INNOVATIVENESS OF THE ECONOMY AS PART OF THE STRUCTURAL POLICY WITH THE PERSPECTIVE OF POLAND'S INTEGRATION WITH THE EUROPEAN MONETARY UNION

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Abstract

An important challenge after the Polish accession to the euro will be to maintain the competitiveness of the Polish economy on world markets. Entry into the euro area means the loss of the nominal exchange rate of currency adjustments in response to changing conditions in world trade. This means that the adjustment of relative prices and costs, can be made only channel internal devaluation, ie. by the drop in wages, production costs and relative prices.
Experience of selected euro area countries show that such activities may be associated with increased amplitude of fluctuations in the business cycle and temporarily elevated unemployment rate. It should be noted that an alternative area in this situation is non-price competitiveness, ie structural, which affects the quality and the diversity of the exports of the country. Structural competitiveness associated with increased innovation economy.
The aim of the study is to assess the level of innovation of the Polish economy against the background of the European Union.

Keywords: competitiveness of the Polish economy, innovativeness of the Polish economy, indicators of innovation, financial and economic crisis, Monetary Union.

1. INTRODUCTION

The financial and economic crisis of 2008-2009 contributed to the transformations in world economy, affecting the socio-economic situation of individual countries including Member States of the European Union (EU). Among various ways out of the crisis, which should boost economic growth, the main way in the case of the EU Member States, is the policy to increase innovation in economy. Innovation policy is also essential in the process of adaptation and integration of the EU economies. In Poland's case, it plays a special role with the prospect of accession into the structures of the Monetary Union. It should be noted that Poland was admitted to the EU as a country with a derogation. This means that it is obliged (by virtue of the provisions of the Treaty) to adopt the common currency, although the Accession Treaty does not designate a specific date of introduction of the euro.

Therefore, a very significant challenge after entering the euro zone will be to maintain the competitiveness of the Polish economy on world markets. Entry into the euro zone means the loss of adjustments to nominal exchange rate (relative to the partners of the monetary union) in response to changing conditions in world trade. This means that the adjustment of relative prices and costs, requiring a depreciation of the real exchange rate against the euro, can be made only through internal devaluation, i.e. by a drop in wages, production costs and relative prices. The experience of selected euro zone countries shows that such operations could lead to an increase in the amplitude of the fluctuations of the business cycle and of the unemployment rate. Hence, a very important part of preparation for entry into the euro zone is to create strong foundations for the competitiveness of the Polish economy. These in turn are increasingly connected to the increase of economy innovation.

The aim of this article is to analyze and assess the degree of innovativeness of the Polish economy in comparison to other European Union countries.

The study used the following research methods:
- Analysis of the literature.

- Analysis of national and EU legislation.
- Analysis of statistical data presented in the studies of Eurostat and the European Commission.

2. THE ESSENCE AND INDICATORS OF INNOVATION IN THE ECONOMY

In the theory of economics, there are many definitions of innovation and how to describe it using a variety of indicators. A definition worth mentioning is that of A.J. Schumpeter, the author of *The theory of economic development.* In this work, published in 1912, the author defines innovation as "new combinations of factors" which destroy the balance of branches in which these combinations appear. The innovations, as understood by the author, are production and trade combinations. Therefore, any change that modifies the relative scarcity of factors of production or increases the usability of existing goods, creates a new usability. The author treats innovation as a tool for development off sets the state of relative equilibrium of branches in which these combinations appear. The combinations include [Schumpeter 1960]:

1) the launch of a new product or new type;
2) the application of a new product production method , i.e. one which is not used in the industry or for example a new marketing solution;
3) opening or creating a new market for a given domestic branch;
4) getting a new source of supply of new raw materials or semi-finished goods;
5) reorganizing a given branch , e.g. the creation of a monopolistic situation or its break down.

In his theory, Schumpeter draws attention to the diversity of concepts such as innovation and invention (an invention). Until inventions (regardless of their potential) are not applicable in economic practice, they have no economic significance and thus do not contribute to modernization or boosting of the economy. On the other hand, new combinations, according to the classification presented above, may not be inventions at all, but contribute to the growth of innovation and competitiveness of the economy [Nowak P. 2012, Arrow 1962, Guy 1997].

