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Alternative approaches for assessing the European countries economic and social results

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Abstract

The European Union has been passing a complicated period over the last years. The EU economy lags behind its own development goals as well as, behind the results achieved by its economic partners and competitors – USA and Japan. Due to lower competitiveness in the international market environment, the persisting or even expanding problems on the domestic labor markets are evident. Many EU countries demonstrate relatively high unemployment which leads to weakening the income situation of households and strengthening the social tension in society. Particularly worrying is situation of young graduates and also people approaching retirement age and seniors. In context of such arguments, the strategy for perspective development of the EU – the strategic document Europe2020 – has been proposed. Its key objective is to strengthen the economic competitiveness of the European Union, its member countries and particularly the competitiveness of its firms. It is expected that the Europe 2020 objectives will create favorable environment for reducing the social tension across the EU countries and finally lead to the better life of majority of its citizens. All the EU2020 goals are difficult. To achieve them it is necessary to identify precisely the current positions of individual countries and their distances from these ambitious goals in order to select the optimal strategies to their fulfillment. Our paper aims to contribute to identification of the current competitiveness position of the EU and its member states in international market environment and to estimate the chances for achieving the EUROPE 2020 strategic goals.

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1. Introduction

Economic growth in most countries of the European Union has returned after the economic crisis to its original level. This return, however, does not solve all economic and social problems of these countries. Worrying situation on the labor markets of some EU member countries is under attention of the EU central bodies, as well as the national governments, regional authorities. It is also carefully studied by research institutions. In December 2013, the number of unemployed in the EU overstepped 26 million while 19 million of them generated the labor market in the euro area. The situation has changed over the last year – the number of unemployed in the EU fell by 162,000, but the number of unemployed in the euro area has even increased by 132,000. Direct consequence of unemployment is a high proportion of population at-risk-of-income poverty. Currently there are some 125 million people jeopardized by poverty and social exclusion.

Extraordinary acute problem of unemployment and poverty incidence is linked with the young people under the age of 25 years. In some EU countries (Spain, Greece) it affects more than 50 % of population in this age group. There is no doubt, that unemployment represents currently the major social problem of the European Union. Its consequences are, however, evident in long lasting growth of social tension over various social groups and the entire society. Also the ethnic tensions, as well as the anti-immigration positions and protests are frequently reported.

Having in mind this, the economic and social situations across the Union are systematically monitored and the relevant institutions are looking for effective solutions. The results achieved in economic growth and revival of the labor market by the largest trading partners and competitors of the European Union – the U.S. and Japan are carefully studied.

Our paper aims to identify the relations between the key economic indicators, competitiveness and levels of unemployment in individual EU countries. The second objective is oriented on analysis and evaluation the newly developed measures of economic competitiveness and their relations to the economic growth indicators.

2. EU member countries labor market – social impacts of unemployment

The European Union as well as the euro area has reached in the last decade, with exception of the 2009 year, moderate economic growth. It is useful to compare this result with those achieved by the U.S. and Japan economies (Cooper, 2013).
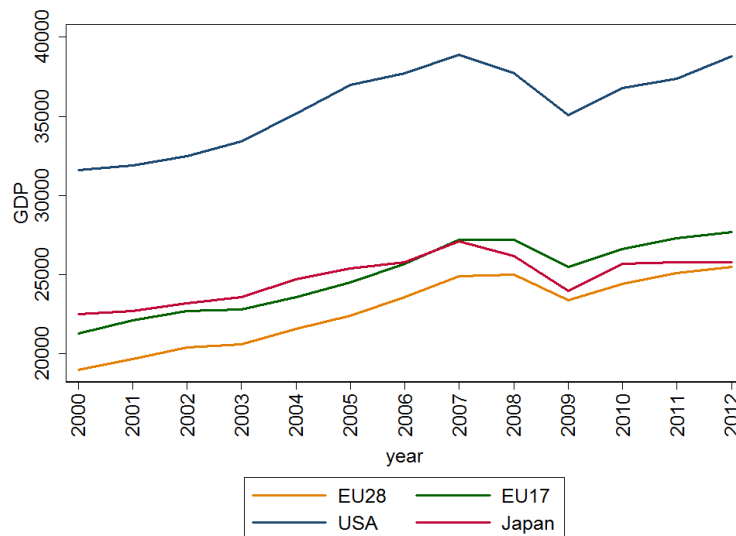

Fig. 1. GDP in EU28, EU17, USA and Japan.

