

## SECURITY, SUSTAINABILITY AND COMPETITIVENESS: BENCHMARKING ATTEMPTS

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**Abstract.** The article highlights the importance of the development of the society, as well as the measurement of this development, in the context of security, sustainability and competitiveness and goes much further by guiding to further research focus on the introduced new conception of “Secure and sustainable competitiveness” in the context of globalisation. The definition of “Sustainable competitiveness” was broadened by including new aspect of security. The development of the society was introduced as common output of the globalization which goes hand-in-hand with competitiveness, sustainability and security. The interrelation of certain facets between security, competitiveness and sustainability lead to the proposal to create the new index of “Secure and sustainable competitiveness” with possibility to evaluate the progress by looking back and provide prospects by looking forward. The research findings are in line with policy context and the development of the new index of “Secure and sustainable competitiveness” could be an important research contribution to the European Union Strategy Europe 2020 for smart, sustainable and inclusive growth (2010).

**Keywords:** sustainable development, competitiveness, sustainable competitiveness, security, globalization, development of society.

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### 1. Introduction

The article introduces a new conception of “Secure and sustainable competitiveness” and highlights the importance of the development of the society, as well as the measurement of this development, in the context of security, sustainability and competitiveness.

The basis and inspiration for the research and introduction of this innovative approach concerning the development of the society in the context of glo-

balization is the result of recent policy development at the European Union (EU) and global levels and identified lack of research and the creation of indexes, especially on the measurement of future long-term progress (DG for R&I, EC *et al.* 2010).

The EU Strategy Europe 2020 for smart, sustainable and inclusive growth (2010) is a framework for all further research development.

By the time being, there is no common index for benchmarking competitiveness, sustainability and security (Tvaronavičienė 2012, Lankauskienė, Tvaronavičienė 2012) together with strong focus

\* The Article doesn't represent the opinion of the European Commission and has no link with A. Balkytė's current work at the European Commission.

on the sustainable development of the society. Furthermore, Eurostat doesn't provide one single index of competitiveness, as well as one single index of sustainable development or security.

The aim of the research is to identify the key aspects of sustainable development of the society in the context of globalization.

First of all, the article raises the main challenges of globalization, namely, sustainability, competitiveness and security.

Secondly, the development of the state and society is introduced in the context of the areas mentioned above. The research focuses on the correlation between security, competitiveness and sustainability as drivers of the common output and impact for the development of the society.

Finally, the perceptions on further research needs concerning the sustainable development of the society in the context of security, sustainability and competitiveness, including the need for an appropriate common index of "Secure and sustainable competitiveness", are highlighted in the conclusions as guidance for further research.

## **2. Globalization challenges: society in the triangle of sustainability, competitiveness and security**

The EU Sustainable development strategy, launched by the European Council in Gothenburg in 2001 and renewed in June 2006, aims for the continuous improvement of quality of life for current and future generations, by linking economic development, protection of the environment and social justice (Eurostat 2011).

Concerning the competitiveness, there is an increasing acknowledgement of the researchers (Balkytė, Peleckis 2010; Balkytė, Tvaronavičienė 2010a; etc.) that the relationships between competitiveness and sustainable development are becoming deeper. The key challenges of the new European Union strategy Europe 2020 (2010) for jobs and smart, sustainable and inclusive growth create a need of a new concept of competitiveness and sustainable development theory. On the one hand, the intention to continually improve the quality of life and wellbeing on Earth for present and future generations leads to the growing role of sustainable development. On the other hand,

competitiveness race in the global economy tests the economies and calls for the mapping of the new competitiveness resources (Balkytė, Tvaronavičienė 2010b).

World Economic Forum (Schwab 2010) defines competitiveness as the set of institutions, policies, and factors that determine the level of productivity of a country. The level of productivity, in turn, sets the sustainable level of prosperity that can be earned by an economy.

According to Balkytė and Peleckis (2010), globalization challenges increase the need to evaluate the basic factors, such as land, capital and labour, with a new approach. The future research should include the sustainable development dimension into the competitiveness theory. Climate change and sustainable development dimensions call for the acknowledgment of the role of natural resources for long-term competitiveness.

