

management

Number 57, Year XV
December 2010.

Publisher
Faculty of Organizational Sciences - Belgrade

Dean
Milan Martić, Ph.D.

Editor in Chief
Aleksandar Marković, Ph.D.

Editor of Internal Department
Ondrej Jaško, Ph.D.

Editor of International Department
Jovan Filipović, Ph.D.

Editorial Board:
Čedomir Nestorović, PhD, Faculty of Coimbra, Portugal
Dejan Petović, Ph.D., Faculty of Organizational Sciences, Belgrade
Jasmina Četković, PhD, Faculty of Economics, Podgorica, Montenegro
Jasmina Omerbegović Bijelović, Ph.D., Faculty of Organizational Sciences, Belgrade
dr Sonja Petrović - Lazarević, Ph.D., Department of Management,
Monash University, Australia
Milan Martić, Ph.D., Faculty of Organizational Sciences, Belgrade
Goran Putnik, PhD, Univerzity of Minho, Portugal
Mirjana Drakulić, Ph.D., Faculty of Organizational Sciences, Belgrade
Miroslav Svatoš, Faculty of Economics, Chesh
Milija Suknović, Ph.D., Faculty of Organizational Sciences, Belgrade
Robert Leskovic, PhD, Faculty of Organizational Sciences, Kranj, Slovenia
Siniša Nešković, PhD, Faculty of Organizational Sciences, Belgrade
Roberto Biloslavo, PhD, Faculty for Management, Koper, Slovenia
Vesna Milićević, PhD, Faculty of Organizational Sciences, Belgrade
Stanka Setnikar Cankar, PhD, Faculty of Administration, Ljubljana, Slovenia
Vinka Filipović, PhD, Faculty of Organizational Sciences, Belgrade
Peter A. Delisle, PhD, Austin College
Peter Bielik, Ph.D., Faculty of Economics and Management, Slovak Republic
Milica Bulajić, PhD, Faculty of Organizational Sciences, Belgrade
Sladjana Barjaktarović, PhD, Faculty of Organizational Sciences, Belgrade

Management is being regularly reviewed in DEST
DEST - Department of Education, Science and Training of Australia
Ulrich Periodicals

Technical Editor
Milivoje Radenković
Andrej Novović

Address
Belgrade, Jove Ilića 154
Tel./fax. 381 11 3950 868
E-mail: manage@fon.rs
http://management.fon.rs/

Journal is published quarterly

Printed by
Sigra Star, Belgrade

CIP Katalogizacija u publikaciji
Narodna biblioteka Srbije, Beograd
005
ISSN 1820-0222 = Management (Engl.
ed.)
COBISS.SR-ID 112265484

Copyright © 2004 by Faculty of Organizational Sciences

CONTENTS

5 Knowledge based economy – the base of economic growth and development

Sandra Jednak, Dragana Kragulj

15 Project management and the creation of economic policy guidelines at the sub-national level

Walter Scherrer

23 Importance of strategic management accounting for bank management

*Snežana Knežević, Miloš Milosavljević,
Veljko Dmitrović*

31 Budgetary changes at local level in Slovenia in crisis

Uroš Pinterič

39 Zero waste as a new concept for sustainable waste management

*Nataša Petrović, Sonja Iščljamović,
Veljko Jeremić*

47 Measuring competitiveness as a precondition of economic management

Nikola Milović

55 New paradigm of management: the commitment to innovation and sustainable competitive advantage

Valentina Malešević

65 Conceptual basis of policy of competitiveness under the conditions of the Slovak economics

*Jaroslava Hečkova, Alexandra Chapčakova,
Ivana Butoracova*

73 Data envelopment analysis and its application in education

Violeta Cvetkoska

Knowledge Based Economy – the Base of Economic Growth and Development

UDC: 005.94 ; 330.341:005.336.4

Sandra Jednak¹, Dragana Kragulj¹

¹Faculty of Organizational Sciences, Belgrade

Economic development is a complex social process. Determination of factors that affect the economic growth and development, the way they work, the reasons some economies are more developed than others, and why economies have different rates of economic growth are the issues of a number of studies. Analysing these topics, and according to the economic growth theories, the traditional determinants are found to be the labour, capital and technology. However, knowledge is nowadays considered to be one of the factors of economic growth and development as well. The aim of the European Union is to build a knowledge-based economy, and hence the increased role of knowledge and new technologies. This paper analyzes the importance of knowledge as a factor of economic growth and development, and analyzes the results of building a knowledge-based economy in the European countries.