At about the same dynamics in gross domestic product, the development of the labor market in these countries and regions, however, differed significantly. While economic growth in the USA and Japan has significantly positive impact on local labor market – even in long run, situation within EU has evolved differently.
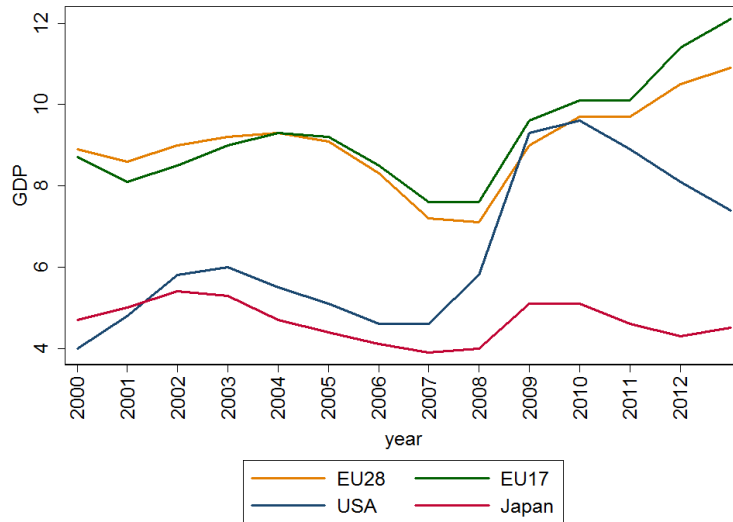

Fig. 2. Dynamics of unemployment in EU28, EU17, USA and Japan – % of total labor force.

Social situation of young people, mostly graduates, as well as situation of young families according the last statistics (EU SILC, 2013) is alarming. The poor income situation pulls these groupings of households below poverty line[1] in their respective countries.

In this context, the timely questions are – what is the impact of GDP to labor market situation, what is the impact of GDP on creating new working positions, what is the impact of GDP on reducing unemployment and finally what is the impact of growing GDP on the income situation of the population? Also questions how GDP affects the success of social development in society and how its growth contributes to the higher quality of life of citizens of respective country are under analysis.

The last Employment and Social Developments Report (2014) offers "…an in-depth and wide-ranging review of key labor market and social challenges facing the EU …". The core questions raised in this document are searching for solution "…where will Europe's new jobs come from in an increasingly competitive global economy and will active inclusion policies support help to address rising levels of poverty among those of working age?…".

The Labor Market Development in Europe (2013) underlines the findings on levels of unemployment, which "…has reached worrying levels especially for youth in a number of countries…" and "…is at the root of growing poverty…". The countries with high levels of material deprivation and at-risk-of-poverty rates are Bulgaria, Romania, Greece and Spain where also unemployment ratios are extremely high. The ultimate task in line with fighting poverty is fight for elimination of unemployment.

Special study on the core determinants of unemployment across the OECD countries has been done by Bassanini and Duval (2008). They incorporated into the model explaining level of unemployment by several institutional arrangements as well as some country's policies as – minimum wage policy, active labor market policies, employment benefits, employment protection legislation and some others.

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[1] The poverty line, by EU SILC, is defined by 60 % of the median valued of the income of all surveyed households.

Key determinants causing the unemployment on country level has been studied by Golias (2008). According his findings the key to fighting high unemployment should be searched among the following factors – High structural unemployment, inactivity trap, "high payroll taxes" by employers, Worsening business environment, decreased flexibility in labor market relations, weak motivation of schools to prepare students for successful entering the labor market, insufficient and inefficient active labor market policies, low flexibility of the labor legislation and too high set minimum wage in some regions". These factors could be identified in majority of the Central European countries (historically) binds to strong governmental interference with the social policies (Jagodzinski, 2006).

