

How to increase the quality and efficiency of education in Slovakia

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The analysis is based on a hypothesis about the causes of perceived low quality and lack of efficiency of the Slovak education system. It also identifies some discrepancies in the current or planned policies of the education ministry. It has been prepared for the common seminar of the European Commission Representation in Slovakia and INEKO. The event took place on 6 March, 2014 and was held with the support of the [Think Tank Fund – Open Society Foundations](#). Among others, we propose the accurate measurement of added value and efficiency in education which would minimize uncertainty in decision making on the size and structure of investment in education. This would allow, for example, better identification of the best and worst performing primary schools and on this basis to support projects spreading the best practices. The link between the labour market and education should be improved by regular analysis of hard market data, such as salaries of graduates and graduates' unemployment rates by educational fields and schools. Slovak schools should not reduce the hours of foreign languages taught, particularly English. Funding per student should reflect information on learning outcomes to increase the quality of education. The proposal to replace the current financial system by funding per class will be only another system based on quantitative, not qualitative parameters. More user-friendly disclosure of learning outcomes would result in better decision-making of all stakeholders including parents and students. We also recommend clarification, as soon as possible, of the prospects of its funding by 2020. If the proposed increase of funding will not be realized, then serious systemic changes, such as the conditions for payment of fees by full-time students at public universities should be prepared immediately. Finally, we would like to stress some risks with the robust plans to expand the vocational and apprenticeship education: "Countries with well established vocational and apprenticeship programmes have been more effective in holding the line on youth unemployment... At the same time, some consider vocational education a less attractive option than more academic education; and some research suggests that participation in vocational education increases the risk of unemployment at later ages (Hanushek et al., 2011)." *Education at a Glance, OECD 2013*

1. The Ministry of Education recently published a **list of perspective braches for vocational study**. In cooperation with employers' representatives, the Ministry identified the branches with a lack of graduates. The problem is that according to the data from the same ministry, a majority of those branches have a very high graduates' unemployment rate at the same time. For example: plumber-building production (75%), metal worker (33,1%), upholsterer (38,1%), floor maker (55,6%), etc.

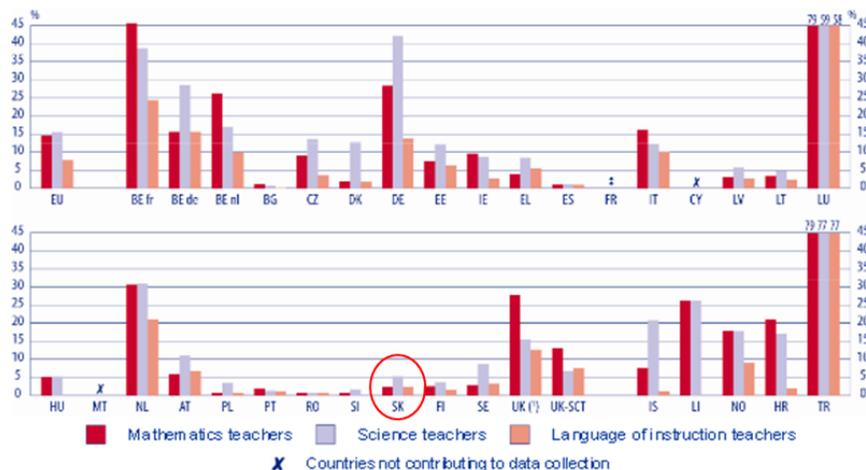
Recommendations in line with sustainability of public finances:

- a) Analyze market data on **demand defined as a “willingness and ability to pay,”** not only data from questionnaires and discussions. Analyze data on schools and branches using graduates’ salaries and their unemployment rates;
 - b) **Analyze efficiency** (outputs slash inputs or results slash costs) of the education system and its structures. A mismatch between labour market demand and schools’ supply will be signalled by low efficiency; and
 - c) Inform students and parents about the schools’ outcomes (tests, graduates’ unemployment rate, salaries, all in a time series) and labour market mismatches.
2. In the summer of 2013 the Slovak media disseminated articles about the **intension of the education ministry to decrease the number of hours of modern foreign languages.** The number was to decrease by four hours (20%) on ISCED 2.

Example: Hospodárske noviny, 12.6.2013

This issue has not been officially resolved. According to the OECD (Education at a Glance 2013, (Table D1.2b.)), within the compulsory core curriculum at lower secondary education, Slovak schools teach 12% of modern languages, which is already less than the average of OECD (14%) and EU21 (15%). The Slovak Republic is a relatively small country with a very open economy, thus the necessity of learning modern foreign languages appears to be greater than in the case of large countries like Canada or the UK, which lower the average numbers. If the government focuses on one language (English), the chance that student will learn at least one foreign language will significantly increase. Namely, possibility to choose other language than selected by law (currently English) leads to the situation when students study for example German on ISCED 1, English on ISCED 2 and French on ISCED 3. This situation lowers the chance to reach an excellent level. As the following picture from Eurydice (Key Data on Education in Europe 2012) illustrates, the plan to decrease the share of foreign languages hours taught could not be justified by a lack of qualified teachers:

● **Figure E3: Percentages of students aged 15 attending schools where teaching is affected by a lack of qualified teachers in the core subjects, 2009**



Source: PISA 2009, OECD in Key Data on Education in Europe 2012, Eurydice

Recommendation: The Ministry of Education should officially resolve the discussion about the intention to lower the share of hours dedicated to modern foreign languages (particularly English) in Slovak schools. The number of the hours should not decrease.

