

According to the theorists of strategic management, internal sources of competitive advantage are of great importance, given that the company creates competitive advantage through the accumulation, development and reconfiguration of its unique resources, capabilities and knowledge.

Swedish economists, Eli Heckcher and Bertil Ohlin suggest that the country should not export products that require the use of resources that are abundant in it. According to Porter, the National Competitiveness is a complex concept that encompasses a number of factors, originating from the country's ability to create a conveniently environment by encouraging innovation and improving them a faster rate compared to other countries. Although neither the concept of competitiveness nor the concept of sustainability cannot offer optimal formula of achieving harmonious development, is likely to be the future of this theory to connect the new concept of "sustainable competitiveness" (Ogrea, Herciu, 2010, 96-98).

Environment that supports a high level of welfare is becoming an important driver of countries competitiveness and attracting world-class companies. The relationship between competitiveness and well-being is becoming stronger with their mutual support. Overall, globalization, economic dynamism and social progress, sustainability and competitiveness are phenomena that occur simultaneously. Therefore, the different elements of competitive advantage mutually interact and reinforce each other (Balkytė, Tvaronavičienė 2010, 359).

### **3. The Main Points of the Concept of Sustainable Development**

The idea of sustainable development occurred in the 1980s, emphasizing the need to simultaneously achieve the objectives of development and environmental protection. However, the origin of the concept can be traced through the increased interest in the environment from the 1960s and 1970s. There are different ways of sustainable development, but there's no single definition. The development is increasingly seen as an open process, however, despite these differences, there is agreement that the development is much more than economic growth and development (UNCTAD, 1999, 150). As a comprehensive view of development, the United Nations Charter (1944) presents a development in the context of economic and social progress, better living standards, as well as a combination of cultural, educational and health issues. The Programme of Action of the 1995 World Summit for Social Development includes concept of development, which

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includes both developed and underdeveloped countries, and is committed to eradicating poverty, increasing employment, and social integration (UNRISD, 1995).

While addressing the issues of sustainable development, World Investment Reports of UNCTAD adopted the United Nations' definition of „sustainable human development” that includes economic, social, political, environmental and other dimensions. Sustainable development, as the primary challenge for the 21st century, is a process of “achieving human development [...] in an inclusive, connected, equitable, prudent, and secure manner” and “improving the quality of human life [...]” (Kyung Mi 2009, 52).

In March 2000, the EU formulated its strategy to 2010, known as the Lisbon strategy, which is aimed at developing “the most competitive and dynamic knowledge-based economy in the world, capable of sustainable growth with more and better jobs and greater social cohesion” (European Council 2000). However, before the Lisbon strategy significantly implemented, started open discussions according to which, despite many clearly defined ambitious goals, the main goal is not reached. Lisbon decade ended with the financial crisis and recession. Taking into account the changing economic realities, the EU Commission has formulated a new strategy in March 2010, “Europe 2020”, as a continuation of the Lisbon Strategy. “Europe 2020” highlights three mutually reinforcing priorities: knowledge (development of an economy based on knowledge and innovation), sustainability (promoting more efficient resources, greener and more competitive economy) and inclusive growth (development of high employment with social and territorial cohesion). Both strategies incite EU countries to competitiveness and sustainable development.

Sustainability issues are thoroughly discussed by the Club of Rome headed by the environmental economist Donella Meadows, principal author of the book "The Limits to Growth" (1972). According to them, the environment is considered to be a prerequisite for economic growth. The need for the formulation of common principles that encourage the preservation and improvement of the environment, highlighted in 1972 at the United Nations (UN) Conference on the Human Environment in Stockholm. The World Commission on the Environment and Development in 1987 published a report “Our Common Future”. According to the Brundtland Commission, “sustainable development is the development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.” Consequently, can be observe two key concepts: the concept of “need”, primarily basic needs of the poor in the world, which should be given priority, and the idea of “restrictions” imposed by technology and social organization, which affects the ability of the environment to meet present and future needs. Much study is based on a new philosophy in the political and academic world. They relate to the identification of the main aspects of sustainable development and their association, as well as questions of measurement. Also, there were many critics, by which develop and sustain at the same time is an oxymoron (Lapinskienė, 2011, 435).