1. Introduction

Economic development is a complex social process in which every country tends to ensure a passage from the lower to the higher phases of economic development. Economic development is viewed as an indicator of the relationships between macroeconomic aggregates such as social product, national income, employment, accumulation, investments, consumption, etc. Although no economic development is possible without economic growth (there is no need for an inverse relation, i.e., the “economic growth is possible to achieve without an economic development”), it can be confined only to the growth in GDP and the per capita national income. In addition to the above mentioned elements, the economic development can be expressed by a set of structural and functional changes within a particular economy, as well as by a succession of other economic and non-economic factors. It is in this sense that economic growth is defined as a multidimensional process. The change in the overall social structure is one of the basic components of economic growth and together with economic growth it ensures the growth of both the GDP and the national income. Similarly, economic development is necessarily oriented towards achieving certain goals that have to be brought into harmony beforehand, and can be sublimed into two most important ones: the development of the economic potentials of the country and the improvement of the living standard of its population. [9, p.306]

The modern economic science insists on sustainable development. The sustainable development is defined as a development that ensures the satisfaction of the today's generations' needs, however, without endangering the satisfaction of the needs of the future generations. Sustainable growth means an optimum balance among the economic, the social, and the environmental

factors within an institutional framework. It is defined as a long-term, comprehensive, and synergetic process permeating all aspects (economic, social, cultural, ecological, and institutional) as well as all levels of life (local, regional, global). [15] The three basic pillars of sustainable development are: a sustainable economic and technological development, a sustainable development of the society and the environmental protection.

2. Knowledge as factor of economic growth and development

There are numerous factors of economic growth and development of a country or a region. They may be classed on the basis of various criteria and their impact can be analysed in detail. The most important factors are as follows: *natural conditions* (size of a country, geographical position of a country, natural resources – ores, soil, forests, etc., pollution of the nature, climate, etc.); *human resources and science* (human resources quality, human resources potential, factor – knowledge, quantity and quality of personnel training institutions, development level and efficiency of research operations, the development level of the information sector of economy, the extent to which information technologies are used, the quality of scientific personnel, information as key development resource, etc.); *production, technics and technological change and innovation* (production structure of economy, the overall production potential of the country, the level of manufacturing technics, the technical and technological progress, the type of technical progress, the rate of obsolescence – physical and economic depreciation of technics, technological change and innovation, accumulation and reproductive potential of economy, organization and methods of managing economy, the level of infrastructure sophistication, etc.); *agricultural production* (prevailing agrarian relationships and their impact upon agricultural production, the

processes of change in agriculture, etc.); *socio-political factors* (cultural heritage, historical heritage, tradition in economy, methods and institutions of social management, political system, the position of an individual in the society, social security, degree of democracy, ability to stand against different forms of pressures from the part of economically developed and politically influential countries, etc.); *international environment* (international economic environment, international labour division, the level and trends of international regional integrations, international economic organizations, international political environment, international and political alliances, itd.). The process of economic development in a given country and in a given period is affected not by individual factors, but by a set of factors, therefore the effects depend on their interaction. One individual factor, for example, may not have a significant impact upon the economic development of a country, however, within a set of other factors, its importance may be crucial. Using the economic analysis it is possible to select individual factors and highlight their impact, however, their importance can be evaluated only in a concrete situation (country, time, conditions), and together with the impact of the other factors.

Certain factors of economic development can be grouped according to different criteria, depending of the objective of the analysis. The most frequent classifications in the modern economic literature, important from the point of view of the development strategy selection, observe the following criteria: territorial origins (endogenous and exogenous factors), type of operations (economic and non-economic factors), matter (material factors), immediacy of effects (primary and multiple: secondary, tertiary factors, etc.), the rate of volatility (strongly volatile, medium volatile, slightly volatile factors), measurability level (measurable and non-measurable), utility (positive and negative factors), relevance (relevant and irrelevant), priority (higher or lower level priority factors), up-to-dateness (historical and modern), etc. Such a variety of economic development factors with different impacts as regards the orientation, intensity and the length of time produce different impacts in different cases. The development level and the size of a country will affect not only the priority of factors but their impact as well. Their interaction makes the understanding the impact of each individual factor difficult; besides, many of them produce insufficiently measurable effects. The priority of factors cannot be given *a priori*. A higher level of priority is given to those economic development factors that produce a wider scope of effects, they work on a long-term basis, they are not subject to frequent changes and produce a strong positive impact upon the economy trends and development. [9, p.311]

Modern economic theory and practice views knowledge as one of the key factors of economic growth and development. Knowledge, in fact, can be said to have always been the driver of economic progress. New ideas, skills and competences resulting from knowledge have always been incorporated into new products, processes and organizational structure of companies. *Schumpeter* was the first to recognize knowledge as a structural component from an economic point of view, as well as its importance for the economy. He claimed that a new combination of knowledge is a key factor of innovation and entrepreneurship. [2] The basic sectors responsible for knowledge generation are: education, research and development, art, media, information sector and information technologies. Depending on the sector, knowledge is analysed as production (research and development of new knowledge), dissemination (education, training and human resources development) and transfer (diffusion of knowledge and innovation). A development factor that is becoming increasingly important is the integration of science, education and information technologies. [10] Some researchers maintain that knowledge can be viewed as an essential resource, product and system. The view of the knowledge as an input is related to investment into research and development, education and information technologies. As a product, knowledge is important in developing business services based on knowledge, as well as in the development of the new technology sector. It is implemented in improving the existing products and creating new ones. [7]

Science demands a system of knowledge. Different kinds of knowledge are required to achieve progress in a certain area. New technologies, i.e., information-communication technologies, are the instrument to generate and transfer knowledge. Owing to browsers, electronic databases and various softwares, the scientists and researchers enjoy a faster access to information, development and storage of results, or knowledge, and this all results into new innovation and an increase in growth and development. The comparison between capital, labour and knowledge, however, clearly shows that knowledge displays certain features of a traditional factor. Similarly to capital, knowledge can be accumulated. Knowledge, same as capital, has an impact upon labour. It affects the labour force through education and training. [16]

In certain economic studies and analyses, and due to an increasingly important role of knowledge in achieving economic growth and development, a classification of capital was made into natural, physical and human. There is a connection among these three types of capi-

tal. All three have a direct or indirect impacts and improve the productivity in expanding the production of goods and services in an economy, and also ensure the development and growth of the social wealth. The impact of all the three types of capital upon the economic process and social wealth is illustrated in Figure 1.

