

Dworak, Edyta; Kasperkiewicz, Witold

## Article

# Conditions And Prospects For Development Of Innovation In EU Economies In Light Of The Europe 2020 Strategy

Comparative Economic Research. Central and Eastern Europe

## Provided in Cooperation with:

Institute of Economics, University of Łódź

*Suggested Citation:* Dworak, Edyta; Kasperkiewicz, Witold (2013) : Conditions And Prospects For Development Of Innovation In EU Economies In Light Of The Europe 2020 Strategy, Comparative Economic Research. Central and Eastern Europe, ISSN 2082-6737, Łódź University Press, Łódź, Vol. 16, Iss. 4, pp. 39-55,  
<https://doi.org/10.2478/cer-2013-0027>

This Version is available at:

<https://hdl.handle.net/10419/259162>

## Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

## Terms of use:

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



<https://creativecommons.org/licenses/by-nc-nd/4.0>

**EDYTA DWORAK<sup>\*</sup>, WITOLD KASPERKIEWICZ<sup>\*\*</sup>**

---

**Conditions And Prospects For Development Of Innovation In EU Economies In Light Of The Europe 2020 Strategy**

**Abstract**

*The purpose of this paper is to explain the essence of the Europe 2020 Strategy, with particular emphasis on development projects in the field of innovation; to assess the level of innovation in the EU economies in comparison to the U.S., Japan and South Korea, and to describe the conditions for the development of the EU economic area in light of the Strategy program objectives.*

*The paper consists of three parts. The first part outlines the essence and objectives of the Europe 2020 Strategy. The second part contains an analysis of the level of innovativeness of the EU economies compared with U.S., Japan and South Korea. The third part focuses on the conditions and prospects for the development of innovative economies in the European Union.*

**Keywords:** invention, innovation, innovation gap, knowledge – based economy, R+D activity

---

<sup>\*</sup> Ph.D., Professor at the University of Łódź. Faculty of Economics and Sociology, Department of Microeconomics

<sup>\*\*</sup> Ph.D., Professor at the University of Łódź. Faculty of Economics and Sociology, Department of Microeconomics

## 1. Introduction

According to most economists, regardless of their affiliation with a particular school of economics, technological innovation is the most important source of economic growth. A leading representative of the new growth theory, P. M. Romer, argues that the economic future of nations is a function of their capacity to innovate, which in turn depends on the level of education and research available at universities (Romer 1990). Based on extensive research conducted in 92 countries during the period 1960-2000, D. H. C. Chen and C. J. Dahlman showed that an increase of one percent in the number of patents granted by the USPTO<sup>1</sup> increases the rate of economic growth by 0,19 percentage points (Chen, 2004). W. Baumol points out that 'almost all the economic growth which has occurred since the eighteenth century, in the final analysis is due to innovation.' (Baumol 2002). Also, P. M. Porter, J. L. Furman, and S. Stern, economists representing the Harvard Business School and Massachusetts Institute of Technology, in their works raise the central role of technological innovation for long-term economic growth (Stern 2000, pp.1-2).

The positive impact of innovation on economic growth can also be seen from the perspective of the human capital approach, according to which the main driver of economic growth consists of the accumulation of human capital, defined as a resource of knowledge, skills, work experience, level of education and related attributes that affect the human's ability to perform useful work. The R. E. Lucas' model, representative of the endogenous growth theory, accentuates the importance of human capital as a factor stimulating innovation in the economy and the level and efficiency of investment in R&D, which in turn generate technological progress. Moreover, this model rejects the assumption of constant returns to scale in the production function, which gives rise to externalities due to the accumulation of human capital. The impact of human capital on economic growth takes place either indirectly, through interaction with tangible capital and/or the labour force, or through total productivity of factors of production (Lucas 1988).

The Europe 2020 Strategy, endorsed by the European Council in June 2010, is the European Union's response to the numerous challenges posed by the increasing globalization of business processes, the realignment of the global economic order resulting from the growing strength of the economies of China and India, the debt crisis in many countries, and weakening public support for the European idea. The European Union is now the most powerful economy in the world. The trade between Member States accounts for about 40% of world

---

<sup>1</sup> United States Patent and Trademark Office.

trade. However, the debt crisis, negative demographic trends, and shortcomings of the European social model, require immense budgetary expenses which do not work in favour of the European Union. Therefore, actions of the EU authorities should not be limited only to assistance to national economies that have fallen into the debt trap. Strategic projects are necessary, aimed at increasing competitiveness and innovation across the European Union, projects which would be conducive to strengthening the EU's economic power in the globalized economy. The Europe 2020 Strategy includes proposals for solutions which should increase the innovation of the European Union economies, upgrade the knowledge-based industries, as well as improve the process of technology transfer between Member States.