3. Replacing the current system of **funding per pupil/student** by funding per class will be only another system based on quantitative, not qualitative parameters. The system without efficient control of quality may motivate schools to “race to the bottom”. Today, the system does not allow identification of the best and the worst performing schools and thus, allow the Ministry for example, to help the pupils in the worst performing schools to benefit from spreading the best practices from the top schools¹. By motivating the top teachers to teach for some period in the schools with the worst results, for instance.

Recommendations:

- a) Funding per pupil at the primary level should reflect information on learning outcomes to increase educational quality. Based on the information on school quality, the government should prepare a plan to help those schools with the worst performance. The system should allow monitoring of the value added and should be expanded to the study areas;
 - b) Funding per students at secondary and tertiary levels should also reflect information on learning outcomes to increase educational quality. In contrast to the action to be taken in the case of primary schools, here, the government should promote primarily the efficient schools.
4. The goal to **allow the purchase of textbooks directly by schools** (open the market) mentioned in the Report on the Situation of Slovak Education 2013 (Report) requires important changes in the law and the creation of a financial reserve to cover the costs of smooth systemic change. If the goal is to be reached before the next general elections (2016), the Law on Financing Basic Schools, Secondary Schools and School Facilities should incorporate among others provisions mandating that the textbooks will become an ownership of schools, rules for the purchase of textbooks will be changed, financial resources dedicated to the purchase of textbooks will be incorporated into the system of financial support of schools, the competency to approve the textbook will be shifted to school directors, etc.

Recommendation: Prepare all technical and financial conditions necessary to reach this goal as soon as possible.

5. **Opinions about the quality and efficiency** of the Slovak education are extremely different. For example, The Global Competitiveness Report by The World Economic Forum (2013-2014) published a survey among Slovak businesses which ranked Slovak education at the 130th position out of a total of 148 countries surveyed in the world. Slovakia did not outperform countries such as Kyrgyzstan, Peru, Brazil, Moldova, and Mexico. On the other hand by comparing PISA 2009 and PISA 2009 Plus, one can find that all countries mentioned above performed much worse than Slovakia. Also, the data on the internal rate of return published in OECD Education at a Glance 2013 show that the Slovak education has a higher return on investment than the OECD and EU averages in all categories analyzed.
The opinions about the quality and efficiency of Slovak education as well as about its components differ enormously; therefore, the discussion about funding the system can hardly be decided soon. Namely, if the system is extremely efficient, then increasing

¹ The pupils at the “worst school” reached in mathematics 24 right answers out of 100, the pupils at “top school” reached 88 right answers. This is undesirable situation at lower secondary education.

quality would be possible mainly by increasing funds. But, if the system is extremely inefficient, then before granting more funds, society (represented by the Ministry of Finance) should require systemic changes. This problem appears in many subsystems: for example, should the Ministry support preschool education at the expense of universities, general education at the expense of vocational programmes, STEM at the expense of social sciences, etc. Note: This point was not to argue that the Slovak system is highly efficient, but that the opinions about it are extremely and harmfully different.

Recommendations:

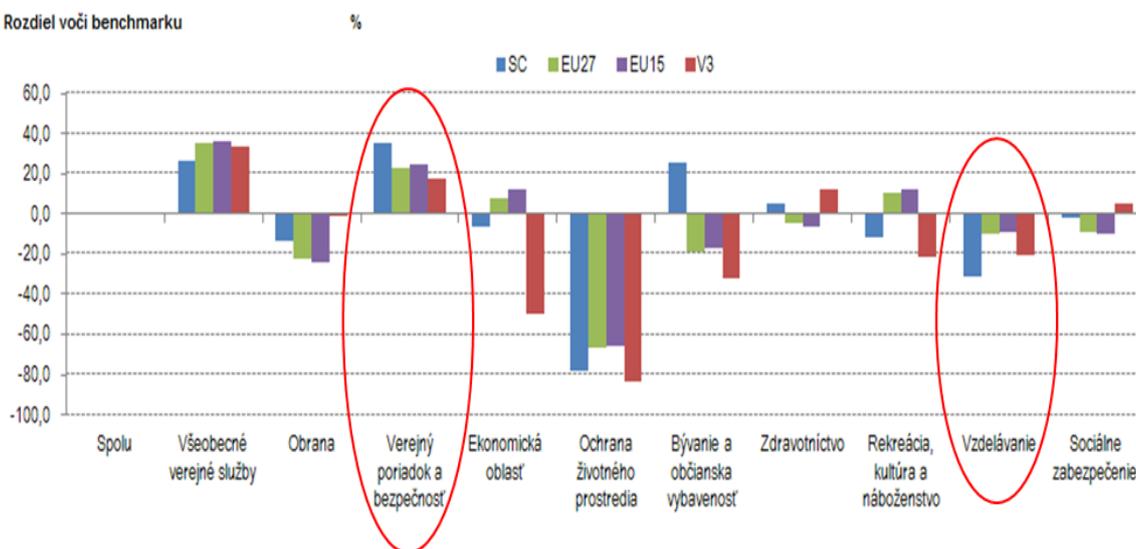
- a) Strengthen the principle of evidence-based decisions;
 - b) Analyze efficiency of education and its subsystems more precisely than it was done in above-mentioned cases; and
 - c) Public demand management (strong and at the same time mistaken general opinions may significantly harm public policy in education).
6. The share of **children enrolled in preschool education** (kindergartens) traditionally followed demographic trends. During times of decreasing numbers of children aged 3-5, the share increased, due to the inflexibility of capacities. During the reverse trend, when the number of children between ages 3 and 5 increased, the inflexibility of capacities resulted in lowering of the share of children enrolled. This was happening before the year 2010/2011. Since that time the share is increasing despite the rise of the number of children. The share reached its peak of 93% in 2004, then, it fell to 86% in 2010 and started to increase: 87% in 2011 and 88% in 2013. If the trend continues for some years, Slovakia may meet the Europe 2020 goal, to reach 95% of all 3-5 year old children enrolled in kindergartens.

Recommendation: Analyze the systemic steps taken in 2010/2011, especially from the viewpoint of their potential to reach the goal of Europe 2020. The change in trend could have been caused to some extent by allowing one year free access to kindergartens from 2008. To some extent it could have been also caused by less rigid government regulation of fees charged by municipal kindergartens from 2011 which might help to increase capacity.

7. The Ministry of Finance prepares and publishes “Public Expenditure Calculator” showing the shares of particular budgetary chapters. According to this calculator, Slovak education receives a much lower share from the government budget than the education systems in EU27, EU15, and V3 and so called Smart Countries.²

² SC, Smart Countries: Denmark, Netherlands, Sweden, Norway, Switzerland, i.e. top 5 European countries in the OECD ranking of Better Life.

Graf: Rozdiel voči benchmarku



Comments to the chart: “Vzdelávanie” means Education: Columns below the zero level means that Slovak government gives less money to the sector (e.g. education) than the benchmark (e.g. Smart countries (blues)). “Verejný poriadok a bezpečnosť” means Public order and security: Columns above the zero level show that the Slovak government gives more money to this chapter than governments in other benchmark countries, etc.

Source: Ministry of Finance of the Slovak Republic
<http://www.finance.gov.sk/Default.aspx?CatID=8270>

Recommendations:

- a) Public demand management (a strong and at the same time likely mistaken general opinion that the quality of education can be maintained at the OECD/EU average with minimal support may significantly undermine funding and thus, the quality of education); and
- b) Spread this information among decision makers/strengthen the principle of evidence-based decision making.

8. After OECD PISA 2012 indicated a worsening of primary education quality in Slovakia, OECD PIAAC to some extent independently brought confirmation of this negative trend. The mean literacy proficiency scores among 16-65 year-olds was slightly above the OECD (selected countries) average, but the same parameter in the same survey among 16-24 year-olds was significantly below average:

Figure 2.2a
Comparison of average literacy proficiency among adults
 Mean literacy proficiency scores of 16-65 year-olds

Mean	Comparison country	Countries whose mean score is NOT significantly different from the comparison country
296	Japan	
288	Finland	
284	Netherlands	
280	Australia	Norway, Sweden
279	Sweden	Australia, Norway
278	Norway	Australia, Sweden
276	Estonia	Czech Republic, Flanders (Belgium)
275	Flanders (Belgium)	Czech Republic, Estonia, Slovak Republic
274	Czech Republic	Canada, Estonia, Korea, Slovak Republic, Flanders (Belgium), England/N. Ireland (UK)
274	Slovak Republic	Canada, Czech Republic, Korea, Flanders (Belgium), England/N. Ireland (UK)
273	Canada	Czech Republic, Korea, Slovak Republic, England/N. Ireland (UK)
273	Average	Canada, Czech Republic, Korea, Slovak Republic, England/N. Ireland (UK)
273	Korea	Canada, Czech Republic, Slovak Republic, England/N. Ireland (UK)
272	England/N. Ireland (UK)	Canada, Czech Republic, Denmark, Germany, Korea, Slovak Republic, United States
271	Denmark	Austria, Germany, United States, England/N. Ireland (UK)
270	Germany	Austria, Denmark, United States, England/N. Ireland (UK), Cyprus ¹
270	United States	Austria, Denmark, Germany, England/N. Ireland (UK), Cyprus ¹
269	Austria	Denmark, Germany, United States, Cyprus ¹
269	Cyprus ¹	Austria, Germany, Ireland, United States
267	Poland	Ireland
267	Ireland	Poland, Cyprus ¹
262	France	
252	Spain	Italy
250	Italy	Spain