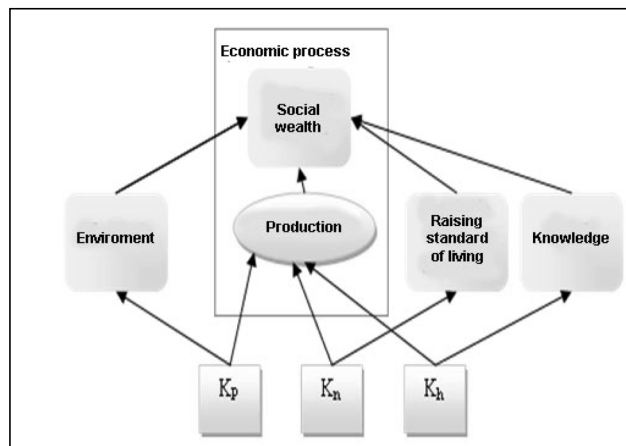


Figure 1. The impact of physical, natural and human capital upon economic process and social wealth

Source: Barbier B. Edward, *The Role of Natural Resources in Economic Development*, University of Wyoming, 2003, p. 255.

Physical capital (K_p) includes machinery, equipment, premises, tools and other investment goods. It is used in the production process and affects both production and the environment. It has a crucial impact upon the growth of social wealth. Human capital (K_h) includes knowledge, skills, competences, and abilities of labour force necessary in the production process. It ensures research and development that leads to technical and technological innovation and larger social wealth. Natural capital (K_n) or natural resources are materials and energy consumptive inputs used in production. Appropriately oriented, natural capital supports the population to employ ecology to contribute to the health of people and their safe life, thus increasing social wealth. [1] It is necessary that an appropriate social policy should be pursued and that a socio-political consensus should be established in order that all three types of capital be used to the extent to which they increase the production and the social wealth, and that simultaneously the capital be available to the future generations in the time to come. Forecasting, evaluation and the selection of a possible course in achieving this goal is neither an easy nor a simple process. Without adequate economic policies, a development strategy, and an active role of the state, chances are small to answer to an increasing economic and technological complexity of increasing social wealth. It is necessary that economic policies be improved and business activities and profitable processes be maintained. It is also necessary that employment should be increased, but also the level of

knowledge, to stimulate the development of new products and processes and hence improve productivity, production and the amount of social wealth. [13]

The developed economies based their growth and development on knowledge that generates innovation. Innovation is achieved by a more effective protection of intellectual rights, by the development of the financial sector, by a higher quality and a higher level of education and by a macroeconomic stability. [18, p.52] The European Union, the OECD, the EBRD and other international institutions define standards to achieve sustainable economic growth, increase employment, improve the standard of living, maintain financial stability and provide aid for the developing countries. Improving and creation of new knowledge and its transfer and dissemination to new generations through education is closely connected with the development of higher education, as well as with the research and development that increasingly become a dominant factor in the economic development and in creating a knowledge-based economy. This economy is based on high quality intellectual resources and their profitability. In addition to generating innovation, knowledge can direct and define the orientation and flow of economic development. Similarly, knowledge and technological progress are linked to the reduction of budgetary deficits and the deregulation of policies, especially in the financial sector, in airline transportation and the electrical power supply sectors. Not all economies, however, have equal amount of resources available. It is because of the differences in education, i.e., knowledge, competencies and skills of the country population that it is assumed that there is a development gap among countries. Hence the implementation of knowledge, conditioned by technological change and innovation becomes an important development factor in each economy, which is the goal of many countries worldwide.

International institutions such as OECD, the World Bank, the United Nations and the European Union have developed their own methodologies and indicators to mark the extent to which economies have developed. They are oriented towards humane and social development indicators, towards measuring the development based on systemic, strategic and planned processes, on information-communication technologies and certain knowledge indices that have their roots in the indices of education, innovation, and the ICT and economic-institutional regime. [14, p.6] There also are other indicators that show the development of the knowledge-based economy. These are: investments into research and development, investments into the higher education system, i.e., capital (researchers and doctorands), capacities and quality of the education system (costs of education and life-long learning), e-government (purchasing new

equipment and modernization of public services), work productivity, implementation of information-communication technologies, etc. [2] Investments into education can contribute to achieving a sustainable and long-term economic growth and development, due to the development of human capital employed in creating, implementation and adjustment of technologies. It is in this way that knowledge can “catch up” with the new technologies developed and consequently with developed economies. The support to knowledge is ensured by information-communication technologies.