In articles from 2005 Sustainable Development defined by “measurable” terms, as “another way to define sustainable development is in what it specifically seeks to achieve. To illustrate, it is helpful to examine three sets of goals that use different time-horizons: the short-term (2015) goals of the Millennium Declaration of the United Nations; The two-generation goals (2050) of the Sustainability Transition of the Board on Sustainable Development; and the long-term (beyond 2050) goals of the Great Transition of the Global Scenario Group.”

Into book from 1992, *Business Strategy for Sustainable Development: Leadership and Accountability for the 90s*, by the International Institute for Sustainable Development in conjunction with Deloitte & Touche and the World Business Council for Sustainable Development, gives the following “business definition” of the sustainable development: „For the business enterprise, sustainable development means adopting business strategies and activities that meet the needs of the enterprise and its stakeholders today while protecting, sustaining and enhancing the human and natural resources that will be needed in the future. (...a very important characteristic figure of the process is that ...) sustainable development is a pervasive philosophy to which every participant in the global economy (including consumers and government) must subscribe, if we are to meet today’s needs without compromising the ability of future generations to meet their own.” So, “development will not be sustainable and poverty will not be alleviated without business playing its part. One of its main responsibilities is working with governments and civil society partners to develop and put in place the appropriate legal, institutional and financial framework conditions – globally, regionally and nationally (Ogrea, Herciu, 2010, 96-98).

#### **4. Competitive Position of the Republic of Serbia in 2014**

The World Economic Forum, with the World Bank, today represents the most important institution that deals with the analysis and measurement of competitiveness. In the framework of this institution during its decades of existence developed more indices for measuring and monitoring the competitiveness of the national economy, so that one can justly say that its composite index today are the most widely used competitiveness indexes. Global Competitiveness Index (GCI) of the World Economic Forum starts from the assumption that there are a number of factors in the modern globalized economy that explain the competitiveness of national economies. All the factors of competitiveness are divided into 12 categories (i.e., pillars of competitiveness), which provides an opportunity for a clearer overview of the key fields of activity competitiveness. At the same time, bearing in mind that the importance of certain factors of competitiveness depends on the level of economic development in which the country is located, all the factors were divided into three groups with different weights when calculating the Global Competitiveness Index.

According to the Global Competitiveness Report of the World Economic Forum for 2014/2015 (Schwab, 2014), the Serbian economy in 2014 improved its position on the scale of global competitiveness (94th place) in relation to the competitiveness ranking from the previous year (101st place). Analyzing the competitive position of the Serbian economy could be seen that this is also the average rank that she had in the period from 2007 until today. Deviation from the average value ranking of the competitiveness of the Republic of Serbia was recorded in 2008 when he was on the 85th position and 2013 on 101th position. However, as far as the points, it was throughout the period from 2007 to 2014 recorded a nearly constant value of GCI (ranging from 3.8 to 3.9), which is a confirmation of the same level of competitiveness.

The World Economic Forum in its Reports regularly publishes information about the factors that in the opinion of the business community the greatest impact on reducing the productivity of the company. Among the key deciding factor hampering business in the Republic of Serbia, respondents ranked the following: inefficient government bureaucracy



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(13.7%), access to financing (13.3%), corruption (11.9%) and policy instability (8.3%) (Schwab, 2014, 328).

Serbian economy is, based on an annual GDP and methodology of the World Economic Forum, ranked among the efficiency-driven economies (from 3,000 to 8,999 US \$ GDPPC). Analysis of the competitive advantage is based on the level GDPPC by purchasing power parity (GDPPC (PPP)), under which the Republic of Serbia in 2014 was on the 73rd place, which should correspond to the level of competitiveness. However, according to GCI, Serbia in a competition of 144 countries is on the unenviable 94th place. The difference of 21 positions between GDPPC (PPP) and GCI testifies to the wrong strategy for economic growth and prosperity in the previous period, which was based on the expansion of domestic demand instead of saving and investment.