The purpose of this paper is to explain the essence of the Europe 2020 Strategy, with particular emphasis on projects in the area of innovation, to compare the level of innovation in the European Union economies against the United States, Japan and South Korea, and to analyze the conditions and prospects for development of innovation in the EU economic area in light of the program objectives of the Europe 2020 Strategy.

The paper consists of three parts. The first part describes the essence and principles of the Europe 2020 Strategy. The second part contains an analysis of the level of innovativeness in the EU compared with the U.S., Japan and South Korea. The third part focuses on the conditions and prospects for the development of innovative economies in the European Union.

## **2. The principles and objectives of the Europe 2020 Strategy**

The Europe 2020 Strategy, adopted by the European Council in June 2010, was a new long-term program of socio-economic development of the European Union for the years 2010 to 2020, replacing the Lisbon Strategy. The current strategy is the European Union's response to numerous economic and social challenges. The financial and economic crisis has revealed structural weaknesses in the European economy and political decision-making mechanisms in crisis conditions. At the same time, long-term problems such as globalization, the growing demand for limited resources, and an ageing population are becoming ever more pressing.

The Europe 2020 Strategy includes three key interrelated thematic pillars:

- A. *Smart Growth*, the foundation of which is the development of an economy based on knowledge and innovation. Implementation of this plan requires improvements in the quality and attractiveness of European higher

education on the international scene, increasing the capacity and efficiency of the research sector, bridging the gap between science and the needs of businesses, support for the transfer of knowledge and innovation in the EU, and maximum use of information and telecommunication technologies in the implementation of innovative projects.

B. *Sustainable Growth*, promoting economy with more efficient use of natural resources, environment-friendly, and with low-carbon emissions.

C. *Inclusive growth*, the essence of which is an economy characterized by a high level of employment and ensuring economic, social, and territorial cohesion (Communication..., 2010).

The Europe 2020 strategy laid out five specific objectives which define where the EU should be by 2020, and will be used in this paper to assess the progress in implementing the strategy. These objectives were formulated as follows:

- The employment rate of people aged 20–64 should be 75%.
- 3% of the EU's GDP should be earmarked for R&D.
- The “20/20/20” climate/energy targets should be met (including emissions reduction by as much as 30% if the conditions are right).
- The share of early school leavers should be under 10% and at least 40% of the younger generation should have a tertiary degree.
- 20 million less people should be at risk of poverty.

These targets are interrelated and critical to the overall success of the strategy. To ensure that each Member State can tailor the Europe 2020 strategy to its particular situation, the European Commission proposes that EU goals be translated into national targets and trajectories.

These specific objectives are representative of the three general priorities - smart, sustainable, and inclusive growth. The achievement of the objectives of the strategy should be implemented through seven flagship projects. Implementation of these projects should be a common priority, and therefore a wide range of actions at the national, EU and international levels will be necessary to underpin them. These flagship projects are:

**“Innovation Union”** is one of the most important projects of the EU's new strategy for socio-economic development. This project aims to improve the framework conditions and facilitate access to finance for research and innovation. It is assumed that the promotion of innovation will have a positive impact on economic growth and job creation, and coordinated research will effectively solve the problems of climate change, energy security, and the ageing population in Europe. It was decided that by 2014 the European Research Area, envisaged by the Lisbon Strategy, will be established, conceived as an area of free exchange of research results where scientific resources are

efficiently used in order to create jobs and increase the competitiveness of the economies of the European Union.

**“Youth on the move”** is a project aimed at improving the quality and attractiveness of European tertiary education through increased mobility of students and young specialists, and to facilitate the entry of young people into the labour market.

**“A digital agenda for Europe”** is a project to speed up the roll-out of the high-speed internet and reap the benefits of a digital single market for households and firms. By 2013, all EU citizens should have access to high speed internet.