3. European information society and knowledge-based economy

The information communication technologies play an important role in building the knowledge-based economy and the information society. The information society is a synonym to information-communication technologies (ICT). A result of a fast development, implementation and impact upon all the spheres of society and economy in the course of 1990s, the idea for creating an information society emerged. This period is characterised by an electronic exchange of information, convergence towards digital technologies, an exponential growth of the Internet and opening of the telecommunication market. For an information society and a knowledge-based economy to be created it required a further ICT development and implementation. In order that the production and implementation of new, knowledge-based technologies should be increased, it is important that structural changes be conducted, and this is accomplished through the following structural factors. [5]

- 1) Flexibility of goods market is necessary, including the market regulation, low costs of market entrance and exit, a competitive environment that will ensure the necessary incentives to companies to invest into and implement innovative technologies and increase innovation.
- 2) Relevant is the implementation of efficient innovation systems meant to reduce the gap between the EU and the USA. The American innovation system is efficient in linking various participants, is of good quality and invests into knowledge sectors. This system offers direct resources to the sectors of new and high technologies. On the microeconomic level, the main component of an efficient innovation system is the entrepreneur culture. In order that a company be innovative, it has to recognize the opportunities and chances on the market, respond in an innovative manner and possess a large knowledge base. A flexible financial market generates venture capital to finance the innovation of the company.
- 3) Labour market flexibility is important because of the presence of technological change. An inadequate employment policy can have a negative impact upon

the company reorganization, upon new technologies implementation, as well as upon the skilled labour force migrations. The possibility of migration between different jobs and a flexible labour market include life-long learning and ensure permanent improvement and education.

- 4) The ICT skills are essential for the ICT sector as well as all other sectors that implement new technologies. The ICT sector and all the companies that implement ICT have a highly trained labour force (scientists and engineers). There is an increasing percentage of labour force [11] that command an equally increasing knowledge and skills required that the ICT should be implemented correctly. Education and various forms of training are essential for the ICT implementation.

In addition to these factors, the successful implementation of ICT depends on the factors related to both the ICT sector and public policies. These are:

- 1) *The ICT sector* that has an impact upon the productivity growth via technological change. The sector generates innovation and invests into knowledge, research and development. Investments into research and development are larger here than in any other sector. In the EU they amount to 25% of the total research and development of the entire economy;
- 2) *Common market* allows for the economy of scope and a larger market for ICT diffusion to develop. The legal framework and the regulations of the electronic exchange of information, i.e., communication, is important for the creation of the European unified ICT market. The lack of appropriate regimes, however, may end in the market fragmentation, especially in the fields of intellectual rights protection, of standardization and of security;
- 3) *The Small and Medium-sized Enterprise sector* makes a majority of the European economy. These firms are a major source of new jobs, entrepreneurship and innovation, however, they lag in the ICT implementation. An integrated e-Business policy should stimulate firms to implement ICT to a larger extent;
- 4) *ICT implementation by the government* and the availability of modern *on-line* services can increase the ICT implementation and productivity.

In the 2000s, the EU encountered a problem of economic growth and unemployment. The solution was to create conditions for a dynamic growth, one that was to increase employment, offer an opportunity for the progress of all members of the society and increase the standard of living, and these should be achieved by the adoption of the Lisbon Strategy, meant to build the EU into an information society and a knowledge-based society.

4. Lisbon strategy

Modern strategies are becoming the basis of the so-called new economy. The idea of this economy is that developed economies should achieve high economic growth rates, reducing inflation and unemployment along the way. A fast development of the Internet made people neglect the ICT for a while. New technologies, however, continue to contribute to the economy development. The ICT are considered to be the general purpose technologies. They are present in economic processes and affect economic efficiency in various ways and in different sectors. A gradual adoption and implementation of structural changes helps achieve certain economic performance. In order that it should improve its economic performance and reduce a gap between the European and the American economies, the European Union creates a so-called electronic Europe and implements the Lisbon Strategy.

The implementation of economic reforms improves the competitiveness of European economies. The increase in employment is the best way for the European Union to increase productivity, achieve economic growth, increase the human potential and create more jobs. Economic reforms include the implementation of various measures, from the market liberalization, to the promotion and development of the small and medium-sized enterprise sector, entrepreneurship and innovation, to the reduction in legal regulations that enhance the flow of economic activities. In order to implement economic reforms and become the world's most competitive economy as well as a knowledge-based economy by 2010, the European Union adopts the so-called *Lisbon Strategy* (also known in literature as the Lisbon Agenda or the Lisbon Proposition) in 2000. Since 2000, the EU achieved a considerable progress in implementing economic reforms. In the five-year period markets have been opened for telecommunications, network industries and financial services, over a million new jobs were created and various opportunities for households all over Europe emerged. [4]

There was a need, however, that this process be accelerated in order that the goals set should be achieved by 2010. Hence the Lisbon Strategy was amended and improved in March 2005. The report on the goals accomplished and the results of the Lisbon Strategy implementation was prepared under the leadership of *Wim Koka*, in 2005, therefore it was named Koka's report. The report showed that the set goals were not achieved to the extent they were expected and planned to be achieved. The critics stressed that goals were defined too broadly, that programmes were too voluminous, that coordination was insufficient and that the priorities of the development of some EU countries

were inadequate, especially from the point of view of the public debt and the GDP. Besides, the allocation of responsibility among national economies and European institutions was not clearly defined. Different levels of reform implementation were achieved simultaneously among the EU countries. Nevertheless, the authors of the Report pleaded for the pursuing of the same set goals.