This approach strengthens the importance of the research on the sustainable development of the society (including fact that human capital is the main source for labour force) in the context of competitiveness.

Lankauskienė and Tvaronavičienė (2012) has introduced the research focus on security and sustainability.

Security and sustainability are multifaceted notions (Białoskórski 2012; Lankauskienė, Tvaronavičienė 2012), hence context, in which those concepts are being elaborated each time has to be taken into account.

According to Lankauskienė and Tvaronavičienė (2012), security has a wider range of dimensions than sustainability. Security includes the social, economic, financial, environmental, and other dimensions. The dimensions covered by sustainability are following: economic, social, environmental. Each of dimensions even acting alone can have a significant weight for security phenomenon depending on the context of an issue (e.g. national security, governmental security). Conversely, sustainability dimensions have a significant weight only functioning all together (they cannot reach such significance activating alone as security dimension), and the power of sustainability conception emerges only talking about "sustainable development".

For example, the security of energy supply will increasingly be called into question in Europe. In 2030, the EU will be more dependent on external sources

than now (if policy does not change). In 2030, the EU will import almost 70% of its energy needs (The World in 2025).

The correlation between security, competitiveness and sustainability drive the common output and impact for the development of the society. As the various policy initiatives finally impacts the development of the society, the development of the society should be the highest target in all policies.

There are different programmes and strategies concerning the competitiveness, sustainable development and security among the countries or at the EU level. They should be developed in line with recent policy development and include strong focus on the development of the society as the primary goal.

According to Makštutis (2006, 2008, 2010), (Makštutis *et al.* 2006), another research focus could be on the impact of the integrated policy for organizations and state institutions in the context of globalisation.

### 3. The benchmarking of competitiveness, sustainability and security

By the time being, there isn't common index for benchmarking competitiveness, sustainability and security together with strong focus on the sustainable development of the society. The majority of the existing research models and combined indexes (or sets of indicators) are created explicitly only for one area (i.e. competitiveness, sustainability or security) or only part of one area. This leads to the confirmation of the existing lack of the research on multi-varied approach to the development of the society, competitiveness, sustainability and security (Garelli 2009; Stańczyk 2011).

Balkytė and Tvaronavičienė (2010a) published a research overview concerning the different competitiveness models (Porter's Diamond model, the Double-Diamond model, the Generalized Double-Diamond (GDD) model, the Nine-Factor model, TOWS Matrix, Competitiveness Pyramid, etc.) and the international competitiveness indexes (provided by World Economic Forum, IMD World Competitiveness Centre, Robert Huggins Associates, etc.).

Despite the high number of the research in the area of competitiveness, the general public agreement on one competitiveness indicator or index is still not reached.

Researchers, examining the problems of competitiveness, differently approach the concept of competitive-

ness, suggesting different definitions, classification, factors, models of competitiveness, and evaluation criteria. New challenges, coming from the political decisions, call for the creation the new competitiveness models (Balkytė, Tvaronavičienė 2010a).

The most cited competitiveness index is the Global Competitiveness Index provided by World Economic Forum (Schwab 2010). The 2010 Survey of the World Economic Forum (Schwab 2010) captures the perceptions from the featured 139 economies. The Global Competitiveness Index provides a weighted average of many different components, each of which reflects one aspect of the complex concept that is called competitiveness. All these components are grouped into 12 pillars of competitiveness: 1) Institutions; 2) Infrastructure; 3) Macroeconomic environment; 4) Health and primary education; 5) Higher education and training; 6) Goods market efficiency; 7) Labor market efficiency; 8) Financial market development; 9) Technological readiness; 10) Market size; 11) Business sophistication; 12) Innovation.

Although the 12 pillars of competitiveness are described separately (such an analysis gets closer to the actual areas in which a particular country needs to improve), this should not obscure the fact that they are not independent: not only they are related to each other, but they tend to reinforce each other. The pillars are organized into three sub-indexes, each critical to a particular stage of development: the basic requirements sub-index groups are those pillars most critical for countries in the factor-driven stage, the efficiency enhancers sub-index includes those pillars critical for counties in the efficiency-driven stage, and the innovation and sophistication factors sub-index includes the pillars critical to countries in the innovation-driven stage. The actual construction of the Index involves the aggregation of the 12 pillars into a single index (Schwab 2010).