Detailed analysis of the pillars of competitiveness provide an opportunity to perform a precise conclusions about the competitive advantages and disadvantages, as well as provide recommendations regarding the possible directions of further activities towards improving the competitiveness of the Serbian economy.

On the basis on the comparative analysis of the Republic of Serbia to each of the 12 pillars of competitiveness for 2013 and 2014 it could be observed that significant progress in the field of *Infrastructure* (improvement of 13 positions) and *Macroeconomic Stability* (improvement of 6 positions) contributed to the improvement of its position in the field of sub-indexes *Basic requirements*. Within the *Basic Requirements* sub-index competitive advantages of the Republic of Serbia are: infrastructure of primary health care (1st to 50th position), as well as communication infrastructure, according to the number of *Fixed telephone lines* (26th positions) and *Mobile telephone subscriptions* (57th positions). In these segments, the Republic of Serbia had earlier recorded a competitive advantage. Although in the framework of the first pillar (*Institutions*) and 4 pillars (*Health and Primary Education*) recorded positive changes, but their impact is considered minor changes in the competitive position of the Republic of Serbia in 2014 compared to 2013. Within the first pillar of the *Institution*, the most advantageous position is accomplished in the field of *Business costs of terrorism* (58th position), and the least favorable position is recorded in the field of *Burden of government regulation* (140th position), *Protection of minority shareholders' interests* (138 positions) and a *Wastefulness of government spending* (132).

Starting from the fact that the institutions pervade the overall functioning of the economy and that market efficiency depends on the efficiency of institutions (goods, labor and financial), still low efficiency and underdevelopment institutions constitutes a major obstacle to the achievement of the desired efficiency within 6th, 7th and 8th pillar. Positive changes made inside the pillar *Goods market efficiency* owe thanks to the increase in value in 10 of the 16 indicators, which was enough to offset the slightly lower scores in the remaining 5 members (one of the observed indicators kept unchanged value in 2014 compared to 2013). Significant progress in this pillar in 2014 compared to 2013 has been made in the *Intensity of local competition* (128th position and 138th positions, respectively), *Effectiveness of anti-monopoly policy* (126th positions and 141th positions, respectively) as well as the Prevalence of trade barriers (90th positions and 109th positions, respectively).

In the field of pillars of competitiveness that is related to the *Labor market efficiency*, poor rating, despite the unaltered range, compared to the previous year is the result of some poor attitude of top managers in terms of ease of hiring and firing labor, as well as the effects of tax legislation on work incentives. Since the Republic of Serbia adopted a new law on work, according to the practice of developed market economies in the coming period it is realistic to expect progress in this segment. In the field of *Goods market efficiency*, the Republic of Serbia, achieved a competitive advantage only to Imports as a percentage of GDP (46th position), despite the decrease by 4 positions in relation to 2013. The labor market has a competitive advantage, which refers only to the *Redundancy costs, weeks of salary* (22th positions) and the *Flexibility of wage determination* (45th position). On the financial market, the Republic of Serbia has a competitive advantage only in the field of Legal rights index, which occupies 43rd position.

Positive changes in the sub-index of *Improving Efficiency* that is recorded in the area of the pillar which looks at *Higher education and training* is primarily owed to *Tertiary education enrollment* (value, 52.4, rank 52) as well as greater access to the *Internet access in schools* (value 4.2, rank 72) in relation to 2013. The greatest progress in the field of *Improving Efficiency* recorded in the framework of *Technological readiness* pillar, where there were positive changes within each of the 7 observed indicators, with the largest increase in value realized in the framework of indicators relating to the *Int'l Internet bandwidth kb/s per user* (value 108.9, rank 26), the number of *Mobile broadband subscriptions* (value 54.8, rank 35) as well as the number of *Fixed broadband Internet subscriptions* (value 13.9, rank 49).