The reforms meant to be accomplished remained the same: *a relatively flexible labour market*, i.e., improvement and recruitment of highly skilled staff in order that a higher employment rate should be achieved; in this way a stronger competition and a regulation reform will be achieved; *creating favourable conditions of business climate* and firms' profitability in business operations as well as innovation implementation; *creating a relatively dynamic and competitive unified market*, characterised by a liberalization of services and a new strategic approach that means the implementation of the ruling regulations, a proactive approach to competitive policy, the introduction of competition in public tenders and the reforms in state aid; *the liberalization of foreign trade* and ensuring economic conditions for sustainable development, as well as environmental protection, more precisely, the promotion of eco-efficient innovation and an economic and social progress in environmental protection.

The strategy has a complex structure, since it includes varied and numerous goals and activities, as well as an ambiguous allocation of responsibilities and tasks, especially between the EU and its member-states. The goal is to understand and overcome the weaknesses in the reform implementation, as well as to reduce the gap between the American and the European, but also an increasingly strong Asian economies by achieving the set goals. The major goal of a revised Lisbon Strategy is sustainable development, economic growth and an increase in the employment rate. This is possible to achieve only on condition the EU become an attractive area for investments and thus a higher level of labour productivity be ensured, on condition knowledge and innovation be ensured for the growth and a larger number of jobs requiring highly skilled staff be created, from the point of view of new technologies implementation. [8]

Basic to the Lisbon Strategy is the global economy whose goal is a radical transformation. This includes the change in technology, in production and in trade. A faster flow of information and a reduction of transportation costs have broken traditional geographical barriers to performing economic activities. The boundaries indicating which goods could be traded and which could not have gradually disappeared and the global market includes an ever increasing number of different and new

goods and services. An increasing number of countries open their economies, and market liberalization allows for the development of global trade and investment. It is in this way that a larger number of opportunities for a faster integration of national economies into the global economy are created. The increase in the global output has become a dominant strategy of the modern world. An important share in this output belongs to Asian countries. China and India are expected to achieve about 25% of the world output by 2015. Creating a favourable business climate and low costs of production orient foreign direct investments towards Asian countries. With the development of the ICT the production becomes specialized and decentralized by countries, by continents, as it tries to find the most convenient site and profitability for business operations.

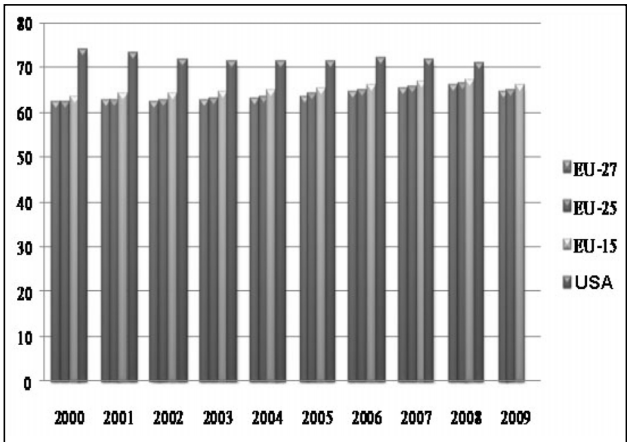
The global competition and the speed of technological change intensify the need for increased innovation. Countries that implement high technologies to produce added value make attractive fields for foreign investments. The need for higher education and for the skilled labour force is increasingly present throughout the world. The promotion of energy efficiency helps reduce costs and protect environment. These are only some problems the European economy will have to cope with and maintain the traditional leading position, that is, to have a major share on the global market and in the global economy. These are simultaneously the basic reasons for adopting the Lisbon Strategy. The EU economy should achieve a higher flexibility of the goods, labour and capital markets in order that business activities should be adjusted to economic changes, and that new opportunities should be taken and thus the advantage be achieved in comparison with other economies, and especially in comparison with the USA and the global environment. The structural changes promoting flexibility make the basis of success in the modern economy.

Since 2000 until the present day, the EU has been changing. Initially an organization of 15 member countries, the EU has become a Union of 27 member countries. The Euro has become one of the leading currencies in the world. The number of member countries in the Eurozone has increased from 12 (in 1999) to 16 (in 2010). Nevertheless, the economic crisis affected the implementation of the Lisbon Strategy. The GDP in the EU fell by 4% in 2009, while the unemployment rate amounted to approximately 10%. The fiscal budget deficit amounted to about 7% of GDP, and in two last years the debt level rose by 20%.

In the last decade the European economy was characterised by a cyclical movement, its success and its falls. After the fall in the economic activities in the 2000-2003 period, the European economy in the following five

years has been characterised by the price stability, a steady economic growth and creation of new jobs. Since 2005 until the economic crisis these performances increased. The average GDP growth amounted to 3% (2006-2007), to fall to -4%, due to the 2009 economic crisis. The situation with unemployment rate was not much different. In 2007, the unemployment rate was 7%; in 2010 it amounted to 10%. The crisis had a negative impact upon fiscal policy, that is, upon public finances. The average fiscal deficit amounted to about 7% of GDP, while the debt level approximated 80% of GDP.