Statistical data shows high variability not only in current levels of unemployment among the new and old EU member countries, but also in different changes in these levels l as inside of these groupings. The extreme increase in unemployment reported Spain and Greece (over 200 %). Among the new member stats the largest increase in unemployment was reported by Cyprus (over 380 %). The long lasting devastating situation on local labor markets mobilized intensive economic migration, under which large groups of young a professionally well trained people left their countries and left for looking the better position in countries with better functioning labor market.
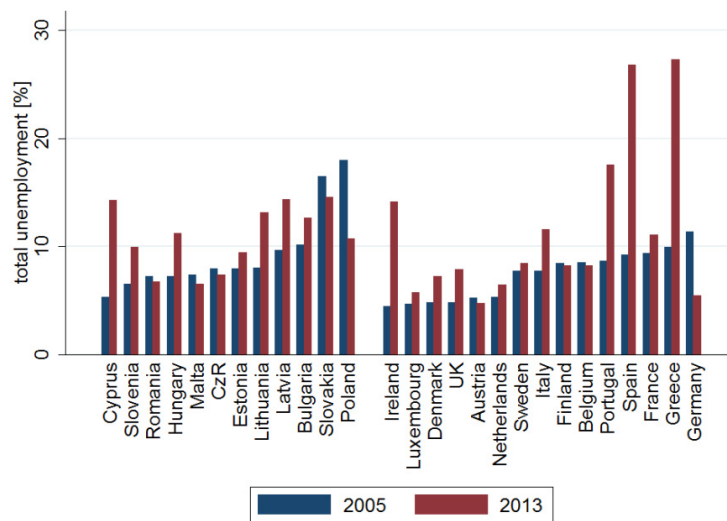

Fig. 3. Unemployment in EU member countries in 2005 and 2013 – % of total.

The recorded unemployment has enormous negative economic consequences on respective countries (Caminada, 2010).

Alarming level of unemployment in the same category reached also Spain and Greece, both about 50 % of the population in this age group. Actually all new member countries, except for Czech Republic, face a significant increase of unemployment of their young people. This situation has negative impact on economy and also on relatively weak social system of these countries.
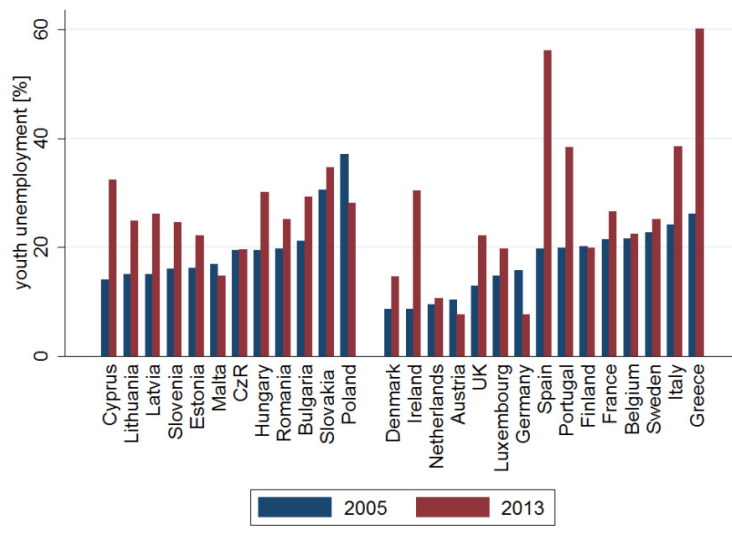
Fig. 4. Unemployment of young people below 25 years in 2005 and 2013 – % of this age group.

However, even more damaging could be the long lasting impact of the current reactions of these young, obviously well-educated or professionally trained unemployed people. Their opting for economic migration (Bartram, 2011) and entering the labor markets in foreign countries with perspectives of permanent settlement there could result in permanent leave of their mother countries.

The above presented statistics on unemployment should be underlined and analyzed in frame of relatively satisfactory economic growth and growth of national GDP. This give direct impetus to our effort to clarify, which factors are causing the rigidity of labor market comparing with dynamics of economic growth in respective countries. The extended literature sources are frequently pointing competitiveness of national economies and competitiveness of individual entrepreneurial entities, firms. In line with the strategy Europe 2020 the role of industrial sector is presented as a key to reinforcing the competitiveness of the European economy and its labor market as well (O'Mahony, 2003; Demilly, 2008).