According to the terminology of the OECD and Eurostat, innovative activity is a series of activities of a scientific (research), technical, organizational, financial and commercial nature, whose purpose is to develop and implement new or significantly improved products and processes [Oslo Manual 2005, OECD 2007]].

On the other hand, in Article 2 of the Act of 30 May 2008 on *certain forms of supporting innovative activity*, innovative activity is called, the business of developing new technology and on its basis running the production of new or significantly improved products, processes or services.

Therefore, innovation policy is a set of elements of political science and technology. It is understood as one of the economic policies, which includes the following areas [Janasz 2005, OECD/EUROSTAT 2005, Smith 2004]:

–strengthening linkages in the national innovation system - the formation and development of possibilities to implement innovation both in the field of engineering and technology, as well as organizations and education,
– the use of international cooperation and the globalization processes in the economy.

It should be noted that elements of the innovation politics of a given country are formed under the influence of specific features of a given country, such as historical experience, culture, human capital, legal and institutional conditions, etc.

The importance of innovation politics stems from two facts [*Polityka innowacyjna w Polsce do 2006 roku*, www.mg.gov.pl]:

–the role that innovation (technological and organizational) play in economic growth. In modern economies, the significance of innovation in relation to the traditional factors of economic growth, such as land, capital and labor is increasing. Economists estimate that as many as 2/3 of the economic growth of developed countries should be attributed to the introduction of innovation;
–the so-called phenomenon of imperfect self-regulatory function of the market, which by itself, without government support, it is not able - from a social point of view- to provide innovation of the economy at an optimum level (in terms of economic competitiveness, regional development, employment growth).

Annual reports EU entitled Innovation Scoreboard, compare the ability of the European Union member states to create new knowledge, to use it and spread it in the form of innovation. The level of innovation of economies depends on many factors. Those that play an important role are human resources, financial resources, infrastructure, the ability to create and use business and social networks. In the area of innovative activities of countries there is no one universal indicator to evaluate the innovation of an economy. It is necessary to use a variety of indicators that show the budgetary expenditure of companies on R & D (research and development), the intensity of innovation of companies, the number of patented inventions and registered usable models, etc. However, the use of too broad set of indicators may not give a full picture of the level innovativeness of the economy. A way to overcome the limitations of measuring the level of economic innovation is the methodology of the European Innovation Scoreboard (EIS) developed by the European Commission. According to the EIS,

instruments for innovation assessment of the economy can be divided into two groups[Innovation Union Scoreboard 2015, Kleinknecht, Montfort, Brouwer 2002]:
1) *measuring instruments reflecting investments in innovative activity*, which describe the innovative abilities of the economy, that is, its potential in the development and commercialization of innovations;
2) *indicators describing the results of innovation activity*, which are used to assess the innovative position of a particular country, that is the effects of combining the creativity of a society with financial resources in a particular economic and institutional environment.

In the *measuring instruments group which characterize costs in innovation* three basic categories can be listed [Godecki 2008]:
1) financial resources (such as private and public spending on R & D, expenditures of enterprises on innovation, expenditure on computerization, the role of venture capital);
2) human resources (education level of the youth, continuous education, engineering graduates, percentage of the population holding a university degree);
3) environment supporting innovative activity (cooperation in innovation, degree of innovation of small and medium-sized enterprises).

In the case of *measuring instruments for innovation activity*, the following categories exist:
1) results of research and innovation activities(patents, usable models, trademarks);
2)employment (percentage of people employed in the production of goods and services of high technology);
3) commercialization of knowledge (share in sales totals of new and modernized products, share in total exports of high technology products).

The first group of measuring instruments is based on the amount of expenditures on research and development activity, the amount of patents, technological intensity and patent statistics. Calculation of expenditure on research and development relates to the business sector, public sector and education system. According to GUS (Central Statistical Office in Poland) research and development activities are "systematically conducted creative tasks, undertaken in order to increase knowledge, including knowledge of man, culture and society, as well as for discovering new uses of this knowledge" [GUS 2010].

It should be noted that the largest share of innovative expenditures in Poland are funds for the purchase of machinery and equipment. For companies from countries which are catching up to others, such as Poland, it is more profitable to buy existing technology rather than carry out their own, costly research and development. R & D activities measuring instruments include:
- research and development spending,
- employment in the research and development sector.