Regardless of these unfavourable changes, the Lisbon Strategy has had a positive impact upon the EU development. The basic goals, the employment rate of 70% and a 3% GDP expenditure on research and development have not been fully achieved. In 2000, the employment rate was 62%, in 2008, it rose to 66%, while in 2009 it fell below 65%, due to the economic crisis. The employment growth is important because it increases the economic growth, ensures a long-term fiscal stability and safekeeps the wealth of the citizens. Graph 1 presents the employment rate in the EU and the USA in the 2000-2009 period. The employment rate is still higher in the USA than in the EU. In 2008, the employment rate in the EU-15 amounted to 67.3%, in EU-25 it amounted to 66.3%, in EU-27 it was 65.9%, while in the U.S.A. it amounted to 70.9%. [3]

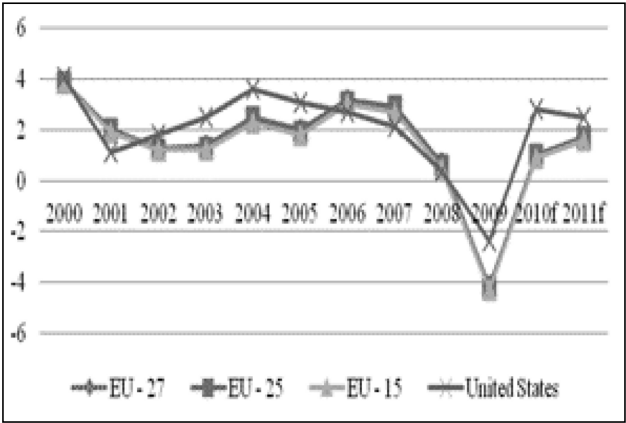


Graph 1. Employment rate in EU and USA, 2008-2009 period

Source: Eurostat

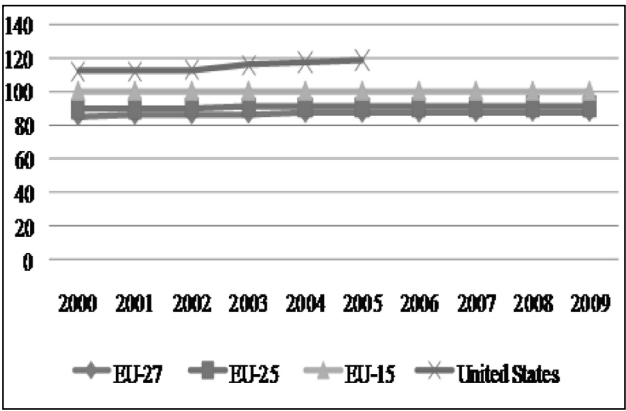
Through a historical genesis, the economic analysis shows that in the first three decades after the Second World War the living standard in Europe increased, however the gap between the living standard in the USA and that in Europe always existed. The living standard in the USA was higher. In the 1980s this gap decreased, to increase again in 1990s. In 2005 the gap in the living standards between the USA and the EU-15 amounted to 30%, whereas it was 35% for the EU-25. The USA has always had a higher economic

growth rate, except in late 1990s and at the beginning of 2007, when the economic crisis in the American economy started. The trends in economic growth rates of the European and the USA economies are presented in Graph 2.



Graph 2. Growth rate of real GDPs of EU and USA, year per year percentage change, 2000-2011 period
Source: Eurostat

In order that the strategic goal of the EU, the rise in the economic growth and employment, be achieved, it is necessary that labour productivity be higher. The productivity differs from country to country, and on the EU level it is smaller than in the USA. It is only Luxembourg that has a higher labour productivity than the USA. The trends in labour productivity in the EU and the USA are presented in Graph 3.



Graph 3. Labour productivity per working hour in EU and USA, GDP (PPP) EU-15=100, 2000-2009 period.
Source: Eurostat

The attempts to achieve the goals set in the strategy were hindered by the economic crisis, but also by an insufficient political will to implement the strategy fully. The consequences of the economic crisis are a relatively high unemployment rate, the decline in economic growth and an increase in the public debt. Nevertheless, the EU succeeded in stabilizing its financial system and adopting a recovery plan by increasing

aggregate demand and bringing back the trust in this system. These were accomplished by fiscal and monetary stimulative policies, that is, by public investments into infrastructure, innovation, new skills and knowledge of the labour force and energy efficiency. The economic conditions for work are gradually improving, however this recovery is rather slow. Fast and frequent changes are evident in the world economy, therefore the European economy should primarily deal with globalization, scarce resources and climate changes. The EU will be able to adjust to change and progress further if all the member countries act in unison, in a coordinated manner, together.