3. Economic and social performance of countries and regions

The key indicator for measuring the economic growth is gross domestic product. This indicator has been implemented in economic practice by early thirstiest by S. Kuznets[†] on direct request of American government. It main purpose was to measure the gross output of an American economy, particularly its production capacities in strategic industries. Later this indicator and particularly its derived version – GDP per capita became popular in interpreting the successes of economic growth. This indicator has been frequently interpreted as a measure of the society´s well-being and society´s social progress measure. All this has continued despite the warning from the author of GDP on its unsuitability (Kuznets, 1964) for such applications. Equal position was presented also by many economists.

It turns out that the unsatisfactory situation on the labor market and its solution requires a wide range of institutional and legislative measures in favor of activating labor market in the EU and individual countries. For example, Momaya (2008) stated that "ability to create new jobs in a highly competitive environment, production and sales must play a key role in business environment". Creation of new jobs could be accepted as the solution only if

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[†] Simon Kuznets, 1901–1985, Nobel Prize awarded in 1971.

real market space for placing the new products and services exists. This objective implicitly assumes that (Bhattacharya, 2013) the local businesses are able to successfully cope with the requirements in:

- Reducing production costs through rationalization of consumption of primary production sources.
- Increasing labor productivity by introducing innovative technological processes.
- Respecting and adopting the new regulatory measures in the field of environmental protection.
- Strengthening the own production and business competitiveness in frame of the local and international markets.
  It is believed that the active component of these processes that should be:
- the highly qualified workforce corresponding with the requirements of the labor market,
- new technological processes built on the broad applications of information and communication technologies,
- high quality of corporate management.

The active support in strengthening the competitiveness of enterprises is also expected from the perspective of the EU and individual countries institutions. More specifically, these tasks are formulated in strategic document Europe 2020 (2012). They are expected to create a favorable legislative environment for business, for rationalization and simplification of fiscal instruments, for facilitating communication between businesses and public administration, for creating the transparent and competitive market environment for all participating actors. These tasks are highlighted also in other documents on competitiveness European enterprises.

The important role should play the national governing institutions in construction of transport infrastructures and ensuring smooth funding of science, research and education at all levels. Fulfilment of these tasks, however, by many EU Member States lags far behind the agreed and officially accepted commitments. The Lisbon strategy supposed each member country to allocate toward R&D totally 3 % of its GDP.

Generating financial sources for research and development activities supposes an active role of private sectors. Figure below presents situation in total funding of R&D and funding from business sector, both expressed as % of GDP.
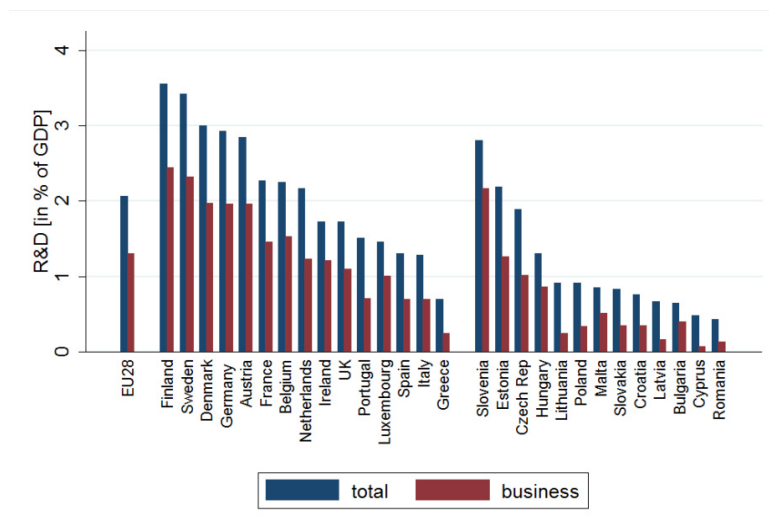

Fig. 5. Funding of research and development in % of GDP – Total and Business, 2012.