It should be pointed out that there is a research gap in the competitiveness theory in the context of current policy development at the European and global levels. The researchers did not provide new competitiveness indexes and limited number of theoretical proposals on new measurement of competitiveness was published after the introduction of the new Europe 2020 strategy for smart, sustainable and inclusive growth in 2010. According to Balkytė and Tvaronavičienė (2010a), there is a need for research initiatives to develop the new concept of "Sustainable competitive-

ness” in the context of globalization with focus on the interaction between sustainable development and competitiveness.

Europe 2020, a strategy for jobs and smart, sustainable and inclusive growth, is based on five EU headline targets which are currently measured by eight headline indicators and the EU and national targets are available in the Eurostat (2011). The five EU headline targets fall under the following policy areas: 1) Employment; 2) Research and development; 3) Climate change/energy; 4) Education; 5) Poverty/social exclusion. The engines to boost growth and jobs are addressed by 7 flagship initiatives: 1) Digital agenda for Europe; 2) Innovation Union; 3) Youth on the move; 4) Resource efficient Europe; 5) An industrial policy for the globalisation era; 6) An agenda for new skills and jobs; 7) European platform against poverty.

Eurostat doesn't provide one single index of competitiveness, as well as no one single index of sustainable development or security.

The Sustainable Development Indicators are used to monitor the EU Sustainable Development Strategy in a report published by Eurostat (2011) every two years. They are presented in ten themes: 1) Socio-economic development; 2) Sustainable consumption and production; 3) Social inclusion; 4) Demographic changes; 5) Public health; 6) Climate change and energy; 7) Sustainable transport; 8) Natural resources; 9) Global partnership; 10) Good governance.

Of more than 100 indicators, eleven have been identified as headline indicators. They are intended to give an overall picture of whether the European Union has achieved progress towards sustainable development in terms of the objectives and targets defined in the strategy. Quantitative rules applied consistently across indicators, and visualised through weather symbols, provide a relative assessment of whether Europe is moving in the right direction, and with sufficient haste, given the objectives and targets defined in the strategy (Eurostat 2011).

Security aspects are covered in the set of the Sustainable Development Indicators available from Eurostat (2011) and a limited number of aspects on security are included in the sub-index of the Global Competitiveness Index provided by the World Economic Forum (Schwab 2010).

This analysis of existing benchmarking of competitiveness, sustainability and security, while static and

partial, highlights the lack of the measurement progress and research of each of areas listed above, including strong focus on sustainable development of the society.

In general, the benchmarking and the comparison among the countries show the remaining potential for further development and helps to identify the areas that are lagging behind.

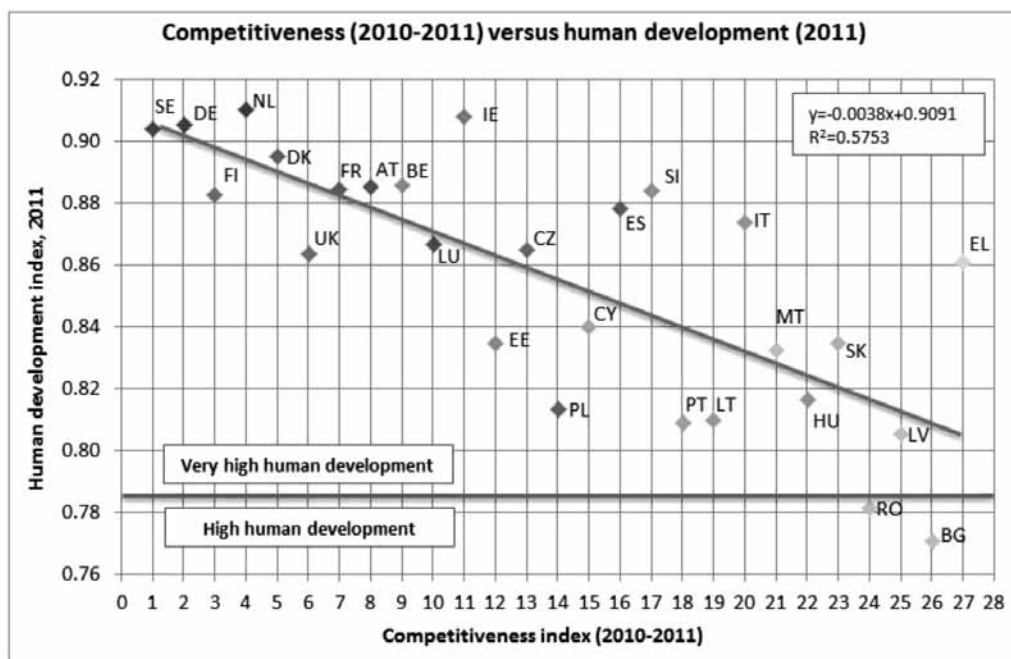
The integrated approach to the development of the society as the result of secure and sustainable competitiveness would help to compare the temporary achievements versus long-term development. As the existing methods provide the methodology for the evaluation of results achieved in the previous years, there is a need for new models for the evaluation of impact for the future outcomes.