Despite a somewhat better positioning and assessment of the Republic of Serbia in 2014 in the field of *Innovation and Sophistication* sub-index (121st position), it could be concluded that the biggest competitive weakness manifested precisely in this domain. The low level of business sophistication and low innovation Serbian economy represent a key barrier to increasing the international competitiveness based on highly differentiated, high level of processing products with high added value. It is logical to expect that the Republic of Serbia, as a country that is in the second stage of development, has no competitive advantage in this segment. The biggest competitive disadvantages are expressed in the domain Nature of competitive advantage (141st positions), Capacity for innovation (130th position), as well as the segment of the Company spending on R&D (125th position).

It could be observed that according to the value of GDP per capita the Republic of Serbia ranks among the country at the medium level of development, where as key drivers of competitiveness are factors from the group *Improving efficiency*. However, the performed analysis confirmed that the Republic of Serbia has a slight competitive advantage and very strong competitive disadvantages in all components of the GCI. Consequently, the key direction of economic policy makers should be geared towards minimizing competitive weaknesses and the elimination of key barriers to improving competitiveness in the coming period.

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**Table 3: Comparative annual analysis of the Republic of Serbia position inside the GCI pillars (2013-2014)**

No.	GCI	Rank		Score (1-7)	
	<b>GCI 2013-2014 (144)</b>	94		3.9	
	<b>GCI 2013-2014 (148)</b>	<b>101</b>		<b>3.8</b>	
	<b>GCI 2012-2013 (144)</b>	95		3.9	
	<b>GCI 2011- 2012 (142)</b>	<b>95</b>		<b>3.9</b>	
		<b>2013</b>	<b>2014</b>	<b>2013</b>	<b>2014</b>
	<b>Basic requirements (40.0%)</b>	<b>106</b>	<b>101</b>	<b>4.0</b>	<b>4.1</b>
1.	Institutions	126	122	3.2	3.2
2.	Infrastructure	90	77	3.5	3.9
3.	Makroeconomic environment	136	129	3.4	3.5
4.	Health and primary education	69	68	5.7	5.8
	<b>Efficiency improving (50%)</b>	<b>92</b>	<b>80</b>	<b>3.8</b>	<b>3.9</b>
5.	Higher education and training	83	74	4.0	4.3
6.	Goods market efficiency	132	128	3.6	3.8
7.	Labor market efficiency	119	119	3.9	3.7
8.	Financial market development	115	109	3.5	3.5
9.	Technological readiness	60	49	3.9	4.4
10.	Market size	69	71	3.7	3.7
	<b>Innovation and sophistication (10%)</b>	<b>125</b>	<b>121</b>	<b>3.0</b>	<b>3.1</b>
11.	Business sophistication	137	132	3.2	3.2
12.	Innovation	112	108	2.9	2.9

Source: Schwab, 2013, 334, and Schwab, 2014, 328.

### **5. Linking Sustainable Development and National Competitiveness: WEF Sustainability-adjusted GCI**

At the United Nations Conference on Sustainable Development, Rio + 20, which was held in Rio de Janeiro in June 2012 one of the key agreements reached between the Member States to launch the procedure for defining the goals of sustainable development (Sustainable Development Goals – SDGs) that basically replace the Millennium Development Goals and were incorporated into the United Nations development agenda beyond 2015. Emphasizing the importance of achieving sustainable development after Rio 20+ Summit contributed to the recovery and reaffirmation of the global political agenda. The vision emerging from the discussion of the SDGs 2015 is a more encompassing those of sustainable development that is at the center of the political process, putting poverty eradication at the core of the SDGs but also recognizing that "changing unsustainable and promoting sustainable patterns of consumption and production and protecting and managing the natural resource base of economic and social development are the overarching objectives and essential requirements for sustainable development" (World Economic Forum).