In relation to the national economy, the GERD indicator is widely used (*gross expenditure on research and development)* - gross domestic expenditure on R & D activities, which include all expenditures incurred in a given year on R & D activities in a given country regardless of the source of funds. GERD indicator consists of three parts: BERD (business expenditures on research and development) - part created by companies; HERD (higher education on research and development) - part created by the education system and GOVERED (government expenditures on research and development) - government spending [GUS 2004, OECD 2002].
GERD indicator is calculated according to the methodology of Frascati, the methodological recommendations are contained in a textbook known as the OECD Frascati Manual

Another indicator based on expenditure on R & D is high technology. High technology applies to those areas of economic activity, in which the ratio of expenditure on research and development to sales is high.

It should be noted that originally technological intensity indicators were used only for industry, but with the growing importance of the services sector since the mid-90s, this ratio is calculated also for this sector.
Currently, the applicable classification of industrial enterprises was created in 1995. It divides companies into four categories [Godin B. 2004, GUS 2006]:
– *high-technology industries* – more than 5% share of R & D in turnover,
– *medium-high-technology industries* – 3–5% share of R & D,
– *medium-low-technology industries* – 1–3% share of R & D,
– *low-technology industries* 0–1% share of R & D.
The larger the share of high-tech companies in the economy, the higher the level of innovation in the country. As much as possible to increase the competitiveness of the economy contribute to the company classified as high-tech. Companies classified as high-tech contribute the most to the increase of competitiveness of the economy.

Other measuring instrument based on R & D activity are patent indicators. One of the main measuring instruments of the effects of patent activity is an indicator that shows the number of patent applications submitted and the number of patents granted.

The term invention means a novelty, which is not part of current technology. An invention is considered to have inventive element, if it is not apparent to an expert that it contains previously invented technology. An invention can be granted a patent, if its use is not contrary to public well-being or morality.

At the same time, inventions do not include [:*Potencjał Innowacyjny*, http://www.stat.gov.pl 16.03.2016]
–discoveries, scientific theories and mathematical methods;
–articles having only an aesthetic nature;
–plans for rules and methods of intellectual and economic activities, games;
–creations, whose incapability of exploitation may be proved under the generally accepted and recognized principles of science;
– digital machines software;
– presentation of information.
The procedure for patent applications can run in both domestic as well as international mode called PCT. PCT - Patent Co-operation Treaty, was signed on June 19, 1970, in Washington. It started to be used on 1 June 1978, introducing international patent applications which entail the same effects as the application in the national procedure in each of the signatory states of the system. Poland joined the Patent Cooperation Treaty in December 1990.

National procedure applies to all types of applications submitted directly to the patent office of a given country from which the application originates and from abroad under the Paris Convention in 1883. International mode of PCT concerns applications submitted in the patent office of a country by non-residents within the framework of the Patent Cooperation Treaty.

A very dynamic growth in the number of patent applications indicates the acceleration of technological progress in the twenty-first century. Asian countries are rapidly building a knowledge-based economy - in the last 4 years, China has increased the number of applications to the WIPO (World Intellectual Property Organization) more than by three times, and South Korea by 140%. There exists a huge gap between the top ten world leaders in innovation and Central-Eastern Europe [*Raport o kapitale intelektualnym*, http://www.pliki.innowacyjnosc.gpw.pl 13.03.2016].

3. THE INNOVATION POSITION OF POLAND COMPARED TO OTHER EU MEMBER STATES

The innovative position of Europe is described by data contained in the tables of innovation performance for each year. They help in monitoring the implementation of the "Europe 2020" strategy. The EU's innovation board (IUS) of 2015 was based on 25 indicators in the field of research and innovation that reflect the overall innovative situation of member countries.
Indicators in the EU's innovation table have been divided into three main categories:
– "Factors giving opportunities", i.e. the basic elements that enable the existence of innovation;
–"Activity of enterprises" - showing the degree of innovation of European companies;
–"Results" - illustrate how innovation translates into benefits for the economy

In the EU innovation table, Member States were divided into four groups: innovation leaders, countries catching up to leaders, moderate innovators and innovators with modest results. Innovation leaders are the Scandinavian countries and Germany. Countries catching up to leaders that have achieved results similar to the average of the EU-28 are Austria, Belgium, France, the Netherlands, Ireland, Luxembourg, Slovenia and the United Kingdom. The results achieved by the Czech Republic, Lithuania, Cyprus, Greece, Spain, Malta, Poland, Portugal, Slovakia, Hungary, Italy, Estonia are below the average for the EU-28. These are the moderate innovators. The results achieved by Bulgaria, Latvia, and Romania are well below the average for the EU-28. They are innovators with modest results (Table 1).