**“Resource efficient Europe”** is a project to help decouple economic growth from the use of resources, support the shift towards a low carbon economy, increase the use of renewable energy sources, modernise our transport sector and promote energy efficiency.

**“An industrial policy for the globalisation era”** is a project aimed at improving the business environment, notably for SMEs, and supporting the development of a strong and sustainable industrial base able to compete globally. Implementation of this project should result in one million new jobs.

**“An agenda for new skills and jobs”** is a project to modernise labour markets and empower citizens by developing their skills throughout the lifecycle, with a view toward increasing labour participation and better matching supply and demand on the labour market.

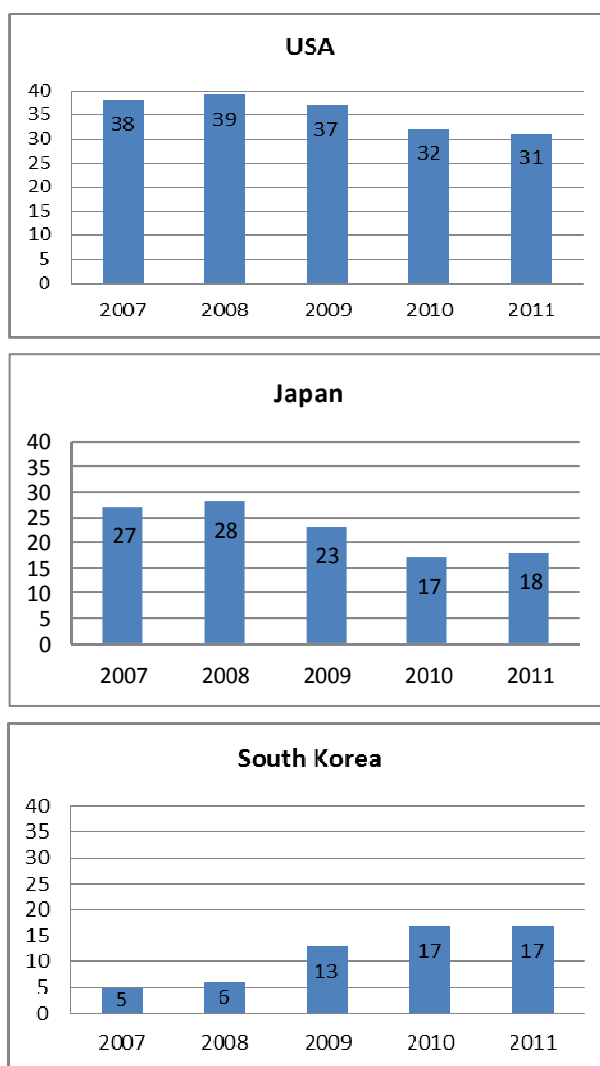
**“European platform against poverty”** is a project designed to ensure economic, social, and territorial cohesion and to enable persons experiencing poverty and social exclusion to take an active part in society.

### 3. Innovation in EU economies compared to global competitors

The European Union is among the world leaders in terms of innovation of the economy. At the same time however, numerous statistical analyses indicate that the European Union is under heavy pressure in this regard from three major competitors - the U.S., Japan and South Korea. According to the method of analysis used by the European Commission in its annual “Innovation Union Scoreboard” reports, which uses the Summary Innovation Index, the U.S., Japan, and South Korea achieve better results in the field of innovation than the European Union. Figure 1 illustrates the innovation gap which divides the European Union from the above-mentioned countries. This gap is determined by

the properly calculated difference between the Summary Innovation Index for the European Union, the U.S., Japan and South Korea.

**Figure 1. Innovation gap between the EU and the U.S., Japan and South Korea in the years 2007-2011\***



\*The innovation gap is calculated using the formula:  $100 \left( \frac{X}{EU} - 1 \right)$ , where X is the Summary Innovation Index (SII) for country X and EU is the SII for the EU-27.

Source: Based on the Innovation Union Scoreboard 2011. The Innovation Union's performance scoreboard for Research and Innovation, 7 February 2012, [www.proinno-europe.eu/metrics](http://www.proinno-europe.eu/metrics)

The following conclusions can be drawn from the data presented in Figure 1:

- innovation in the EU economies is lower than in the U.S., Japan and South Korea;
- while the U.S. and Japan are ahead of the European Union, in the period under study the innovation gap decreased (the dominance of Japan over the EU decreased significantly);
- on the other hand the advantage of South Korea over the European Union has increased significantly.

