

THE LINGERING PROBLEMS OF THE KNOWLEDGE - BASED SOCIETY DEVELOPMENT IN THE SLOVAK REPUBLIC¹

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In the context of the research on the building of knowledge-based society we focus primarily on the principal point of the Lisbon agenda – the development of the knowledge-based economy. Without accomplishing this fundamental socio-political goal and pre-requisite it is not possible to proceed with the development and the pursuit of other long-term goals established in the Lisbon Strategy. This is the reason why the presented contribution is focused primarily on the development of the knowledge – based society.

The Slovak ambitions regarding the increase in science and research investment have not been accomplished. The actual priority of the political development strategy of the Slovak Republic is therefore essentially twofold: first, to reflect not only the situation within the EU, where Slovakia lags significantly behind other EU member states; second, to reflect the situation in the application of scientific knowledge in rapidly developing states (such as Russia, China, India, Brazil, Singapore, Israel and others). These states are prominent for their rapid improvement of scientific and development base that creates the conditions and pre-requisites for the transformation toward the knowledge-based society.

Disastrous position of the Slovak Republic in the realm of innovative efficiency is illustrated in the following charts. The first graph depicts research and development expenditure in 2006. The allocation of resources on research and development in the Slovak Republic constitutes only 0, 49 % of the Slovak

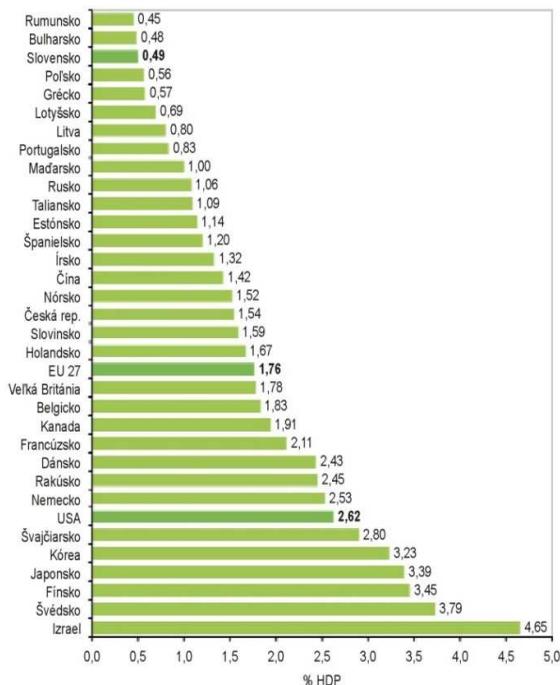
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¹ This study is published with the support of grant scheme UGA „Comparative analysis of the development of EU regions in the process of the development of knowledge-based society“, and grant scheme UGA „Proliferation of the weapons of mass destruction in the Middle East and its impact on the security relations in the region.“

GDP, situation the Slovak Republic below the average expenditure of the whole EU (1, 76 % GDP). Only Bulgaria (0, 48 % GDP) and Romania (0, 45 % GDP) invested less financial resources in research and development projects than the Slovak Republic. Among European states Sweden (3, 79 % GDP), Finland (3, 45 % GDP) and Switzerland (2, 80 % GDP), allocate the highest percentage of their GDP in the sphere. Other leading countries on the global level are Israel (4, 65 % GDP), Japan (3, 39 % GDP), South Korea (3, 23 % GDP) and the USA (2, 62 % GDP).