1. See notes at the end of this chapter.

Notes: Statistical significance is at the 5% level. Literacy-related non-response (missing) is excluded from the calculation of mean scores. Figure 2.2b, however, presents an estimate of lower-bound mean scores by attributing a very low score (85 points) to those adults who were not able to provide enough background information because of language difficulties, or learning or mental disabilities (literacy-related non-response).

Countries are ranked in descending order of the mean score.

Source: Survey of Adult Skills (PIAAC) (2012), Table A2.2a.

StatLink <http://dx.doi.org/10.1787/888932900384>

■ Figure 2.3a ■
Comparison of average literacy proficiency among young adults
 Mean literacy proficiency scores of 16-24 year-olds

Mean	Comparison country	Countries whose mean score is NOT significantly different from the comparison country
299	Japan	Finland
297	Finland	Japan, Korea, Netherlands
295	Netherlands	Finland, Korea
293	Korea	Finland, Netherlands
287	Estonia	Australia, Flanders (Belgium)
285	Flanders (Belgium)	Australia, Czech Republic, Estonia, Poland, Sweden
284	Australia	Czech Republic, Estonia, Germany, Poland, Sweden, Flanders (Belgium)
283	Sweden	Australia, Czech Republic, Germany, Poland, Flanders (Belgium)
281	Poland	Australia, Czech Republic, Germany, Sweden, Flanders (Belgium)
281	Czech Republic	Australia, Austria, Canada, Denmark, Germany, Poland, Slovak Republic, Sweden, Flanders (Belgium)
280	Average	Austria, Czech Republic, Germany, Poland, Sweden
279	Germany	Australia, Austria, Canada, Czech Republic, Denmark, France, Norway, Poland, Slovak Republic, Sweden
278	Austria	Canada, Czech Republic, Denmark, France, Germany, Norway, Slovak Republic
276	Denmark	Austria, Canada, Czech Republic, France, Germany, Norway, Slovak Republic, United States
276	Slovak Republic	Austria, Canada, Czech Republic, Denmark, France, Germany, Norway, United States
276	Canada	Austria, Czech Republic, Denmark, France, Germany, Norway, Slovak Republic, United States
275	Norway	Austria, Canada, Denmark, France, Germany, Ireland, Slovak Republic, United States
275	France	Austria, Canada, Denmark, Germany, Norway, Slovak Republic, United States
272	United States	Canada, Denmark, France, Ireland, Norway, Slovak Republic, England/N. Ireland (UK), Cyprus ¹
271	Ireland	Norway, United States, England/N. Ireland (UK), Cyprus ¹
267	Cyprus ¹	Ireland, Spain, United States, England/N. Ireland (UK)
266	England/N. Ireland (UK)	Ireland, Italy, Spain, United States, Cyprus ¹
264	Spain	Italy, England/N. Ireland (UK), Cyprus ¹
261	Italy	Spain, England/N. Ireland (UK)

1. See notes at the end of this chapter.

Notes: Statistical significance is at the 5% level. Literacy-related non-response (missing) is excluded from the calculation of mean scores. Figure 2.3b, however, presents an estimate of lower-bound mean scores by attributing a very low score (85 points) to those adults who were not able to provide enough background information because of language difficulties, or learning or mental disabilities (literacy-related non-response).

Countries are ranked in descending order of the mean score.

Source: Survey of Adult Skills (PIAAC) (2012), Table A3.2 (L).