Based on analysis of the set of 12 indicators used to calculate the Summary Innovation Index (SII), it is possible to identify the specific dimensions of innovation where the European Union is ahead of the United States, Japan and South Korea.

**Firstly**, when we compare the achievements of the European Union and U.S. in the field of innovation Europe is ahead of the United States only in the two indicators; public expenditure on R&D in relation to GDP, and the share of exports of knowledge-intensive services in total exports of services. **Secondly**, compared with Japan, the European Union achieves higher rates in four dimensions of innovation: exports of knowledge-intensive services, the number of doctoral degrees and international joint publications, and the number of most cited publications. **Thirdly**, compared with South Korea, the European Union is ahead in the five dimensions of innovation: revenues from the export of licenses and patents, the number of doctoral degrees, patent applications in the field of health and climate protection, international joint publications, and scientific publications in the world's most cited journals.

In analyzing the existing innovation gap between the EU and economic powers of the modern world, one should pay particular attention to two important measures of the innovative capacity of the economy: the level of expenditures on R&D and the share of this expenditure in GDP. Table 1 shows such expenditures in selected countries of the European Union and in the giants of the world economy.

As shown by the data presented in Table 1, the weakness of the European R&D sector is particularly evident when comparing the level of expenditures on R&D in the European Union with that of the leading economies of the world. The U.S. economy accounts for about one third of total global spending on R&D activities. The U.S. expenditures on R&D in 2011 exceeded the expenditures of the European Union economies on the same by more than 50,000 mln euro. The EU's lead over Japan and South Korea in terms of expenditures on R&D was relatively small. In the European Union this expenditure is about 260,000 mln euro (with a population of 503 million), and the combined total for Japan and South Korea was about 164,000 mln euro (with a combined population of approximately 177 million).



**Table 1. Expenditures on R&D in selected countries in 2007-2011 (mln euro)**

Countries	2007	2008	2009	2010	2011
EU-27	229,234.5	239,355.6	236,887.4	246,580.2	259,123.4
United States	277,335.3	276,215.7	290,415.8	308,257.5	298,270.8
Japan	110,116.2	113,986.4	121,357.4	135,035.1	not available
China	35,614.5	45,150.6	60,897.2	78,724.9	96,565.2
South Korea	24,588.9	21,479.5	21,393.5	28,629.2	not available
Great Britain	36,529.1	32,200.9	29,030.9	30,732.1	31,547.1
Germany	61,481.9	66,531.5	67,014.9	69,947.8	75,500.7
France	39,303.1	41,066.3	42,834.9	43,468.8	45,027.2
Sweden	11,607.6	12,314.4	10,577.8	11,869.9	13,055.5
Russia	10,596.8	11,835.9	11,007.3	12,998.9	14,930.5

Source: Based on Eurostat-Data Explorer [appsso.eurostat.ec.europa.eu/nui/print.do?print](http://appsso.eurostat.ec.europa.eu/nui/print.do?print)