Graph No. 1: Research and Development Expenditure

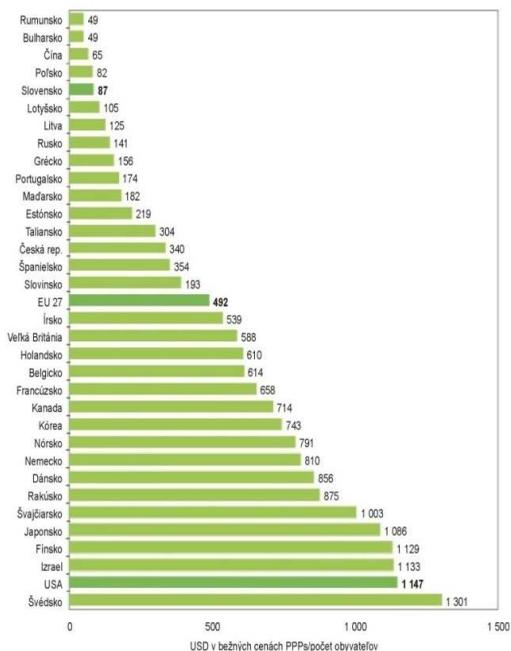


Source: Main Science and Technology Indicators, 2008/1 Eurostat, May 2008, 2006 data.

In terms of total research and development expenditure based on the measurement of purchasing power parity (PPP) per capita, the top-ranking countries are the Scandinavian states Sweden and Finland, followed by the

USA, Israel, Japan, South Korea and Switzerland (over 1000 USD in PPP per capita). The Slovak investment reached 87 USD in PPP per capita, while average EU member states invested around 492 USD. Less resources were allocated only by Poland (82 USD), China (65 USD), Bulgaria (49 USD) and Romania (49 USD).

Graph No. 2: Total Research and Development Expenditure Per Capita



Source: OECD, Main Science and Technology Indicators, 2008/1 Eurostat, May 2008, 2006 data

When comparing Slovak Republic and the EU with other states, we can see how they lag behind in the area of research and development. Similarly to other advanced countries, the priority of the EU and Slovakia is to build the knowledge society in order to secure a long-term competitiveness not only in Europe but also on global level. Even while not considering the inter-temporal analysis of other EU member states, the situation in Slovak Republic can be

assessed as increasingly disadvantageous. The situation is depicted in the following scheme:

Scheme No. 1: GDP increase comparison (%) in relation to research and development expenditure as a share of GDP (%)

	2000	2001	2002	2003	2004	2005	2006	2007	2008
GDP Growth (%)	1,4	3,4	4,8	4,8	5,2	6,6	8,8	9,2	7,6*
Research and Development Expenditure as a Share of GDP (%)	0,65	0,63	0,57	0,58	0,51	0,51	0,49	0,46	0,47*

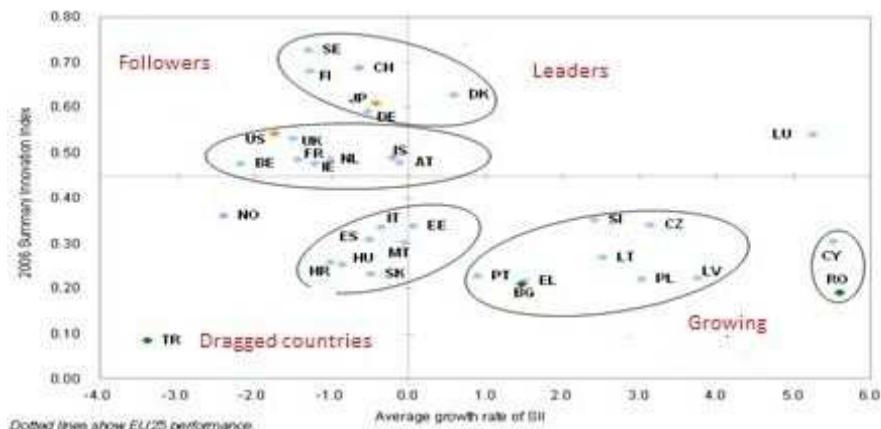
*hypothetical data

Defined goals have been accomplished neither within the EU nor on the Slovak national level. Last years in the realm of the development of the knowledge-based society in the Slovak Republic have been focused on improvements within the science, technology and research innovation. However, this period can be characterised as stagnating with distinctive implications for the whole Europe. The EU and its member states including new EU member states tend to activate/enable and reinforce their scientific-technological basis (Čajka, 2002). However, according to all EU and OECD indexes, Slovakia holds one of the last positions in this sphere. The trend of stagnation is remarkable for instance in the European University Association Institutional Evaluation (EUA).

