



EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR RESEARCH & INNOVATION

Directorate A - Policy Development and Coordination
A.4 - Analysis and monitoring of national research and innovation policies

References to
Research and Innovation
in the European Semester Country Report 2017

Slovakia

Introduction

This document is a compilation of the Research and Innovation (R&I) references extracted from the European Semester Country Report 2017. It offers a quick overview of the analysis done by the European Commission on the reforms undertaken by the country in research and innovation and the progress made towards the Europe 2020 target on R&D.

Executive Summary

...Regarding progress in reaching the national targets under the Europe 2020 strategy, Slovakia is currently meeting — or is on track towards meeting — the prospective targets for the employment rate, R&D intensity, renewable energy use and energy efficiency.

Meanwhile, and in spite of rising R&D intensity, **Slovakia's science base is still ranked below that of most other Member States**. Business R&D spending and cooperation between the public sector, research institutions and business are stagnating...

References to research and innovation

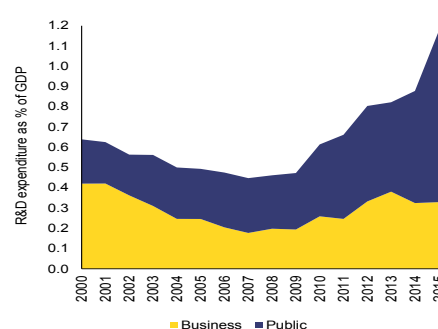
1.1. Research and innovation strategy

In spite of rising public R&D expenditure, business R&D investment remained unchanged at relatively low levels in recent years. Overall, R&D spending increased from an annual average of 0.83 % of GDP in 2012-2014 to 1.18 % in 2015 (EU average: 2.03 % of GDP). Public R&D spending accounted for the entire increase in recent years (Graph 3.4.2) and was driven by the greater use of EU funds; however, it remains to be seen if public R&D investment can be maintained at its 2015 high as calls to draw funds from the new operational R&I programme are only just being launched. Business R&D expenditure remained virtually unchanged at 0.33 % of GDP in 2015, one of the lowest levels in the EU and well below Slovakia's indicative target of 0.8 % for 2020.

Slovakia's science base still ranks at the low end compared with other EU Member States¹. The low volume of business R&D activities in the country is also reflected in the low proportion of researchers employed by business relative to total employment (1 % in 2014, vs an EU average of 3.6 %). While Slovakia saw an improvement in its overall innovation performance between 2012 and 2014 according to the innovation index of the European Innovation Scoreboard, it still underperforms by EU standards and is classed as a moderate innovator (European Commission, 2016d). Poor links between the public sector, research institutions and businesses are evident from the low number of public-private co-publications per million inhabitants (8.1, EU: 33.9) and the below-EU-average scores in indicators for commercial and non-commercial research outputs in Slovakia.

Upgrading Slovakia's Research and Innovation (R&I) performance requires improvements in the governing policy framework. The slow progress made towards a more efficient and attractive R&I system risks hampering Slovakia's transition from a cost-based to a more innovation-driven growth model. The underperformance of the public research system also seems to be linked to inefficiencies in public funding. This constitutes a bottleneck to growth, and the lack of sufficient public-private cooperation is hampering business R&D investment². The main challenges are linked to

Graph 3.4.2: R&D intensity in Slovakia in 2000-2015



{ TC "3.4.2. R&D intensity in Slovakia in 2000-2015" \fgraph \l 5 }

Note: Excludes private non-profit R&D spending.

Source: European Commission

¹ For instance, in 2013 Slovakia ranked 23rd among EU Member States on the 'share of national publications within the top 10 % most-cited publications worldwide' indicator (5.5 vs EU average of 10.5), with no significant progress made between 2007 and 2013.

² For instance, Slovakia ranks 19th among EU Member States on the 'public-private co-publications per million population' indicator (8.1 vs EU average of 34), with no progress made between 2008 and 2014.

the need to improve governance in R&I and to increase coordination among governing institutions for developing and implementing R&I policy.

Support measures for business R&I exist, but some remain relatively small-scale. Several national initiatives such as the development of clusters and innovation vouchers to foster cooperation between the research and business sectors received only limited funding. A special 125 % tax super-deduction for private companies investing in R&I entered into force in January 2015. However, it is not used extensively by companies, which claim that the eligibility criteria are unclear and the scheme is not generous enough³. (38) Most of the measures in the pipeline are to be financed by the R&I Operational Programme, but many have been delayed and some calls for demand-driven projects were only published in late 2016.

Progress on implementing R&I reforms is slow. The national smart specialisation strategy adopted in November 2013 aims to identify strategic specialisation areas and supporting measures, and to put in place a modernised R&I governance structure. However, the action plan to implement the strategy was again postponed. In 2016 the Slovak Academy of Sciences launched an evaluation of its institutions with a view to improving the quality of research. The conversion of the Academy into a public organisation, which was intended to improve cooperation with the business sector, has been postponed. These continual delays hamper the effective and timely implementation of the reforms envisaged and slow down investment from the Structural Funds.

Further general plans in support of R&D are being developed. The Slovak government adopted a decision in 2016 on the launch of three new programmes to be implemented by the Slovak Research and Development Agency in 2016-2019 with a budget of EUR 92 million. The programmes are linked to the national smart specialisation strategy and the Horizon 2020 European funding programme. They aim in particular to provide support to business R&D, including through cooperation with public research organisations, and to support projects which received high scores in the Horizon 2020 evaluation but were not allocated funding. Scientists will receive assistance with preparing proposals for grants from the European Research Council.