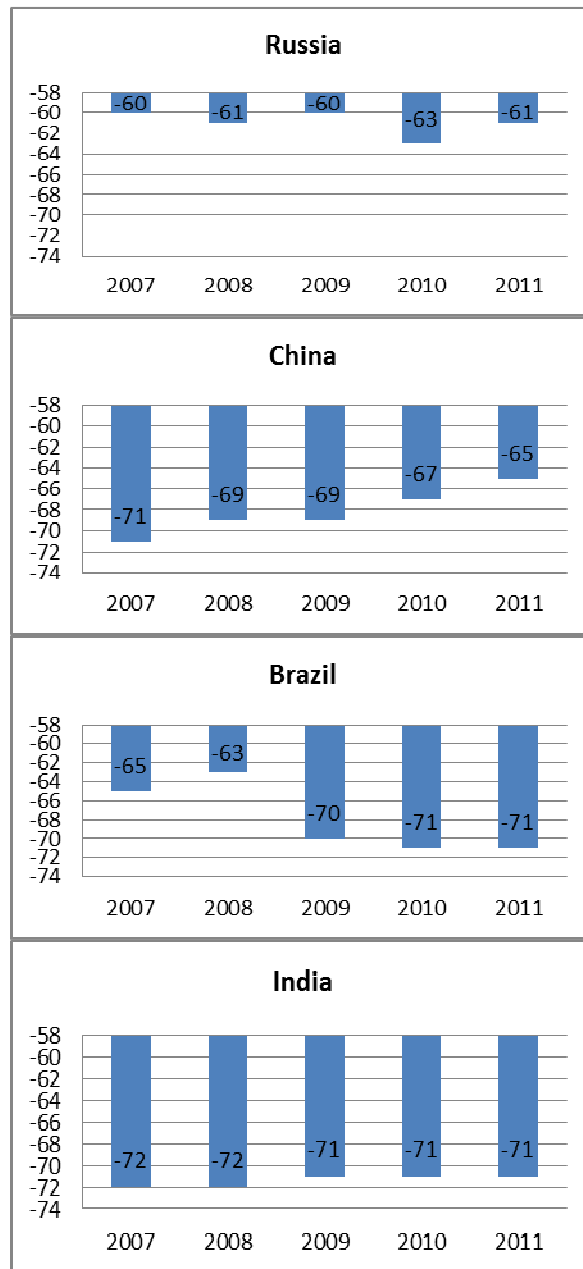
Similar conclusions can be drawn from analysis of the data on the expenditures on R&D as a share of GDP (Table 2).

**Table 2. The ratio of R&D expenditures to GDP in the European Union and selected countries in 2010 (in %)**

Countries	The R&D-to-GDP ratio (%)
EU-27	2.0
United States	2.90
Japan	3.26
South Korea	3.74
Australia	2.25
China	1.77

Source: Statistical Yearbook of the Republic of Poland in 2012, op. cit., p.794.

The level of innovativeness of the European Union economies looks much better when compared to the BRIC countries (Brazil, Russia, India, and China). Figure 2 shows the level of innovation in the EU compared to these four biggest emerging markets. A analysis of Figure 2 shows that the countries of the European Union in this respect have a distinct lead over the BRIC countries. It is worth paying attention to the improved level of innovation in the Chinese economy during the period 2007–2011.

**Figure 2. Comparison of innovation in the EU and Russia, China, Brazil, and India in 2007–2011**

Source: as above, p. 16.

The Summary Innovation Index for the European Union as a whole has to a large extent been shaped by its internal differentiation in terms of capacity and achievements in the field of innovation. Some of the most developed EU countries exceed the indices achieved by the United States, Japan and South Korea. Based on the Summary Innovation Index (SII) scores for individual countries, the European Union countries can be divided into the following four groups (Innovation... 2011):

- The innovation leaders, which include countries with SII scores higher by 20% or more than the average for the EU<sup>2</sup>. This group consists of Sweden, Finland, Denmark, and Germany.
- The innovation followers, with SII scores lower than those of the leaders and lower than the EU average by less than 10 per cent. This group includes the United Kingdom, Austria, Belgium, Cyprus, Estonia, France, Luxembourg, Ireland, the Netherlands and Slovenia.
- The moderate innovators, with SII scores between 10%–50% below the EU average. This group includes Poland, Czech Republic, Greece, Hungary, Italy, Malta, Portugal, Slovakia and Spain.
- Countries lagging behind in the development of innovation, also known as the catching-up countries, with the SII scores more than 50% below the EU average. This group is comprised of Romania, Bulgaria, Latvia and Lithuania.

Four EU members - Sweden, Finland, Denmark and Germany - demonstrate a higher level of innovation (measured by the SII) than the U.S., Japan and South Korea. For example, in 2010 the SII was 0.750 for Sweden, 0.696 for Germany, 0.672 for the U.S. and 0.641 for Japan (the data showing the level of innovation in the EU countries measured by the SII is presented in Table 3).

**Table 3. The Summary Innovation Index (SII) for the European Union, the USA, Japan, and South Korea in 2010**

Country	SII
Sweden	0.750
Finland	0.696
Germany	0.696
Denmark	0.736
Great Britain	0.618
Austria	0.591
Ireland	0.573
Luxembourg	0.565
Belgium	0.611

<sup>2</sup> In 2010, the average SII score for the European Union was 0.516.