The document was officially adopted at the conference Rio + 20, *The Future We Want*, delegated responsibility for founding of the Open Working Group which would

develop a set of sustainable development goals for consideration and appropriate action by the General Assembly at its 68th session. The Report of the Open Working Group of the General Assembly on Sustainable Development Goals are clearly defined sustainability goals, which should be achieved by 2030, and relating to the following (United Nations, General Assembly, 2014):

1. End poverty in all its forms everywhere
2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
3. Ensure healthy lives and promote well-being for all at all ages
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
5. Achieve gender equality and empower all women and girls
6. Ensure availability and sustainable management of water and sanitation for all
7. Ensure access to affordable, reliable, sustainable and modern energy for all
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
10. Reduce inequality within and among countries
11. Make cities and human settlements inclusive, safe, resilient and sustainable
12. Ensure sustainable consumption and production patterns
13. Take urgent action to combat climate change and its impacts\*
14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
17. Strengthen the means of implementation and revitalize the global partnership for sustainable development.

Taking activity of the economic policies of all countries towards the realization of thus defined objectives of sustainable development, most of which is the basis for creating jobs and achieving sustainable growth is a major challenge since it contributes to the simultaneous achievement of the objectives of sustainable development, and improving national competitiveness. On how the proposed objectives of sustainable development today, more than ever linked to national competitiveness is best proved by the following facts given in the overview in the Table 2. Of the 17 proposed SDGs, 5 SDGs are directly equivalent and covered pillars and sub-pillars of GCI, while the three proposed objectives, *Ensure available and sustainable use of water and sanitation for all* - Goal 6 *Reduce inequality within and among countries* - Goal 10, and *Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss* - Goal 15, captured by the sustainable competitiveness framework.

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**Table 4: Sustainable Development Goals and Global Competitiveness Index  
equivalents**

Goal 3: Ensure healthy lives and promote well-being for all at all ages	4 <sup>th</sup> pillar (health subpillar)
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4 <sup>th</sup> pillar (primary education subpillar) and 5 <sup>th</sup> pillar (higher education and training)
Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	7 <sup>th</sup> pillar (labor market efficiency)
Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	2 <sup>nd</sup> pillar (infrastructure) and 12 <sup>th</sup> pillar (innovation)
Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	1 <sup>st</sup> pillar (institutions)

*Source:* United Nations, General Assembly, 2014

It should be noted that the United Nations' Open Working Group proposal on SDGs contributed to raising awareness of the global community about the limits of growth and stressed the importance of achieving just, equitable, and inclusive growth for long-term development. This approach to defining the goals of sustainable development is consistent with the recent efforts of the World Economic Forum in the direction of defining and measuring sustainable competitiveness and attempts to prove the existence of a causal link between environmental and social sustainability and economic performance.

In the conditions when the concept of sustainable development becomes an unavoidable issue the political debate, of great importance is the monitoring and evaluation of progress towards achieving the objectives of sustainability, in order to obtain a clearer insight into the level and quality of its implementation, identify problems and carry out exchange of experience. In the past few decades have been numerous attempts to develop methodologies for measuring sustainable development, among which certainly highlights the *triple bottom line accounting*, development of methods for the measurement of many environmental aspects of sustainability, *World Bank calculation of the "genuine" or "adjusted" net savings rate*, *Environmental Performance Index* and the *Ecological Footprint*. In addition, much effort was invested in measuring other aspects of sustainability, among which are the *European Commission's Sustainability Report* (which assesses the sustainability of public finance as it relates to aging populations), the *World Bank's Worldwide Governance Indicators framework* (which measures such different aspects of governance as political instability, political voice, and accountability, among other attributes of governing systems), and the *International Monetary Fund (IMF) 's Global Financial Stability Report* (which measures the financial soundness of advanced countries).