#### **4. Sustainable development of the society**

The researchers provide segmented analyses which confirm strong correlations between different sets of indicators in the context of the development of the society, competitiveness or sustainable development.

For example, countries which are highly ranked regarding competitiveness are even highly ranked regarding living standards (Schuller, Lidbom 2009).

Figure 1 confirms that there is a strong correlation between competitiveness and the human development. The analysis of available indexes show that the most competitive Member States of the EU-27 provide the best results in human development (Sweden, Germany). There are still countries with similar rank of competitiveness which provide different results of human development. The existing differences among the Member States show unused potential for the increasing of competitiveness or better human development.



**Fig. 1.** Competitiveness index (2010-2011) versus Human development index (HDI) (2011)

Source: authors; Data Sources: World Economic Forum (2010); Human Development Report (2011).

Note: SE – Sweden, DE – Germany, FI – Finland, NL – the Netherlands, DK – Denmark, UK – the United Kingdom, FR – France, AT – Austria, BE – Belgium, LU – Luxembourg, IE – Ireland, EE – Estonia, CZ – Check Republic, PL – Poland, CY – Cyprus, ES – Spain, SI – Slovenia, PT – Portugal, LT – Lithuania, IT – Italy, MT – Malta, HU – Hungary, SK – Slovakia, RO – Romania, LV – Latvia, BG – Bulgaria, EL – Greece

The Human Development Index (HDI) is a summary measure of human development. The origins of the Human Development Index are found in the annual Human Development Reports of the United Nations Development Programme. It measures the average achievements in a country in three basic dimensions of human development: a long and healthy life, access to knowledge and a decent standard of living. It is also used to distinguish whether the country is a developed, a developing or an underdeveloped country, and also to measure the impact of economic policies on quality of life (Human Development Report 2011).

Sustainable economic growth is impossible without sustainable development of human capital. The inclusion of every person in the economy is particularly crucial in the context of globalization, knowledge based economy and demographical changes (Balkytė, Tvaronavičienė 2011b).

Sustainable human development is the expansion of the substantive freedoms of people today while making reasonable efforts to avoid seriously compromising those of future generations. Promoting human development entails addressing local, national and global sustainability; this can – and should – be equi-

table and empowering (Human Development Report 2011).

Generally, there should be strong correlation between high achievements in competitiveness and development of the society in the long-term, as it is highlighted in Figure 1. But the links between security and sustainability and development of the society need to be checked, especially for the long-term prospective. There is no simple way to describe the correlation between competitiveness and sustainable development or security because the single indexes of sustainable development or security are not developed. Very limited research cover the correlation between the development of the society and security or sustainable development.

In principle, there can not be separate policies concerning the competitiveness, sustainable development, security or development of society. The development of the society is the highest target and achievement of all policies. The development of the society should be viewed as common output of the globalization which goes hand-in-hand with competitiveness, sustainability and security.