StatLink  <http://dx.doi.org/10.1787/888932900422>

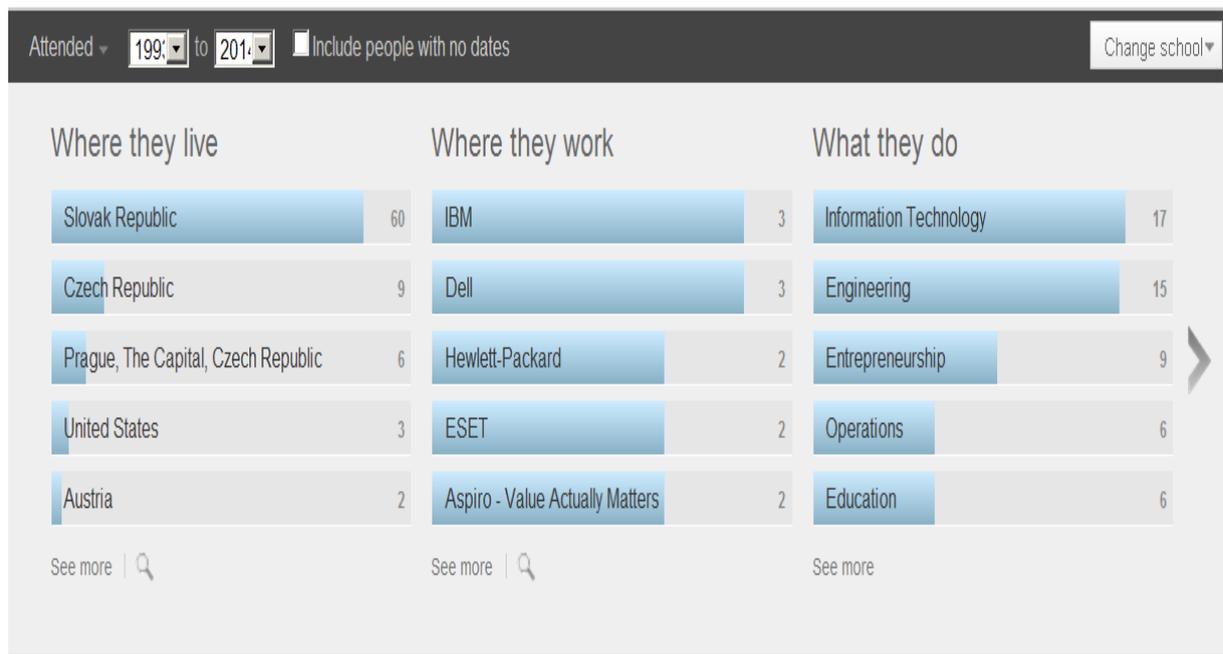
Source: *OECD Skills Outlook 2013*

Recommendations:

- a) The worsening trend should be taken into account officially and used to adjust the strategies. They must be tailored to the necessity to move from the fair quality to the average, instead of the strategy to move from the average to the top
- b) The information should be properly published and the public demand respectively managed; and
- c) Analyze the system efficiency. In the event, the efficiency is relatively high, decide if the quality of education is worth it for the country to increase its investment to education even at the expense of other public budget chapters.

9. According to the Eurostat data, in 2010, 12.2% of Slovak tertiary education students were enrolled in other EU countries. In Denmark and in France it is 2.5%; in Hungary it is 2.4%; and in the Czech Republic it is 2.9% (Report of the Ministry of Education 2013). On the one hand, this trend illustrates the opportunities available to Slovak young people to benefit from study opportunities across the whole EU. On the other hand, **Slovakia is losing a large share of its most talented people**. This phenomenon is inappropriately large. It can be illustrated also by much less representative but still interesting information learned from social networks. According to LinkedIn (March 2014), 44% graduates of general upper secondary schools³ located in eastern part of Slovakia live abroad. Twenty-eight out of 88 graduates of the top upper secondary school in Bratislava live abroad, as the following screenshot shows:

³ Košice, Prešov, Humenné, Poprad, Svidník, Kráľovský Chlmec, and Medzilaborce.



88 students & alumni found Hide my connections

Search profiles 🔍

Source: LinkedIn

Recommendation: One can imagine opening a discussion on dedicating part of the EU financial support of Slovak education directly to teachers' salaries.

10. The proposal of the Ministry of Education to **increase the share of expenditure on education by 2 percentage points by 2020 (up to 6%) is not in line with forecasts** of fiscal sustainability of the European Commission and the Council for Budget Responsibility, which envisage a decline in the share of expenditure on education as a percentage of GDP by 2020. Both organizations project a decrease of the expenses on education in the long run. One should note that even under such a pessimistic scenario, the Slovak public debt is not sustainable (public debt should reach 108.9% of GDP in 2030). Thus, the window for increasing the expenses on education seems to be very limited in the long run.

Tab 9: Základný scenár dlhodobej udržateľnosti verejných financií (% HDP)