France	0.543
Netherlands	0.578
Cyprus	0.495
Estonia	0.466
Slovenia	0.487
Czech Republic	0.414
Spain	0.395
Portugal	0.436
Greece	0.346
Italy	0.421
Malta	0.351
Hungary	0.327
Slovakia	0.269
<b>Poland</b>	<b>0.278</b>
Lithuania	0.227
Romania	0.237
Latvia	0.201
Bulgaria	0.226
EU-27	0.516
USA	0.672
Japan	0.641
South Korea	0.604

Source: based on the Innovation Union Scoreboard 2010, The Innovation Union's performance scoreboard for Research and Innovation, 1 February 2011, [www.proinno-europe.eu/metrics](http://www.proinno-europe.eu/metrics)

The high degree of differentiation in the innovativeness of the European Union's national economies is an additional challenge for European innovation policy, apart from the pressure from global competitors. Therefore, the factors that determine the objectives of this policy include not only the aspiration to reduce the EU's innovation gap with respect to world leaders, but also the need to reduce the huge diversity with respect to innovativeness among the Member States.

#### 4. Key factors for the development of innovation in the European Union

The starting point in this part of the discussion is the key question whether there are favourable conditions for the growth of innovation in the European Union, which currently has serious problems linked with the reduction of budget deficits and public debt in many countries of the Eurozone. It is

difficult to give a clear answer to this question. On the one hand, a positive response to this question would be indicated by the following advantages:

- a) Europe's considerable scientific and technological potential;
- b) The large European market for high-tech products;
- c) The fact that about 40 headquarters of global top manufacturing and service companies, listed in the top one hundred of the "Fortune 500" list, are located in Europe;
- d) The positive examples of achieving high innovation of their economies by several Member States in the European Union (Sweden, Finland, and Germany).

On the other hand the following problematical aspects need to be taken into account:

- a) The lack of success in the implementation of the Lisbon Strategy objectives, which were supposed to transform the European Union into the most competitive and dynamic economy in the world by 2010;
- b) The crisis of the costly welfare state model;
- c) The threat of disintegration of the Eurozone;
- d) The lack of strong political leadership in the EU power structures.

An important condition for the development of innovative economies in the European Union is to ensure a well-functioning decision-making procedure for implementation of the Europe 2020 Strategy. It should be recalled that one of the reasons for the failure of the Lisbon Strategy was the malfunctioning decision-making procedure with respect to its implementation. Particular criticism should be addressed to unintelligible and uneven system of allocating responsibility for the implementation of strategy objectives. This resulted in the dispersal of responsibility and lack of proper coordination between the objectives of the national strategies and the Lisbon Strategy. The ineffective coordination of national economic policies exposed the weaknesses in the open method of coordination adopted in the European Union (Giddens, 2009; European Commission, 2010).

The critical assessment of the way the Lisbon strategy project was managed gave rise to the introduction of significant changes in the management models of the subsequent big projects. These changes are reflected in the Europe 2020 Strategy, in which an enhanced management model is in operation, based on two pillars: the thematic approach, combining general priorities and goals for their implementation; and on national reporting, helping Member States develop national strategies to attain sustainable growth and sustainable public finances. Integrated guidelines have been developed at the EU level to cover the scope of EU priorities and targets. Each Member State receives recommendations for achieving the objectives of the Europe 2020 Strategy. Policy warnings can be issued in the event of an inadequate response. The assessment

of the Europe 2020 Strategy's achievements and the evaluation of the Stability and Growth Pact will be done simultaneously.

In the Europe 2020 Strategy, the European Union rightly emphasizes the importance of knowledge and innovation as drivers of competitiveness, but the main weakness of Europe does not lie here. Insufficient work productivity is not the cause either, inasmuch as a European worker produces roughly as much as an American, even though working less. It is now known that the structure of the euro area is less stable than it appeared at the beginning. The main reason for the weakness of the European Union economies is structural in nature. It arises from the costly statist-redistributive welfare state model operating in many European countries. Maintaining this model in the context of the crisis in public finances means that the majority of European countries have to increase the tax wedge (sum of taxes and contributions paid by the employee and the employer in relation to the total cost of employment) in order to reduce their public deficits.