According the above Fig. 5, only Finland, Sweden, Denmark, Germany and Slovenia are copying successfully with this objective. The new member countries, except Slovenia, Estonia and Czech Republic are significantly lagging behind these ambitious goals. Substantial difference is observed in share of the private sources in funding research and development activities. While in Finland, Sweden, Denmark, Germany and Austria their proportion represents 60–70 % of total funding, in majority of new member countries it represents around 20 %.

To support the competitiveness of EU industries with the aim to strengthen the labor market and its ability to generate the new jobs, it is expected that national authorities will adopt the measures for harmonizing the school educational programs with qualification requirements of the labor market. This expectation concerns with school of

all grades, including universities. The purpose of such updating is to minimize the scope of the structural unemployment (Garcia, 2008). Special attention requires strengthening and improving education in technical disciplines whose graduates are on the current job market under- represented.

To strengthen the transparency of business environment, the state authorities are expected to take active measures in reduction of legislative and administrative burden and bureaucracy toward the entrepreneurial entities. Also the corruption schemes (Vachudova, 2008) linked to the state should be fundamentally dealt with. Of these factors and their need urgent solutions also highlights the Commission's latest report (Report, 2014). Transparency of the business environment also creates a suitable platform for attracting foreign investors and the subsequent creation of new jobs.

4. Competitiveness of countries, regions and companies

Different economic potential and its impact on social situation and quality of life in concrete countries, raises questions regarding the identification and measurement of resources and factors generating these differences. The aim is to analyze them and, if possible, to implement them into an economic and social environment of the less developed countries and regions.

The economic growth measured by GDP per capita is analyzed against several criteria representing the socially expected and economically competitive outcomes of economic growth. Particular attention is given to alternative indicators which reflect the country´s competitiveness and potential to solve the urgent problems of local labor markets by generating the new jobs, and respecting the environmental protection requirements. Literature offers are many products which could be applied to tackle this problem. This paper presents selected alternative indicators which measure the economic competitiveness of countries in broad sense, including their innovation potential. This group of indicators includes the following indices: Global Competitiveness Index (GCI), World Competitiveness Index (WCI), Global Innovation Index (GII), European Innovation Index (EU II) and Labor Productivity Index (LPI).

Table 1 presents the Spearman correlation coefficients of the mentioned indices. We can see the strong relationship between analyzed indices and GDP per capita.

Table 1. Spearman correlation (* $p<0.10$).

	GCI	WCI	GII	EU II	LP	GDP pc
GCI	1					
WCI	0.9192*	1				
GII	0.8706*	0.8308*	1			
EU II	0.7772*	0.8100*	0.8736*	1		
LP	0.7142*	0.7443*	0.7812*	0.8379*	1	
GDP pc	0.7794*	0.8194*	0.8551*	0.8970*	0.9167*	1

The coefficients of Spearman correlation are statistically significant and their relatively high values confirm the homogeneity of the entire set of selected alternative indicators. The highest value of the partial correlation coefficient between GDP and LPI supports also the theoretically formulated expectation.

5. Why the new alternative measures are needed – what information they bring?

As presented at the introductory part of the paper, for a long time the GDP and GDP per capita have been accepted as crucial and almost satisfactory measure for evaluation successes and failings of economic systems. With immense growth of economies and multidimensional character of their technological inputs and outputs it became clear that the only measure, particularly the originally introduced GDP, cannot evaluate the economic growth in all its complexity, namely its impact on social development and quality of life of people in individual countries and regions. There are new agents and clients, representatives of civic society interested in results of economic growth,

which is understood only as a mean for social development. These groups of civic society, however, also professionals and scientific community is looking for various aspects of production and business processes and their impacts on social development. Frequently raised questions in this context are – ability of national economies to generate the new working jobs and to improve their labor market situation.

An important role in answering the above formulated questions play the new measurement tools, considering not only economic growth but also the various limits and barriers protecting the environment and guaranteeing the sustainable economic and social development.