Having in mind the still under-developed literature on the relationship between productivity (which is the basis of competitiveness) and sustainable development, the World Economic Forum as of 2011 had recently made significant effort to surpass this gap

by integrating the concept of sustainability more fully and more explicitly into its competitiveness work, proposing new Sustainable Competitiveness Index. “The Sustainable Competitiveness Index (SCI) reflects the fact that some components of sustainability affect national productivity in the longer run but are not important in the short term. In this light, sustainable competitiveness is defined as the set of institutions, policies, and factors that determine the level of productivity of a country while ensuring the ability of future generations to meet their own needs” (Schwab, 2011, 54). In fact, “the central idea of sustainable competitiveness reflects the search for a development model that would balance economic prosperity, environmental stewardship, and social sustainability” (Schwab, 2014, 51). In the initial efforts in constructing the new index, the WEF has included all the elements covered by the GCI, which are important both in the short and in the long term (e.g., governance, education and health, infrastructure, the functioning of markets, innovation), but and some new ones, which are of particular importance in the long term, such as demographics, social cohesion, and environmental stewardship.

It should be noted that, on the basis of structural scheme of the primary index that is given in the overview in the Table 5, the SDI includes all 12 competitiveness pillars on which it is based GCI. However, it was made their reorganization into five sub-indexes, human capital, market conditions, technology and innovation, enabling policy environment and conditions, and the physical environment, to give a clearer insight into the factors of sustainable competitiveness which are important in the longer term. What constitutes a significant innovation is the introduction of the new pillars of sustainable competitiveness, such as social cohesion, environmental policy, resource efficiency, management of renewable resources, and environmental degradation, to address those factors that clearly reflect the social and environmental sustainability aspects of importance for longer term. In order to obtain a true assessment of sustainable aspects of competitiveness, in addition to involvement of a number of individual variables within the new pillars, there was also a modification of a small number of individual variables within the familiar pillar originating in the GCI.

**Table 5: The design scheme of the Sustainable Competitiveness Index**

Human capital	Market conditions	Technology and innovation	Policy environment and enabling conditions	Physical environment
Health and primary education	Labor market efficiency	Technological readiness	Institutions	Resource efficiency
Higher education and training	Financial market development	Business sophistication	Infrastructure	Management of renewable resources
Social cohesion	Market size	Innovation	Macroeconomic environment	Environmental degradation
	Goods market efficiency		Environmental policy	

Note: Pillars that include variables that are not included in the GCI are marked with red color in the table.

Source: Schwab, K (ed.) 2013, *Global Competitiveness report 2013- 2014*, World Economic Forum, Geneva, Switzerland, p. 55.

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Development of methodology for measuring sustainable competitiveness can be traced after 2012, when the WEF in its Global Competitiveness reports began to publish information on sustainability-adjusted GCI. While constructing this new WEF index is based on the fact that competitiveness is a necessary but not sufficient condition for achieving sustainable levels of prosperity and that consequently it is necessary to introduce some additional social sustainability-adjusted and environmental sustainability-adjusted measures of competitiveness. “As a result, the final overall sustainability-adjusted Global Competitiveness Index is an average of the two sustainability-adjusted indexes: the social sustainability-adjusted GCI and the environmental sustainability-adjusted GCI” (Schwab, 2014, 65).

Social sustainability pillar consists of three conceptual elements of each includes three indicators: *Access to basic necessities* (Access to sanitation, access to improved drinking water, access to healthcare), *Vulnerability to economic exclusion* (Vulnerable employment, Extent of informal economy, social safety net protection), *social cohesion* (Income Gini index, social mobility, youth unemployment). Environmental sustainability pillar is also composed of three conceptual elements, wherein:

- The first area measured in the environmental sustainability pillar, environmental policy, including the following indicators: Environmental regulations (stringency and enforcement), Number of ratified international environmental treaties, Terrestrial biome protection;
- The second area that relates to the use of renewable resources is measured by the indicators: Baseline water stress, Wastewater treatment, Forest cover change, Fish stocks’ over exploitation;
- The third area takes into consideration the degradation of the environment, while the indicators by which this concept is measured include: Level of particulate matter concentration, CO<sub>2</sub> intensity, Quality of the natural environment.