According to the latest OECD report, the tax wedge in some EU countries is almost 50%, and even 55.5% in Belgium. Out of the 26 OECD countries which increased the tax wedge in 2011, most were member states of the EU. Among the large EU countries, the tax wedge is lower than the OECD average (35.3%) only in the UK and Poland. The U.S. economy follows a completely different path. The tax wedge there was 29.5% in 2011, and declined by 0.9 percentage points compared to 2010 (OECD, 2012).

In order to implement the objectives of the Europe 2020 Strategy, it is crucial to overcome the crisis, which has particularly strongly affected the Eurozone. Previous methods of fighting the economic slowdown and the crisis in the Eurozone have been inconsistent and ineffective. Since the outbreak of the crisis in 2008 the European Commission has presented seven rescue plans, but only every fifth recommendation has been implemented. The European Commission is too weak to set the tone for the development of the European Union. For example, in November 2010 the European Commission proposed introduction of the European Semester, i.e. a monitoring system of EU draft budgets, before they are adopted by national parliaments. It was, theoretically, a major step towards fiscal union. However, in mid-2011, while all Eurozone countries sent draft budgets to Brussels, only in a few countries, such as Ireland, did the recommendations of the European Commission make it possible to consolidate public finances. In Spain, France and the Netherlands, the budget deficit was larger than expected. Germany did not listen to the recommendations of the European Commission to slow down the pace of deficit reduction and to increase consumer spending in order to help other Eurozone countries overcome the recession.

Assessment of the effects of fighting the crisis in the Eurozone demonstrates that a good project is still lacking. The crux of the problem lies in the fact that major projects to tackle the crisis use methods that are in many ways contradictory. There are two ways out of the crisis for Eurozone economies. The first approach, supported by Germany, the Netherlands, and Austria, is based on running a tight fiscal and monetary policy in the euro area. The consolidation of public finances is supposed to restore confidence in the Eurozone and ultimately stimulate economic growth. The second approach is promoted mainly by France, with the support of Spain and Italy, and emphasizes the crucial importance of fostering economic growth by way of anti-crisis therapy, even at the cost of increasing budget deficits. Other proposals to stimulate growth include the introduction of Eurobonds, a banking union, and a loose monetary policy of the European Central Bank.

This is a kind of 'Brussels Knot': on one hand how to reconcile proposals to stimulate economic growth and at the same time reduce the deficit and public debt without running the risk of inflation due to loosening fiscal policy and monetary policy, and on the other hand the risk of a deepening recession. The European growth initiative, proposed by the European Commission in the context of the debate on the future EU budget for 2014-2020, seems to be an appropriate way to cut this knot. The essence of this initiative is to combine structured (healthy) public finances, deep structural reforms, and innovative growth-oriented investments, not only at national level but also at the European level, in order to use the full potential of the EU. Therefore, the Commission proposes a new cohesion policy, which closely combines access to structural and cohesion funds with the implementation of structural reforms that promote growth. Payments from certain funds may be suspended if a state does not introduce the required structural reforms.

In line with the objectives of the Europe 2020 Strategy, the Commission proposes to significantly increase investment in research, innovation, education, infrastructure, and energy in the forthcoming budget. For example, €50 billion will be allocated to the "Connecting Europe Facility", which will fund large-scale projects for the development of ICT technology, cross-border transport, and energy efficiency. This fund will complement the missing links between key economic infrastructures in Europe. Only through the budget of the European Union will it be possible to provide trans-European network investments, such as the transfer of energy from one end of Europe to another.

The European Commission's program for economic growth poses no threat to fiscal consolidation in the Member States. Firstly, the EU budget is modest - a mere 1% of EU GDP and about 2.5% of total public expenditures in the EU (EU budget..., 2012). The budget therefore is not the cause of budgetary

imbalances in Europe. Secondly, the new rules on the EU budget introduce strong incentives that motivate states to restore their public finances.

Some Member States want to reduce the budget amount proposed by the European Commission by at least €100 billion for the period 2014–2020. In addition, they seek to limit expenses to those that are most conducive to economic growth in the whole EU, i.e. funds for research and innovation, the cohesion policy, and the “Connecting Europe Facility”. The proposed cuts in the EU budget would have an overall effect of 0.084% of the EU GDP, and hence will not affect EU public finances in terms of their stabilization.

The financial framework for the period 2014–2020 presented by the European Commission should be considered as an important element of any medium or long-term program for economic growth in Europe. New rules on EU budget expenditures should help the simultaneous implementation of consolidation of public finances, investment funding, and structural reforms. It is, so it seems, the best way to create a macroeconomic environment conducive to the development of innovation in the European Union economies.