Although there is no single recipe for success in innovation, most of the innovation leaders in the EU achieve an advantage in the area of business activity. The best ones show strong links between the business sector and academia. The commercialization of new technologies is also important, reflected in the income obtained from abroad in respect to licenses and patents.

In comparison to Euro zone countries, Poland is assessed as a country with a moderate degree of innovation, which could suggest problems with structural competitiveness
According to the latest report of the ***Innovation Union Scoreboard 2015***[1], Poland, reaching a synthetic innovation indicator at the level of 0,313, is among countries with moderate innovation, defined as moderate innovators ahead of Romania, Bulgaria, Latvia, Lithuania and Croatia. Compared to the previous year, Poland remained in the group of moderate innovators, and also moved up two place higher ahead of Lithuania and Croatia (table 1).

[1] *Innovation Union Scoreboard 2015* is already the 14th edition since the introduction of the European Innovation Scoreboard in 2001. Innovation is measured by a composite indicator that summarizes the results of several different indicators.

Table 1.

The innovative potential of the European Union (28) in 2014

Country	**Innovation index**	
Romania	0,204	**Modest innovators**
Bulgaria	0,229	
Latvia	0,278	
Lithuania	0,283	**Moderate innovators**
Croatia	0,313	
Poland	**0,313**	
Slovakia	0,360	
Greece	0,365	
Hungary	0,369	
Spain	0,385	
Malta	0,997	
Portugal	0,403	
Italy	0,439	
Cyprus	0,445	
Czech	0,447	
Estonia	0,489	
Slovenia	0,534	**Innovation followers**
EU (28)	0,555	
Austria	0,585	
France	0,591	
Belgium	0,619	
Ireland	0,628	
G. Britain	0,636	
Luxemburg	0,642	
Holland	0,647	
Germany	0,676	**Innovation leaders**
Finland	0,676	
Dania	0,736	
Sweden	0,740	

Source: Innovation Union Scoreboard 2015

In the general classification, Sweden has remained the leader. The fastest growing innovators are Malta, Latvia and Bulgaria, Ireland, the United Kingdom and Poland. Globally, the results of the EU still do not compare to results of the US, Japan, South Korea.

Total innovation index for Poland represents 56.4% of the average rate for EU countries, which is the reason for maintaining a position among the moderate innovators (in this group are countries reaching from 50% to 90% of the average rate for all countries).A significant improvement can be seen in comparison with the data from last year's IUS report, as the summary innovation index for Poland amounted to 50.4% of the average rate for the 28 EU countries (in previous years, this indicator amounted to 49% (2012), 53% (2011), 51% (2010), 53% (2009 and 2008)). Summary indicators for the EU countries in the years 2006-2014 show a clear upward trend. When compared to Poland, Poland looks quite stable with a minimal upward trend (fig. 1).