It is for this reason that the European Commission adopted a new strategy – the Europe 2020 Strategy in March 2010, its goal being that the European economy should exit the economic crisis and prepare the EU for the decades to come. Besides, this is a continuation of the Lisbon Strategy implementation. According to this strategy, the EU should exit the crisis stronger and achieve a *smart, sustainable and inclusive* growth and an economy that will increase the employment level, the productivity and the social cohesion. To achieve these goals requires a powerful and successful state management. The Europe 2020 Strategy set three priorities: 1) *smart growth*, that is, the knowledge- and innovation-based development of economy; within the smart growth there are three initiatives: *Innovation Union* (creating conditions for financing research and development), *youth on the move* (improving the performance of the education system and raising the international reputation of the European higher education), *a digital agenda for Europe* (a very fast Internet and the benefits of digital unified market for households and companies); 2) *sustainable growth*, i.e., promoting a higher resource efficiency, a “greener” and a more competitive economy; this growth is based on two initiatives: *efficient resources in Europe* (refers to climate, energy and mobility, to promoting renewable resources and energy efficiency) and the *industrial policy for the globalization era* (competitiveness and improvement of business climate, especially in case of medium-sized and small enterprises); 3) *inclusive growth*, full employment in economy that has an impact upon the social and the territorial cohesion. There are two initiatives to achieve this type of growth: *Agenda for new skills and jobs* (modernization of labour market due to the mobility of labour and skill development) and the *European platform against poverty* (social and territorial cohesion). [17]

The New Europe 2020 Strategy promoted the introduction of the so-called scheme of state monitoring and linking the fiscal stabilization programme with larger investments into science and education. The basic EU 2020 goals are ambitious, but achievable. It is the

proposition of the European Union that there should be five goals that would also be the basic national goals: employment, research and innovation, climate changes and energy, education and fighting poverty. The EU has set concrete goals and responsibilities, such as: raising the employment rate of the population aged 20-64 from the present 69% to 75% and an increase in investments into research and development from GDP 1.9% to GDP 3%. One goal is also to reduce energy consumption by 20%. The emission of carbon-dioxide and other harmful gases is planned to be reduced by 20% as compared to 1990, and the share of renewable resource-produced energy should amount to plus 20% in the total consumption. Much attention in the new strategy is paid to education and to applied science; plans are that the number of university graduate citizens should increase from today's 30% to 40%. One goal is also to reduce poverty, from 80 million to 60 million people. Due to the goals defined by the new strategy, its creators named it the plan for a "smart, green and inclusive growth". In order that this target should be achieved, the Europe 2020 Report and assessments and the Stability and Growth Pact will be conducted simultaneously, in order that resources and goals be coordinated. [6]

5. Conclusion

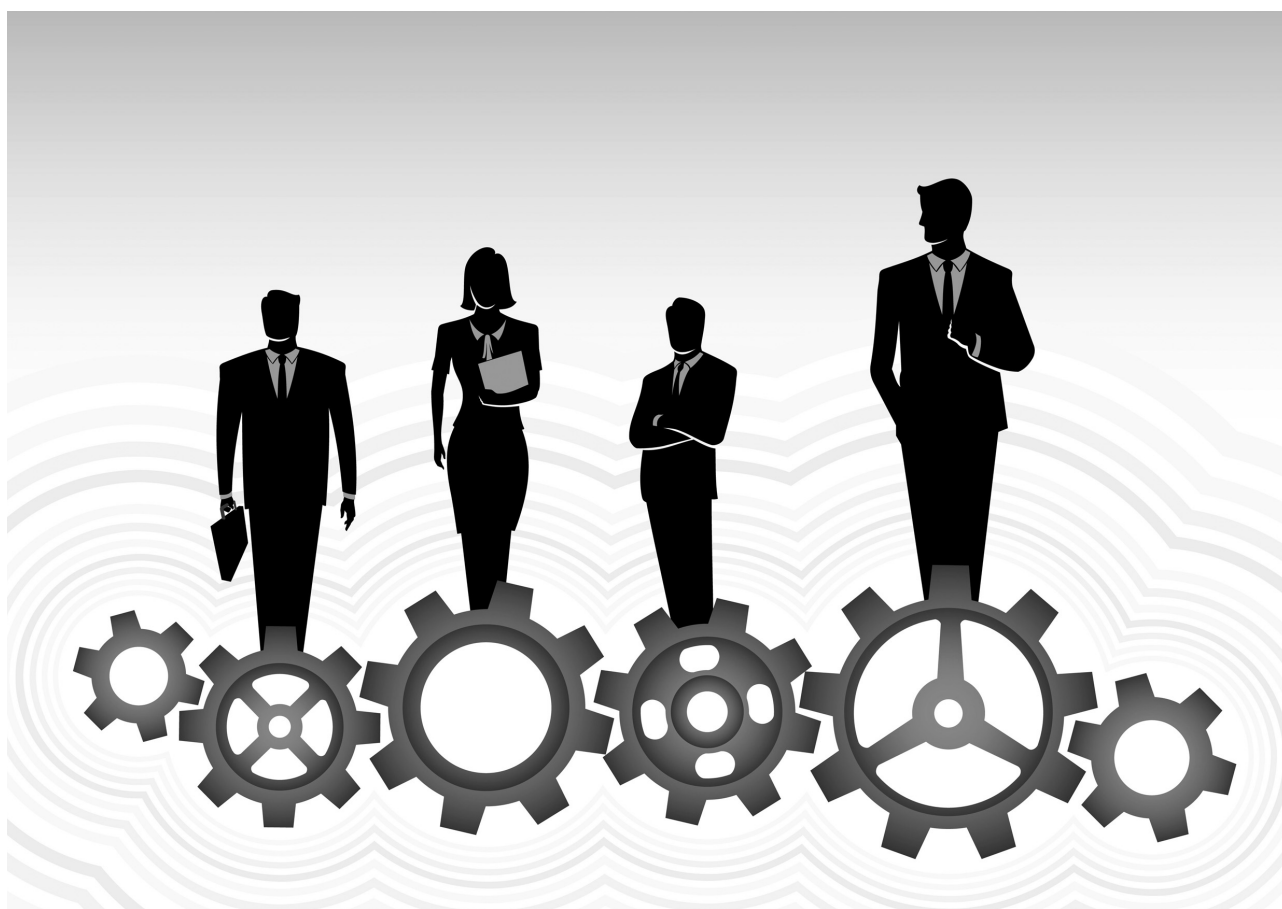
The knowledge-based economy and the information society are terms used today to describe the present-day economic society. The knowledge-based economy is increasingly viewed as a continual process of economic transformation towards knowledge-based activities and sectors, rather than towards radical and drastic changes. The developed countries have already based their economies on knowledge; they already allocate largest funds to science and research. One way to increase their income is the building of a knowledge-based economy. This opportunity can be taken by those countries in which productivity and growth do not largely depend on natural resources; the countries that possess a certain quality human capital, invest and create new knowledge and ideas to improve the factors of production. Knowledge and technological progress have become the leading driver of economic growth and development. [12, p.202] New growth theories are associated to labour productivity achieved by innovation, which are in turn the result of knowledge.