The EUA operates with the holistic approach in the context of the entire Europe. In compliance with the evaluation results, the science and research investment in 27 EU member states decreased from 29% in 1995 to 25% in 2005 (Eurostat, 2007). According to the results, we can distinguish European investment leaders and trend setting states in education, science and research investment. Many European countries have already conceived that increase of GDP share set for the knowledge society building means future economy and living standard acceleration. The knowledge society, its building and development is the key element for global challenges resolution. However, the Slovak Republic did not follow this trend in 2000 - 2008. This development is

depicted in the following graph.

Graph No. 3: EU member states according to the 2006 innovative index



Source: EUA Sectoral Report. January 2008, p. 18

Graph no. 3 monitors two basic characteristics. The horizontal axis depicts the share of research and development expenditure in the state budget; the vertical axis depicts the intensity of the share change during the years. According to this scheme we can categorize European states into four fundamental groups in relations to the investment of financial resources and their further development. The first leading group is represented by Austria, Switzerland, Denmark, Island, Finland, Germany and Sweden. Their share of research and development investment is on average 3%, while the Swedish investment is permanently rising in addition. The growing group is represented by Cyprus, Spain, Lithuania, Latvia, Estonia, Croatia, Hungary, the Czech Republic, Ireland, Romania, Turkey, Portugal and Italy. Their research and development investment is low and amounts only to 1% of GDP; however, annually it is significantly rising markedly. Holland, France, Luxembourg, United Kingdom, Belgium and Norway represent the third or average group. The share of science and research investment in their budget amounts to 2% of GDP and is constant. Stagnant states of the fourth group invest only 0, 5% of their budgetary financial resources, while the trend is continuously decreasing. This

group is represented by Greece, Bulgaria, Poland, Slovenia, Malta and Slovakia. According to the graph, it is evident that some post - communist countries, mainly Estonia, Lithuania, Latvia, the Czech Republic and Hungary, managed to rank in the growing group. This group is characterized by the annually growing science and research investment; however, its members do not reach the level of investment amounting to the average investments share of the EU in total.

To sum up, according to the graph (Hvorecký, 2006), the Slovak Republic ranks on the lowest level. However it holds lowest positions in all indexes monitored by the European Commission and the OECD, considering both qualitative and quantitative indexes. Especially indexes referring to the volume of financial resources invested in the Slovak Republic into science and research can be assessed as highly negative. Despite functioning legislative and institutional framework, the innovation policy of the Slovak Republic can be seen as unfavourable to the development of the knowledge-based society.

References:

- ČAJKA, P. 2002. Teoretické prístupy k štúdiu regionálneho vývoja. In *Medzinárodné vzťahy na prahu 3. tisícročia, rozširovanie EU ako míľnik?* Zborník z Prvej medzinárodnej vedeckej konferencie doktorandov. Bratislava : Ekonóm, 2002. s. 20-25.
- EUROSTAT - *Europe in Figures 2006- 2007*. European Communities, 2007.
- GURA, R.: *Niekoľko reflexii k vyučovaniu francúzštiny na slovenských školách a v stredoeurópskom kontexte*. In: *Agrárni perspektivy XIII*. Praha: Provozně ekonomická fakulta ČZU. 2005 s.694-698. ISBN 80-213-1190-8
- HVORECKÝ, J. 2008. Európske hodnotenie našich vysokých škôl - začiatok zmeny. In *Trend*, 18. 5. 2008. s. 17
- SEDLÁK, M. 2007. Vedomostná spoločnosť – nová éra civilizácie. In IVANIČKA, K. a kol. (eds.) *Analýza ekonomickej a sociálnej úrovne regiónov SR a regionálna politika ich rozvoja*. Bratislava: VŠEM, 2007.