“Each pillar is converted into an “adjustment coefficient” with a range of 0.8 to 1.2; this coefficient is then used to adjust the GCI score upward or downward. Consequently, the sustainability-adjusted GCI score ranges between a maximum of 20 percent lower or 20 percent higher than the underlying GCI score” (Schwab, 2014, 67).

Results obtained by the WEF, using a new methodology for measuring sustainable competitiveness show that regardless of the level of national competitiveness observed countries achieve results that are above or below their level of competitiveness. In addition, it was observed that those countries that rank high on the scale of global competitiveness (first half) achieve better sustainable performance, which was confirmed in the case of the social dimensions of sustainability. On the other hand, those countries that ranked low on the scale of global competitiveness achieve better environmental performance, particularly in terms of CO<sub>2</sub> emissions, as well as generated industrial waste and by-products, but they are faced with problems such as biodiversity loss caused by deforestation, urbanization, and the expansion of agricultural land as well as air pollution. Also, the results of the data analysis on a sample of 113 countries show the sensitivity level of national competitiveness inclusion of sustainability indicators in the assessment.

What certainly attracts attention is the sustainability position of Switzerland to the scale of global competitiveness by the GCI and in terms of sustainability-adjusted GCI. In

fact, Switzerland is the only country of the sample showing high performance according to both indicators of sustainability, so that its competitive position according to the GCI is only strengthened by GCI adapting to these indicators.

The position of the Republic of Serbia according sustainability-adjusted GCI is almost unchanged, so that it fully corresponds to the achieved rank of competitiveness by the GCI. On the achieved, a slightly lower value of sustainability-adjusted GCI (3.77) compared to GCI (3.9) the greatest impact has achieved slightly higher sensitivity level of national competitiveness in relation to social sustainability indicators. This is a direct consequence of approved competitive disadvantages in the 7th pillar of competitiveness that is related to the *Labor market efficiency*, as well as the first pillar *Institutions* within which the Republic of Serbia recorded a considerable competitive disadvantages.

Unsatisfactory competitive and poor performance in terms of sustainability of the Serbian economy further confirms and comparative analysis of its position with neighboring countries. According to the GCI and sustainability-adjusted GCI, the Republic of Serbia is only better ranking in regard with Albania (97th position on the scale of global competitiveness, with a 3.84 value of GCI and 3.59 of sustainability-adjusted GCI). Other neighboring countries, such as Croatian (77th position on the scale of global competitiveness, with a 4.13 value of GCI and 4.14 of the sustainability-adjusted GCI), Montenegro (67th position on the scale of global competitiveness with the 4.23 value of GCI and 4.23 of the sustainability-adjusted GCI), Macedonia (63th position of the scale of the global competitiveness of the 4.26 value of GCI, and 3.9 of the sustainability-adjusted GCI), Romania (59th position on the scale of global competitiveness with the 4.3 value of GCI and 4.17 of the sustainability-adjusted GCI), Bulgaria (54th position on the scale of global competitiveness, with the 4.37 value of GCI and 4.4 of the sustainability-adjusted GCI) recorded a better competitive performance according to GCI, and to the sustainability adjusted GCI than the Republic of Serbia.

## **6. Conclusion**

The dynamics of competitiveness is a complex concept that is necessary to be clarified, seeing individual measures of competitiveness do not include all the elements of the concept. Competitive advantage is retained through the Integrated Framework that constitutes the source of advantage, positional advantage and performance outcomes.