	2012 upravené	Strednodobý scenár				Dlhodobé projekcie				
		2013	2014	2015	2016	2020	2030	2040	2050	2062
Prijmy	32,8	32,9	31,3	30,3	31,7	31,5	31,4	31,5	31,6	31,5
Daňové príjmy	15,4	15,2	14,9	14,8	14,7	14,7	14,7	14,7	14,7	14,7
Sociálne a zdravotné odvody	12,6	12,7	12,5	12,4	12,3	12,2	12,2	12,4	12,6	12,6
- Odvody vrátane 2. piliera	13,5	13,2	13,0	12,8	12,8	12,8	12,8	12,8	12,8	12,8
- 2.pilier - výpadok	-0,9	-0,5	-0,5	-0,5	-0,5	-0,6	-0,6	-0,4	-0,2	-0,2
Granty a transfery	2,2	2,9	2,2	1,5	2,9	2,9	2,9	2,9	2,9	2,9
Nedaňové príjmy	2,6	2,1	1,7	1,7	1,8	1,7	1,6	1,5	1,4	1,3
- Ostatné nedaňové príjmy	1,2	0,9	0,3	0,2	0,3	0,3	0,3	0,3	0,3	0,3
- Príjmy z majetku	1,2	1,0	1,1	1,1	1,1	1,1	1,0	1,0	1,0	1,0
- Príspevky do NJF	0,2	0,3	0,3	0,3	0,3	0,3	0,2	0,2	0,1	0,0
Výdavky	37,4	38,2	36,9	35,6	36,4	37,6	39,4	42,7	47,6	55,5
Primárne výdavky	35,6	36,2	34,9	33,5	34,1	34,2	34,4	35,1	36,3	37,5
Fixné	16,9	17,3	16,0	14,6	15,2	15,2	15,2	15,2	15,2	15,2
Výdavky citlivé na demografiu	18,5	18,8	18,8	18,8	18,8	18,7	19,0	19,8	21,0	22,3
- dôchodkové dávky	8,8	9,0	9,0	8,9	8,9	8,7	8,5	9,0	9,8	10,7
- zdravotná starostlivosť	6,3	6,3	6,4	6,4	6,5	6,7	7,2	7,7	8,0	8,1
- dlhodobá starostlivosť	0,3	0,3	0,3	0,3	0,3	0,3	0,4	0,5	0,5	0,7
- školstvo	3,0	2,9	2,9	2,9	2,9	2,8	2,7	2,5	2,6	2,7
- dávky v nezamestnanosti	0,2	0,2	0,2	0,2	0,2	0,2	0,1	0,1	0,1	0,1
Náklady na ukončenie JE	0,2	0,2	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1
PPP projekt	0,1	0,2	0,2	0,2	0,2	0,1	0,1	0,0	0,0	0,0
Úroky	1,9	1,9	1,9	2,1	2,4	3,5	5,0	7,5	11,3	17,9
Saldo VS	-4,7	-5,3	-5,5	-5,2	-4,8	-6,1	-8,0	-11,1	-16,0	-23,9
Cyklická zložka	-0,1	-0,5	-0,3	-0,2	0,0	0,0	0,0	0,0	0,0	0,0
Štrukturálne primárne saldo VS	-2,7	-2,9	-3,3	-2,9	-2,4	-2,6	-2,9	-3,6	-4,7	-6,0
Dlh	52,1	57,1	61,4	64,8	67,0	76,7	108,9	161,1	240,5	378,7