## 5. Conclusions

Along with the advance of globalization it is becoming increasingly difficult to maintain the competitiveness of European Union economies. This is a challenge requiring significant modifications in the development strategy of the European economic area. The economic system of the EU is one of the most open in the world, but competition from the developed countries and emerging economies is becoming stronger. Countries such as China and India are increasing their investments in research and innovation in order to gain a better position in the global economy.

The European Union is facing a distinct, albeit difficult choice. It needs to unite against the strongest challenge - to repair the economies affected by the crisis - as well as address other long-term challenges such as increasing globalization, the increasing demand for limited natural resources, and the ageing of the population, in order to enhance its competitiveness, increase the level of innovation and lead the European economy on a path of sustainable development. The alternative is to continue slow and largely uncoordinated reforms at the risk of slower growth, resulting in increased unemployment, social unrest, and loss of importance in the international arena.

The Europe 2020 Strategy is the European Union's ambitious response to the aforementioned challenges and is one of the most advanced integration



programs of modernization of the economies of Europe in the history of European integration. The strengthening of research capacity and improving the level of innovativeness of the European Union economies play important roles in achieving the objectives of the Europe 2020 Strategy. The ability to create and commercialize innovations is crucial to reduce the technological and economic gap between the European Union and the United States, Japan and South Korea.

## References

- Atkinson R. D., Andes S. M. (2009), *Benchmarking EU and U.S. Innovation and Competitiveness*. The Information Technology and Innovation Foundation, Washington
- Baumol W. J. (2002), *The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism*, Princeton University Press, Princeton 2002
- Chen D. H. C., Dahlman C. J.(2004), *Knowledge and Development. A Cross Section Approach*, World Bank Policy Research Working Paper, August, No. 3366
- Communication from the Commission, Europe 2020 (2010), A strategy for smart, sustainable and inclusive growth, COM 2020 final, Brussels 03.03.2010
- EU budget and external cooperation, [ec.europa.eu/europeaid](http://ec.europa.eu/europeaid)
- Giddens A. (2009), *Europa w epoce globalnej*, PWN, Warsaw
- Innovation Union Scoreboard 2010 (2011), [www.proinno-europe.eu/metrics](http://www.proinno-europe.eu/metrics)
- Innovation Union Scoreboard 2011 (2012), [www.proinno-europe.eu/metrics](http://www.proinno-europe.eu/metrics)
- Lucas R. E. (1988), *On the Mechanics of Economic Development*, 'Journal of Monetary Economics', No. 21
- Ocena strategii lizbońskiej, Komisja Europejska, dokument roboczy służb Komisji, Bruksela, 02.02.2010 SEK (2010)
- OECD Economic Surveys, OECD, Paris 2012
- Romer P. M. (1990), *Endogenous Technological Change*, 'Journal of Political Economy', vol. 98, no. 5
- Stern S., Porter P. M., Furman J. L. (2000), *The Determinants of National Innovative Capacity*, Working Paper, no 7876, National Bureau of Economic Research Cambridge MA

## **Streszczenie**

### **UWARUNKOWANIA I PERSPEKTYWY ROZWOJU INNOWACYJNOŚCI GOSPODAREK UNII EUROPEJSKIEJ W ŚWIECIE STRATEGII EUROPA 2020**

*Celem opracowania jest wyjaśnienie istoty Strategii Europa 2020 ze szczególnym uwzględnieniem projektów rozwojowych w dziedzinie innowacyjności, dokonanie oceny poziomu innowacyjności gospodarek unijnych na tle USA, Japonii i Korei Płd., a także odpowiedź na pytanie dotyczące warunków rozwoju innowacyjności unijnego obszaru gospodarczego w świetle celów programowych Strategii.*

*Opracowanie składa się z trzech części. W części pierwszej przedstawione są istota i założenia Strategii Europa 2020. Część druga zawiera analizę poziomu innowacyjności gospodarek Unii Europejskiej w porównaniu z USA, Japonią i Koreą Płd. W części trzeciej rozważania koncentrują się na przedstawieniu uwarunkowań i perspektyw rozwoju innowacyjności gospodarek Unii Europejskiej.*