## 5. The perceptions of benchmarking the development of society in the context of “Secure and sustainable competitiveness”

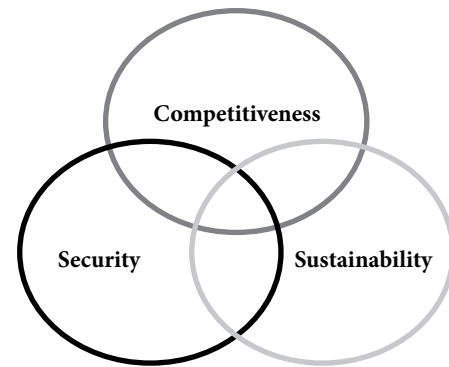
The definition of “Sustainable competitiveness” was proposed by Balkytė and Tvaronavičienė (2010a) in the article on “Perceptions of competitiveness in the context of sustainable development: facets of “Sustainable competitiveness”. The need for new models of competitiveness was identified by Balkytė and Tvaronavičienė (2010b) and strengthened by arguing that the inclusion of the sustainable development dimension into the competitiveness theory is crucial in order to reach the targets of the strategy Europe 2020 (2010) for smart, sustainable and inclusive growth.

According to Balkytė and Tvaronavičienė (2010a), there is a need for research initiatives to develop the new concept of “Sustainable competitiveness” in the context of globalization with focus on the interaction between sustainable development and competitiveness. Such research will lead to the new theoretical models describing the relationships between international globalization, economic growth, sustainable development, wellbeing and competitiveness.

The importance to control the balance between economic development, social development, and environmental development was also highlighted by (Lapinskienė, Tvaronavičienė 2009). Lapinskienė and Peleckis (2009) have initiated to establish the relationship between the sustainable development and the economic growth.

Various aspects can be covered by definition “Sustainable competitiveness”, which should go hand-in-hand with policy initiatives at the European Union and global levels, for example, “sustainable migration” (proposed by Balkytė and Tvaronavičienė (2011a)), “active ageing”, etc.

Furthermore, the preliminary research findings, the outcomes of globalization and political context lead to the conclusion that the proposed definition of “Sustainable competitiveness” should be broadened by incorporating rethought set metrics of security, innovations and entrepreneurship (Mitra 2011) and indicators of economic growth, conditioned by level of inovativeness and fixed investments in various the EU countries (Tvaronavičius, Tvaronavičienė 2012) (Figure 2).



**Fig. 2.** The principle scheme of “Secure and sustainable competitiveness”

*Source:* authors.

Additionally, the need to measure the progress (looking back) and evaluate the long-term prospects (looking forward) of the society development in the context of security, sustainability and competitiveness leads to the further research initiatives and creation of new index of “Secure and sustainable competitiveness”.

## 6. Conclusions

The definition of “Sustainable competitiveness” was proposed by Balkytė and Tvaronavičienė (2010a). The recent research findings and political context lead to the conclusion that the proposed definition of “Sustainable competitiveness” should be broadened by including another new aspect – security.

The new conception of “Secure and sustainable competitiveness” includes the view on the development of the society as common output of the globalization which goes hand-in-hand with competitiveness, sustainability and security.

Very limited research cover the correlation between the development of the society, competitiveness, security or sustainable development.

There is no simple way to describe the correlation between competitiveness and sustainable development or security because the single indexes of sustainable development or security are not developed.

The analysis of available indexes confirm that there is a strong correlation between competitiveness and the human development. But the links between security, sustainability and development of the society need to be checked, especially for the long-term prospective.

Furtermore, by the time being, there is no common unanimously accepted index for benchmarking com-

petitiveness, sustainability and security together with strong focus on the sustainable development of the society. The majority of the existing research models and combined indexes (or sets of indicators) are created explicitly only for one area (i.e. competitiveness, sustainability or security).

This leads to the confirmation of the existing lack of the research and multi-varied approach to the development of the society, competitiveness, sustainability and security.

Finally, the need to measure the progress (looking back) and evaluate the long-term prospects (looking forward) of the society development in the context of security, sustainability and competitiveness leads to the further research initiatives and creation of the new index of “Secure and sustainable competitiveness”.

The certain dimensions (for example, “sustainable migration” or “active ageing”) were indicated by authors as preliminary inspirations for the structure of new index of “Secure and sustainable competitiveness”.

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