Source: Council for Budget Responsibility

http://www.rozpocetovarada.sk/download2/sustainability_report_2013_final.pdf

European Commission Fiscal Sustainability Report 2012

Table 2.2: Increase in total budgetary expenditure, 2010-2060, % of GDP

	(1) Pension expenditure		(2) Healthcare expenditure				(3) Long-term care			(4) Education expenditure		(5) Unemployment		(6)=(1)+(2)+(3)+(4)+(5) Total		
	2010	2010-2060	Reference scenario	Risk scenario	Reference scenario	Risk scenario	Reference scenario	Risk scenario	2010	2010-2060	Reference scenario	Risk scenario	2010	2010-2060	Reference scenario	Risk scenario
BE	11.1	5.1	6.3	0.4	0.8	2.3	2.7	3.4	5.7	0.4	2.1	-0.1	27.6	8.5	8.7	8.7
BG	9.9	1.1	4.3	0.5	1.1	0.5	0.3	0.4	3.5	0.2	0.4	-0.2	18.7	2.0	2.6	2.6
CZ	9.1	2.7	6.9	1.7	2.4	0.8	0.7	1.0	3.4	0.2	0.4	-0.1	20.6	5.2	6.3	6.3
DK	10.1	-1.1	7.4	0.9	1.5	4.5	3.4	3.4	7.6	-0.3	0.7	0.0	30.3	2.9	3.5	3.5
DE	10.8	2.6	8.0	1.4	2.0	1.4	1.7	1.8	3.9	-0.2	1.0	-0.3	25.2	5.2	6.0	6.0
EE	8.9	-1.1	5.2	1.1	1.8	0.5	0.3	0.5	5.2	0.0	0.6	-0.2	20.3	0.0	0.9	0.9
IE	7.5	4.1	7.3	1.1	1.7	1.1	1.5	2.1	6.3	0.0	2.6	-1.3	24.9	5.4	6.7	6.7
EL	13.6	1.0	6.5	0.9	1.2	1.4	1.2	1.8	3.9	0.1	0.6	-0.2	25.9	2.9	3.8	3.8
ES	10.1	3.6	6.5	1.3	1.9	0.8	0.7	0.8	4.2	-0.5	2.0	-1.1	23.6	3.9	4.7	4.7
FR	14.6	0.5	8.0	1.4	2.1	2.2	2.1	2.2	5.0	-0.4	1.7	-0.6	31.4	3.1	3.9	3.9
IT	15.3	-0.9	6.6	0.6	1.0	1.9	0.9	0.9	4.1	-0.5	0.8	-0.3	28.6	-0.1	0.4	0.4
CY	7.6	8.7	2.6	0.4	0.5	0.2	0.1	0.1	6.7	-0.7	0.5	-0.1	17.5	8.4	8.5	8.5
LV	9.7	-3.8	3.7	0.5	1.1	0.7	0.4	0.4	4.4	-0.6	0.7	-0.3	19.2	-3.8	-3.3	-3.3
LT	8.6	3.5	4.9	0.7	1.3	1.2	1.1	3.2	4.4	-0.5	0.4	-0.2	19.6	4.5	7.2	7.2
LU	9.2	9.4	3.8	0.7	1.0	1.0	2.1	2.1	3.2	-0.1	0.6	-0.1	17.7	12.0	12.3	12.3
HU	11.9	0.5	4.9	1.1	1.7	0.8	0.6	0.9	4.3	-0.5	0.4	-0.1	22.4	1.6	2.5	2.5
MT	10.4	5.5	5.4	2.9	3.6	0.7	0.9	3.2	5.1	-1.1	0.4	0.0	21.9	8.2	11.3	11.3
NL	6.8	1.7	7.0	1.1	1.6	3.8	3.7	3.7	5.3	-0.5	1.6	-0.3	24.6	5.7	6.3	6.3
AT	14.1	2.0	7.4	1.6	2.2	1.6	1.2	2.3	4.9	-0.4	0.8	-0.1	28.8	4.4	6.0	6.0
PL	11.8	-2.2	4.9	1.9	2.6	0.7	1.0	1.9	3.9	-0.5	0.2	-0.1	21.6	0.1	1.8	1.8
PT	12.5	0.2	7.2	1.1	1.6	0.3	0.3	1.0	4.7	-1.1	1.2	-0.4	26.0	0.1	1.3	1.3
RO	9.8	3.7	3.7	1.0	1.4	0.6	1.1	1.5	3.5	-0.1	0.5	-0.3	18.1	5.4	6.3	6.3
SI	11.2	7.1	6.1	1.1	1.7	1.4	1.6	1.6	4.7	0.5	0.3	0.0	23.8	10.3	10.8	10.8
SK	8.0	5.2	6.2	2.1	3.0	0.3	0.4	1.9	3.1	-0.1	0.2	-0.1	17.8	7.5	9.8	9.8
FI	12.0	3.2	8.0	1.0	1.5	2.5	2.6	2.9	5.9	0.2	1.6	-0.3	28.1	6.7	7.5	7.5
SE	9.6	0.6	7.5	0.7	1.2	3.9	2.5	2.5	6.3	0.0	0.6	0.0	27.9	3.8	4.3	4.3
UK	7.7	1.5	7.2	1.1	1.8	2.0	0.7	0.7	5.0	0.0	0.3	0.0	22.1	3.3	4.0	4.0
EU	11.3	1.4	7.1	1.1	1.7	1.8	1.5	1.7	4.6	-0.2	1.1	-0.3	26.0	3.6	4.3	4.3
EA	12.2	1.8	7.3	1.1	1.7	1.8	1.7	1.9	4.5	-0.2	1.3	-0.4	27.0	4.0	4.7	4.7

http://ec.europa.eu/economy_finance/publications/european_economy/2012/pdf/ee-2012-8_en.pdf

Source: Fiscal Sustainability Report 2012, EC

http://ec.europa.eu/economy_finance/publications/european_economy/2012/pdf/ee-2012-8_en.pdf

Recommendations:

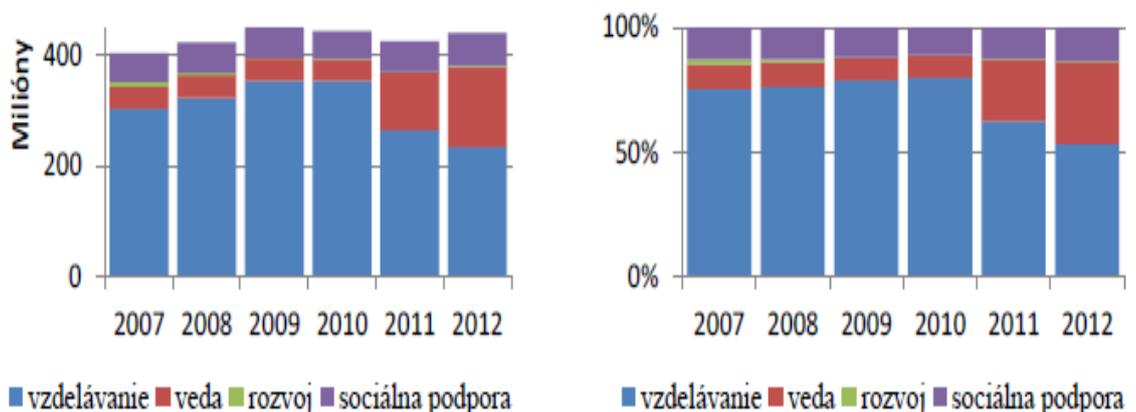
- To clarify the prospects of its funding by 2020, as soon as possible;