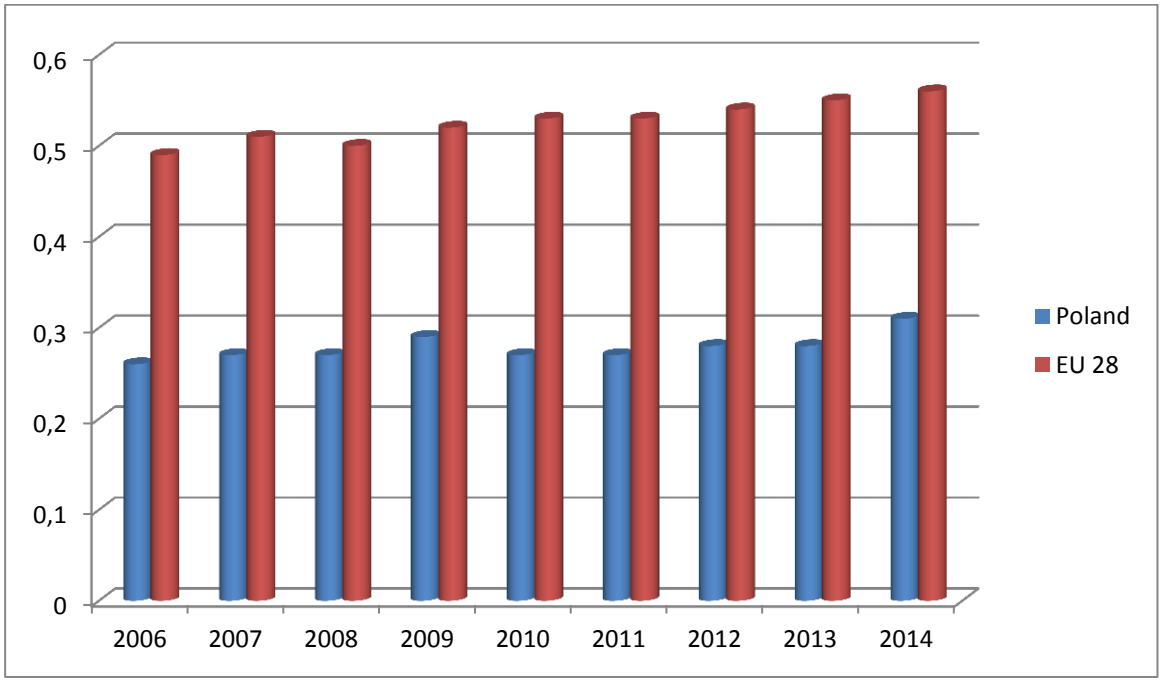

Figure 1. Total innovation index and trend line for the Poland and the EU in 2006-2014
Source: Innovation Union Scoreboard 2015

In terms of most of the sub-indices, Poland falls below the average for EU countries. The weaknesses include: the share of foreign doctoral students from outside the EU, the number of patent applications in the field of social change, spending on R & D incurred by businesses, revenues from licenses and patents sold abroad, newly awarded doctoral titles.

In turn, the strengths (above the EU (28) average (28) are: investment in innovation, not including expenditure on R & D, the percentage of the general population holding a university degree and participation of young people with at least secondary education. Indicator such as the European union design is at the EU average level.

A negative growth was recorded in the following areas: innovation cooperation of SMEs (small and medium-sized enterprises) with other entities, internal innovation of the SME sector, the share in sales of innovative products, innovative activity of : products, processes, marketing and organization and with the amount of newly granted PhDs.

According to the European Commission, the nature of Polish innovation system is based mostly on implementing foreign technology rather than creating it within the country. The relatively high percentage of companies which do not report activity in the area of research and development should also be pointed out.

From the macroeconomic perspective, the relatively low level of innovation is partly due to the low level of spending on research and development, and its unfavorable structure.

In 2014, the ratio of expenditure on research and development to GDP in Poland amounted to only 0.9%, which is more than twice less than in the Euro zone (2.1%). Their structure is also unfavourable. Share of the private sector in total expenditures on research and development (32% in Poland in 2012, compared to 56% in the Euro zone in 2011) is low. Moreover, in the case of businesses, in 2010 75% of funds to be allocated for innovation were spent on the purchase of machinery, equipment and software, while for internal research and development, that is, to create innovation within enterprises, only 13% of expenditures were on innovation. This is a significantly lower proportion than in the main Euro zone countries (table 2).

From the microeconomic perspective, an important barrier to the development of innovation in Poland is the high cost of innovation, combined with problems accessing external financing. The following barriers to the growth of innovation can be pointed out [Bukowski, Szporn Śniegocki 2012]: (i) financial barriers, (ii) the low efficiency of public support mechanisms, (iii) the lack of cooperation between enterprises and research institutions, and (iv) insufficient level of human capital. In the case of innovative activity of Polish companies, survey results of *Community Innovation Survey 2010* indicate the importance of factors of a financial nature. Compared with companies from other EU countries, Polish companies more often declare that the barrier to innovation is their high cost, coupled with the lack of access to external financing and insufficient internal funds.