Various economic statistics, research and analyses have analysed and proven the impact of the knowledge-based economy upon the economic performance and the long-term change in the economy structure. Similarly, the knowledge-based economy ensures an impressive economic growth, an increase in productivity, profitability and investment rate, while at the same time reducing inflation and unemployment rate. It is

most strongly associated with the impact of technological innovation that contributed to the price reduction and an increase in the ICT product efficiency. The globalization effects and a fiercer international competition and competitiveness on the labour market resulted in cost reductions and an increase in efficiency. The European Union is making efforts to build a knowledge-based economy. The idea is that this concept of development be implemented in all the EU countries as well as in the countries that wish to join the Union. The building of such an economy is meant to increase economic growth and the development of European economy and thus reduce the gap between the development levels of the EU and the USA. By the implementation of the Lisbon Strategy directives, by building a knowledge-based economy and an information society, the European economy has increased employment and economic growth. The economic crisis, however, hindered the achievement of higher economic performance in the world economy. The EU, however, has adopted a new plan to overcome the economic crisis and to further build a knowledge-based economy that will help achieve a higher level of economic development of the European economy.

REFERENCE

- [1] Barbier B. Edward, The Role of Natural Resources in Economic Development, University of Wyoming, 2003, http://homepage.univie.ac.at/adusei.jumah/natural_resources.pdf
- [2] Cook P., Leydesdorff L., Regional Development in the Knowledge-Based Economy: The Construction of Advantage, Journal of Technology Transfer, 31: 5-15, 2006.
- [3] Eurostat
- [4] Growth and Opportunity – Prioritising Economic Reform in Europe, HM TREASURY, February 2005, <http://www.berr.gov.uk/files/file25094.pdf>
- [5] i2010 High Level Group, The Economic Impact of ICT: Evidence and Questions, Information Space, Innovation & Investment in R&D, Inclusion, 20 April 2006, http://ec.europa.eu/information_society/eeurope/i2010/docs/high_level_group/i2010_benchmarking_framework.pdf
- [6] Jednak J., Ekonomija Evropske unije, BP[– V[SS, Beograd, 2010.
- [7] Jednak S., Kragulj D., Jednak D., Znanje kao faktor privrednog razvoja, SYMORG 2010, 2010.
- [8] Kesner-[kreb Marina, Lisabonska strategija, Institut za javne finansije, Zagreb, Pojmovnik, UDK 331.5:364.23(4-67EU)
- [9] Kragulj D., Ekonomija – osnovi mikroekonomske i makroekonomske analize, Beograd, 2010.



- [10] Lavrnchenko O., Bonchuk T., Knowledge and Information as a Basis of Society's Economic Development, <http://fse.tibiscus.ro/anale/Lucrari2009/086.%20Lavrnchenko,%20Bonchuk.pdf>
- [11] OECD, Working Party on the Information Economy: New Perspectives on ICT Skills and Employment, 2004.
- [12] Papanek G., Economic Growth versus Economic Development, Periodica Polytechnica Ser.Soc.Man. SCI, Vol.10, No.2, pp. 201-213, 2002., http://www.pp.bme.hu/so/2002_2/pdf/so2002_2_02.pdf
- [13] Plostajner Z., Briski A., Economic Development on the Local and Regional Level: Workshop Summary, <http://www.fes.hr/E-books/pdf/Economic%20Development/10.pdf>
- [14] Rahimić Z., Kožo A., Building and Development of the Knowledge Based Economy in Bosnia and Herzegovina, 2009, <http://ideas.repec.org/a/osi/journal/v5y2009p111-122.html>
- [15] Republički zavod za razvoj Srbije, Strategije, www.razvoj.gov.rs
- [16] Tang S., Knowledge as Production Factor: Toward a Unified Theory Of Economic Growth, <http://iaps.cass.cn/UploadFile/2005102203439560.pdf>
- [17] Towards a Green and Innovative Economy, 2009. http://ec.europa.eu/archives/growthandjobs_2009
- [18] Transition Report 2008, EBRD.