Indexes, or indicators, are used by people on a day-to-day basis for making decisions. Currently there is a huge demand for new indicators, which should be "better" than existing ones. Indicators cover many areas, for example economic, environmental, social and institutional; moreover, there are attempts to carry more complicated areas as sustainability or well-being. From the technical focus, creation of such indicators is on a good level. There are sets of rules, which should ensure high usability of particular indicators; indicators should be for example specific, measurable, usable in practice, sensitive, available and cost-effective (see Bell, 2003).

It is possible to believe that indicators are constructed with technical excellence. Nevertheless, practical usability is questionable. The situation can be described by the following manner: indicators inform about "what people would like to know", but not about "what people need to know" (Rigby, 2000). This fact, among other reasons, points to the need of verification of indicators usability, real content and meaningfulness.

For our topic, it is important to make sure that the above presented alternative measures of economic performance gives reliable information which could be effectively utilized in managing economic systems on both, macro and micro levels.

Fig. 6 presents dendrogram which is based on competitiveness indices mentioned above. For this case the dissimilarity of the EU members in competitiveness is presented. From this figure it is evident segmentation of the EU members into two main clusters, which was previously expected. The first cluster consists of the states of western and northern Europe, while the second cluster consists of CEEC and southern states. Special attention in comparative analysis of the alternative indicators is given to their ability to classify the individual countries/economies into generally accepted homogenous groupings.
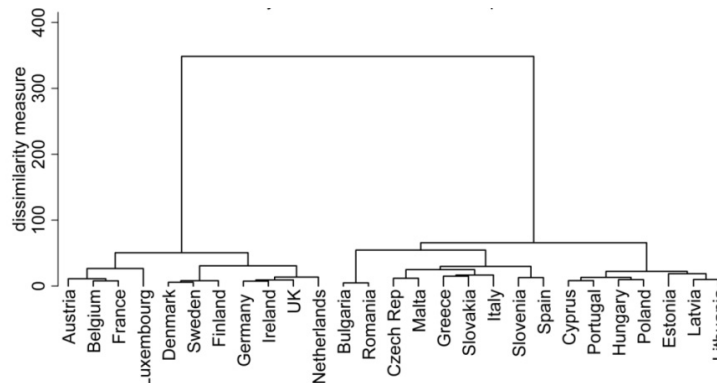

Fig. 6. Dissimilarity of the EU members in competitiveness. Dendrogram is based on following indexes: GCI, WCI, GII, and EUII; for its construction are used Ward method and Euclidian distance.

For verification of competitiveness indicators adequacy we use the Data Envelopment Analysis (DEA) introduced by (Charnes, 1978). In our model, there is one output – GDP per capita, and multiple inputs (indicators). This model can be interpreted in following way: The amount of GDP per capita should be determined (inter alia) by competitiveness of business environment measured by different indicators. Results (see Tab. 2) show efficiency of particular countries in GDP per capita creation. It is measured in percent; value 100.00 means fully effective country from the competitiveness point of view. It is possible to sort following countries by the percentage, but interpretation of distances from 100.00 is questionable. Rank of countries according to DEA seems to be adequate to real

institutional-economic conditions in particular countries. The whole DEA results can be interpreted as "condensation" of different indicators leading to creation of the new indicator of competitiveness.

Table 2. Results of DEA.

Netherlands	Denmark	Germany	Finland	Sweden	Luxembourg	UK
100.00	100.00	100.00	100.00	100.00	100.00	51.90
Belgium	Austria	Ireland	France	Spain	Italy	Cyprus
42.63	39.83	33.36	25.86	13.68	11.92	9.01
Slovenia	Estonia	Malta	Czech Rep	Portugal	Greece	Lithuania
8.98	8.80	8.43	7.87	7.03	5.47	5.28
Poland	Slovakia	Latvia	Hungary	Croatia	Bulgaria	Romania
5.12	4.52	4.39	3.57	3.51	1.97	1.94

6. Summary

Broad spectrum of newly developed indicators measuring the results of economic growth offer also broad spectrum of newly derived findings. Not all of them are easily understandable and interpretable. Because of isolated approaches in their construction, many of them are mutually inconsistent. This attribute should be kept in mind when working with these new evaluation tools. However, despite their possible weaknesses, the new alternative measures of economic growth and their application results could be accepted as a tool for enrichment the knowledge of the studied economic and social systems.

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