These problems are partly related to government innovation politics and policies such as the existence of only few possibilities of tax deduction due to expenditure on research and development and the relatively low level of support in the form of grants

Table 2
Gross domestic expenditure on R&D (GERD) % GDP

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
EU 28	1.76	1.76	1.78	1.78	1.85	1.94	1.93	1.97	2.01	2.03	2.03
Belgium	1.81	1.78	1.81	1.84	1.92	1.98	2.05	2.15	2.36	2.42	2.46
Bulgaria	0.48	0.45	0.45	0.44	0.46	0.51	0.59	0.55	0.62	0.65	0.8
Czech Republic	1.15	1.17	1.23	1.31	1.24	1.3	1.34	1.56	1.79	1.91	2
Denmark	2.42	2.39	2.4	2.51	2.78	3.07	2.94	2.97	3.03	3.08	3.08
Germany	2.42	2.42	2.46	2.45	2.6	2.72	2.71	2.79	2.87	2.83	2.84
Estonia	0.85	0.92	1.12	1.07	1.26	1.4	1.58	2.34	2.16	1.74	1.46
Ireland	1.18	1.2	1.21	1.24	1.39	1.63	1.62	1.56	1.58	1.58	1.55
Greece	0.53	0.58	0.56	0.58	0.66	0.63	0.6	0.67	0.69	0.8	0.83
Spain	1.04	1.1	1.17	1.23	1.32	1.35	1.35	1.32	1.27	1.24	1.2
France	2.09	2.04	2.05	2.02	2.06	2.21	2.18	2.19	2.23	2.24	2.26
Croatia	1.03	0.86	0.74	0.79	0.88	0.84	0.74	0.75	0.75	0.81	0.79
Italy	1.05	1.05	1.09	1.13	1.16	1.22	1.22	1.21	1.27	1.3	1.29
Cyprus	0.34	0.37	0.39	0.4	0.39	0.45	0.45	0.46	0.43	0.46	0.47
Latvia	0.4	0.53	0.65	0.56	0.58	0.45	0.6	0.7	0.66	0.6	0.68
Lithuania	0.75	0.75	0.79	0.8	0.79	0.83	0.78	0.9	0.9	0.95	1.02
Luxembourg	1.62	1.59	1.69	1.61	1.64	1.71	1.53	1.5	1.29	1.31	1.24
Hungary	0.87	0.93	0.99	0.97	0.99	1.14	1.15	1.2	1.27	1.41	1.38
Malta	0.49	0.53	0.58	0.55	0.53	0.52	0.64	0.69	0.86	0.85	0.85
Netherlands	1.81	1.79	1.76	1.69	1.64	1.69	1.72	1.9	1.94	1.96	1.97
Austria	2.17	2.38	2.37	2.43	2.59	2.61	2.74	2.68	2.89	2.96	2.99
Poland	**0.56**	**0.57**	**0.55**	**0.56**	**0.6**	**0.67**	**0.72**	**0.75**	**0.89**	**0.87**	**0.94**
Portugal	0.73	0.76	0.95	1.12	1.45	1.58	1.53	1.46	1.38	1.33	1.29
Romania	0.38	0.41	0.45	0.52	0.57	0.46	0.45	0.49	0.48	0.39	0.38
Slovenia	1.37	1.41	1.53	1.42	1.63	1.82	2.06	2.42	2.58	2.6	2.39
Slovakia	0.5	0.49	0.48	0.45	0.46	0.47	0.62	0.67	0.81	0.83	0.89
Finland	3.31	3.33	3.34	3.35	3.55	3.75	3.73	3.64	3.42	3.3	3.17
Sweden	3.39	3.39	3.5	3.26	3.5	3.45	3.22	3.25	2.36	2.42	2.46
United Kingdom	1.61	1.63	1.65	1.69	1.69	1.75	2.05	2.15	0.62	0.65	0.8

Source: Eurostat

The development of innovation in the past was also limited by the low efficiency in utilizing European funds granted to support innovation. The evaluation of the Operational Programme - Innovative Economy 2007-2013, conducted by the World Bank, shows the following weaknesses [World Bank Group 2015]:

- excessive support of large companies at the expense of SMEs and start-ups,
- excessive support of technology at low and medium level of technological advancement,
- an excessive amount of resources (56%) intended to support the research process at a late stage of research, that is when the risk of failure of a supported project is relatively low,
- excessive support of projects with a low risk in the form of non-repayable grants (instead of loans). According to the World Bank, non-repayable grants should be used rather for risky projects, i.e. at an early stage of the research process,
- excessive attention paid to formal aspects of projects and preference of the services sector in the process of awarding grants,
- low evaluation level of grant programs.