“Europe 2020”, as a continuation of the Lisbon Strategy, highlights three mutually reinforcing priorities: knowledge (development of an economy based on knowledge and innovation), sustainability (promoting more efficient resources, greener and more competitive economy) and inclusive growth (development of high employment with social and territorial cohesion). Environment that supports a high level of welfare is becoming an important driver of countries competitiveness and attracting world-class companies. The relationship between competitiveness and well-being is becoming stronger with their mutual support. Overall, globalization, economic dynamism and social progress, sustainability and competitiveness are phenomena that occur simultaneously.

In the past period there were developed a large body of the literature that deal with sustainable development, and consequently methodologies for its measuring. On the other hand World Economic Forum provides a brief inside into the nation competitiveness and



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ordinarily, at the annual level publishes the results of the competitiveness analysis. Recently, the efforts of World Economic Forum was directed towards linking sustainable development and competitiveness, and made a significant progress in surpassing the literature gap by integrating the concept of sustainability more fully and more explicitly into its competitiveness work.

In the latest Global Competitiveness Report, World Economic Forum by the application of new methodologies assessed the sustainable competitiveness in 113 economies, in order to contribute to understanding of conceptual links between productivity on the one hand and social and environmental sustainability on the other. The results of the data analysis clearly show that between national competitiveness and sustainable development, there is no a trade off, but that between them form a relationship strong complementarities and interconnectedness.

The position of the Serbian economy on the scale of the global competitiveness is unfavorable, which confirms the performed analysis in this paper. Serbian economy is now facing serious challenges of transition that is already two decades slowing down its development. Slight competitive advantage and very strong competitive disadvantages in all components of the GCI refer to the conclusion that the policy makers must revolve new activities which realization could have positive results in regard with national competitiveness. Besides, relatively low ranking of the Serbian economy according to the sustainability-adjusted GCI corresponds to the weak competitiveness position of the Republic of Serbia and additionally call for urgent activities at the both fields sustainable development and national competitiveness, as well.

The low rate of economic growth, heightened social problems, such as high rates of unemployment, poverty and social exclusion, political instability, problems with corruption, rule of law and unfinished reforms in key areas, unresolved and increasing environmental problems, as well unsatisfactory level of national competitiveness clearly indicate that it is necessary to take urgent action towards implementing sustainable solutions that will enable the stable development of Serbian economy and society.

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## **ANALIZA ODNOSA IZMEĐU ODRŽIVOG RAZVOJA I NACIONALNE KONKURENTNOSTI: PRIMER REPUBLIKE SRBIJE**

**Rezime:** Unapređenje konkurentnosti srpske privrede i ostvarivanje održivog razvoja predstavlja aktuelnu temu iz najmanje dva razloga. Prvo, Republika Srbija je jasno potvrdila svoje strateško opredeljenje za uključivanje u evropske integracione procese, te je usled toga podizanje ukupne konkurentne sposobnosti srpske privrede neophodan preduslov za suočavanje sa pritiskom konkurencije unutar EU. Drugo, Republika Srbija se opredelila da svoj razvoj gradi na principima održivog razvoja, što u kontekstu tranzicionih procesa podrazumeva strateško upravljanje ekonomskim reformama radi stvaranja uslova za afirmaciju modela razvoja koji će doprineti kvalitetnijem podmirivanju društveno-ekonomskih potreba ljudi, uz istovremeno eliminisanje ili minimiziranje negativnih uticaja na životnu sredinu i prirodne resurse. Imajući u vidu sve napred navedeno, ovaj rad primarno ima za cilj da doprinese jasnijem razumevanju međusobne povezanosti i uzajamne zavisnosti između održivog razvoja i nacionalne konkurentnosti. U radu će biti izvršena analiza konkurentne pozicije Republike Srbije na skali globalne konkurentnosti, prema podacima iz Globalnog izveštaja o konkurentnosti Svetskog ekonomskog foruma, kako bi se utvrdilo postojanje veze između ciljeva održivog razvoja i stubova na kojima se zasniva GCI i kako bi se dobio jasniji uvid u međuzavisnost ova dva fenomena.

**Keywords:** održivi razvoj, nacionalna konkurentnost, Republika Srbija.