1.2. Additional references to R&I

SECTORAL POLICIES

Small and medium-sized enterprises (SMEs) and diversification

A new national business centre is planned to support enterprises. The centre aims to provide comprehensive support to entrepreneurs and SMEs. Pilot testing of the centre got under way in mid-2016 but full operation and the replication of business centres in the regions have been postponed due to delays in launching the relevant national project financed from the Operational Programme for research and innovation (OP RI). For the very first time, Slovakia received a substantial financial allocation of EUR 400 million from the ESIF for dedicated support of SMEs. Although the first calls have been launched, a number of national projects from the Operational Programme for research and innovation (R&I) to promote the growing, scaling-up, internalisation and competitiveness of SMEs have not yet materialised.

Box 2.1: Contribution of the EU budget to structural change in Slovakia

...ESI Funds supported progress on a number of structural reforms in 2015 and 2016 via ex-ante conditionalities³ and targeted investment. Examples include the timely transposition of the EIA directive in the amended Water Act and the development of the transport plan, which has facilitated the preparation of realistic and mature road and railway projects. These reforms have prepared the ground for better implementation of public investment projects in general, including those financed

³ E.g. in the Czech Republic, companies can deduct 200 % of R&I expenses.

from national sources and from the other EU instruments mentioned above. The fulfilment of ex-ante conditionalities is on track, except for in research, technological development and innovation...

Table C.4: Product market performance and policy indicators

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Table 5						
Performance Indicators	2010	2011	2012	2013	2014	2015
Labour productivity (real, per person employed, year-on-year % change)						
Labour productivity in Industry	17.86	1.20	1.42	0.65	11.30	6.84
Labour productivity in Construction	-4.93	10.40	9.84	-7.81	-0.06	2.70
Labour productivity in Market Services	2.27	-1.20	1.41	1.13	1.77	1.02
Unit labour costs (ULC) (whole economy, year-on-year % change)						
ULC in Industry	-14.76	3.26	4.51	3.41	-7.65	-3.55
ULC in Construction	9.36	-6.64	-8.08	10.80	-0.46	1.96
ULC in Market Services	1.09	5.94	-0.07	1.26	1.63	3.45
Business Environment	2010	2011	2012	2013	2014	2015
Time needed to enforce contracts ¹ (days)	565.0	565.0	545.0	545.0	705.0	705.0
Time needed to start a business ¹ (days)	17.5	17.5	13.5	18.5	11.5	11.5
Outcome of applications by SMEs for bank loans ²	na	0.92	na	1.07	0.83	0.65
Research and innovation	2010	2011	2012	2013	2014	2015
R&D intensity	0.62	0.66	0.80	0.82	0.88	1.18
Total public expenditure on education as % of GDP, for all levels of education combined	4.22	4.06	3.05	4.12	na	na
Number of science & technology people employed as % of total employment	39	38	37	37	37	37
Population having completed tertiary education ³	15	16	17	18	18	19
Young people with upper secondary level education ⁴	93	93	93	91	91	91
Trade balance of high technology products as % of GDP	-3.17	-4.93	-5.55	-5.32	-5.08	-5.94
Product and service markets and competition				2003	2008	2013
OECD product market regulation (PMR) ⁵ , overall				na	1.62	1.29
OECD PMR ⁵ , retail				1.14	1.04	1.75
OECD PMR ⁵ , professional services				na	na	2.90
OECD PMR ⁵ , network industries ⁶				3.33	2.28	1.88

Notes:

1 The methodologies, including the assumptions, for this indicator are shown in detail here:

<http://www.doingbusiness.org/methodology>.

2 Average of the answer to question Q7B_a. "[Bank loan]: If you applied and tried to negotiate for this type of financing over the past six months, what was the outcome?". Answers were codified as follows: zero if received everything, one if received most of it, two if only received a limited part of it, three if refused or rejected and treated as missing values if the application is still pending or don't know.

3 Percentage population aged 15-64 having completed tertiary education.

4 Percentage population aged 20-24 having attained at least upper secondary education.

5 Index: 0 = not regulated; 6 = most regulated. The methodologies of the OECD product market regulation indicators are shown in detail here: <http://www.oecd.org/competition/reform/indicatorsofproductmarketregulationhomepage.htm>

6 Aggregate OECD indicators of regulation in energy, transport and communications (ETCR).

Source: European Commission; World Bank — Doing Business (for enforcing contracts and time to start a business); OECD (for the product market regulation indicators); SAFE (for outcome of SMEs' applications for bank loans).

...Relevant CSRs focusing on structural issues informed the design of the 2014-2020 programmes. These include activities aiming at strengthening the administrative capacity of authorities dealing with ESI Funds, improving the energy efficiency of public and residential buildings, and promoting cooperation between academia, research and the business sector. The latter is done by supporting research and development activities in enterprises, transfer of high value-added technology, and implementing innovation measures...

EUROPE 2020 (NATIONAL TARGETS AND PROGRESS)

R&D:

1.2 % of GDP (where the private sector is to provide 2/3 of total expenditure)

R&D intensity increased significantly between 2007 and 2015 (from 0.46 % to 1.18 % of GDP; Eurostat). While this is just about meets the target, the extremely low level of business expenditure on R&D should be noted (0.33 % in 2015; Eurostat).