Despite a low level of innovation ,Poland has experienced a significant increase in participation in world trade. Poland, as well as selected countries of the surrounding region, is an interesting example of a country that is characterized by relatively good historical results under conditions of low innovation. This was due to the import

of foreign technology and low production costs, which was increasingly used by foreign and domestic producers, along with a progressive trade liberalization and lifting of barriers to foreign investment.
The convergence of wages after accession into the Euro zone will require strengthening the structural competitiveness. The basic opportunity arising from the accession into the Euro zone is the prospect of accelerating the pace of real convergence, including the relative growth of household income. However, this means an increase in the relative wages, and thus decreasing the cost – price competitiveness. Therefore, in order to take advantage of the faster economic growth and to avoid the rise of external imbalances, structural competitiveness should be improved. An additional challenge is that , the existing methods to improve non-price competitiveness, including import of foreign technologies, may prove to be less effective with the ongoing process of convergence.

Prognosis of the Ministry of Science and Higher Education show that, in 2020 spending on research and development may reach 1.7-1.9% of GDP. In a pessimistic scenario, these expenditures are estimated to be about 1.45% of GDP. The Ministry states, however, that the determination of the level of indicator value of expenditures on research and development was preceded by the adoption of a number of assumptions. It has been assumed that the average GDP growth for 2010-2020 will amount to 3%, and inflation to 1,5%. In addition, a "highly pro-development" version of growth of nominal spending of budget funds on science - on average by 14%, had also been assumed. Moreover, three variants for the allocation of resources from the structural funds for 2013-2020 on research and development in the amount of 3 billion Euros, 6 billion Euros and 9 billion Euros were adopted. Two scenarios on the use of non-budgetary funds for expenditure on research and development - 40% (as at present), and 50% were assumed. According to the ministry of science, achieving the most optimistic scenario depends largely on the possibility of obtaining EU funds and changes in the existing structure of financing expenditures on research and development [Polska 2030 2013].
A governmental strategy "Poland 2030" predicts that, spending on education will rise to 1.62% of GDP in 2020 and ultimately to 4% in 2030. In order to achieve this, expenditure on research and development must increase 20% every year compared to the previous budget and double the participation of enterprises in R & D , assuming a constant GDP growth of 3.5% per year without taking into account the inflation.

CONCLUSIONS

Poland’s position in the rankings presented by EU institutions testifies to the fact that the Polish economy is one of the least innovative economies in Europe. The country's economic growth is mainly based on low labor costs, a large domestic market and funds from the European Union. However, it should take into account that these simple growth reserves will in a few years run out and there may be a threat of no development for Poland. Poland’s current position is the result of years of negligence which is still occurring. There is no indication that Poland is able to make up for this gap in the near future. The deficit in the sector of public finances, public debt and successive layers of problems in the Euro zone suggest further cuts and savings in spending on research and development. Expenditure on innovation activities in Poland have been for many years one of the lowest in Europe. The cooperation of the private sector and the public is negligible, and the prospects for graduates in the labour market appear pessimistic. The current economic situation has become increasingly unpredictable and it is difficult to assess the prospects for the near future. Therefore, it seems that in the circumstances of high uncertainty and probable recession in the economies of Western countries, the chances of improving the situation of the economy as a whole are small, but single market participants still have this chance. Therefore, the government should intensify efforts to reduce bureaucracy in the economy, make the process of starting a business easier and build an overall positive climate for business. Poland does not have to constantly place at the bottom of rankings of countries friendly to entrepreneurship. If it becomes a country open to investments, this fact will contribute significantly to improving Poland’s current position in terms of innovation.

Low structural competitiveness increases the risk of rising macroeconomic imbalances after the adoption of a common currency. Regardless of participation in the Euro zone, structural weaknesses are a factor in lowering the potential of economic growth and retarding the pace of real convergence. This is because these weaknesses are reflected in the lower level and a slower growth of total factor productivity, TFP, a lower rate of domestic savings, as well as have a negative impact on the level and structure of foreign direct investment. However, after the adoption of a common currency, due to the lack of possibility for adjustment of the nominal

exchange rate and the resigning from an independent interest rate policy, a low structural competitiveness may have additional negative effects. In particular, the experience of recent years suggests that in the case of Euro zone countries, economic adjustments - at the time of gradual build-up of macroeconomic imbalances, a deficit on the current account and accumulation of foreign debt, as well as the loss of share in world trade - take place later than in the case of countries outside the currency union. Thus, the scale of accumulated imbalances becomes larger, and the adjustment more painful. For these reasons, it is very important to achieve high structural competitiveness.

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