- b) If the contradiction is not solved soon, the education ministry should prepare plan for securing alternative funding, such as allowing the public universities to charge fees. Otherwise, the quality of Slovak education will be further threatened; and
- c) The Ministry should prepare contingency plans also in the event that there will likely not be a significant increase of funding.

11. “Motivation **scholarships shall go to the technical educational branches** and branches of natural sciences because we lack these students,” said the Minister of Education in February 2014. The Report of the Ministry of Education, however, states that the share of unemployed graduates of technical sciences compared with the total number of unemployed graduates was bigger than the share of graduates of technical sciences compared with the number of all graduates.

Recommendations:

- a) Public demand management (Strong and at the same time questionable general opinion (supported by an efficient STEM⁴ lobby) that the graduates of technical educational branches are most successful in the labour market may significantly undermine the quality of education);
 - b) Spread this information among decision makers/strengthen the principle of evidence-based decision making;
 - c) Analyze the efficiency of the education system and its structures. A mismatch between labour market demand and schools’ supply will be signalled by low efficiency; and
 - d) Inform students and parents about the schools’ outcomes (graduates’ unemployment rate, salaries, all in a time series)
12. To strengthen the evidence-based principle in decision making, the Ministry of Education enlarged the share of financial support to tertiary education schools of the part linked to the performance in science at the expense of the part linked to the number of students. See the following screenshot from the Report of the Ministry of Education:



■ Education

■ Science

⁴ Science, technology, engineering, mathematics.

Source: Report on Situation of the Slovak Education 2013, Ministry of Education
<https://www.minedu.sk/sprava-o-stave-skolstva-na-slovensku/>

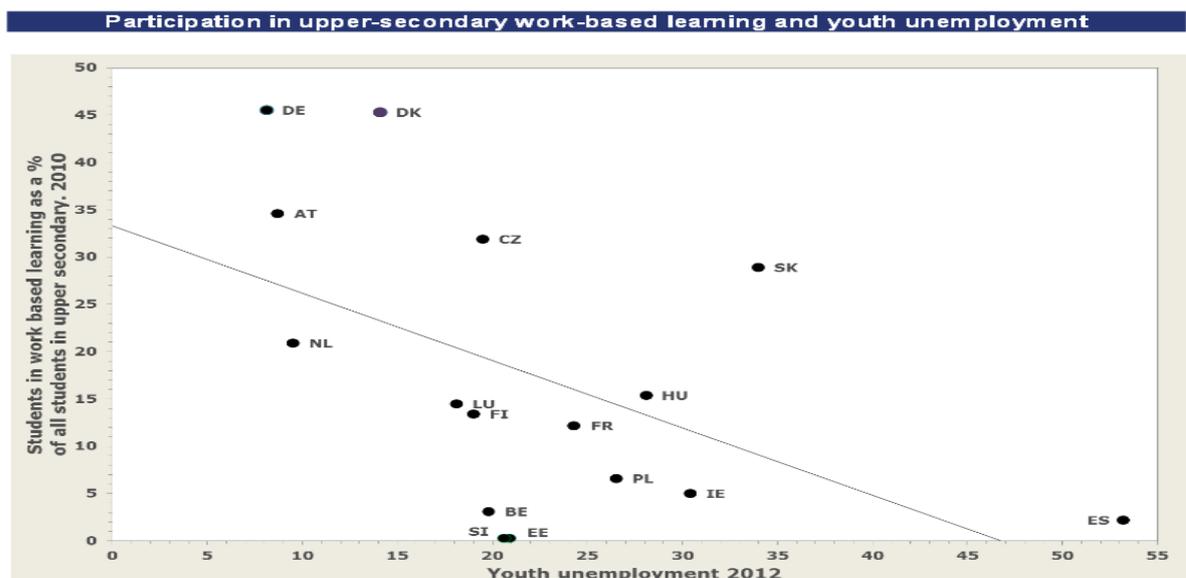
Recommendations:

- a) Analyze data on schools' and branches' graduates' salaries and their unemployment rates and use that information in a formula to calculate the share of government financial investment to tertiary education institutes linked to the number of students; and
- b) Limit the above-mentioned trend, because the schools may become de-motivated to accept students.

13. One of the most visible policies in Slovak education is the trend towards dual principle and more intensive apprenticeships in vocational education. This robust tendency deserves some remarks:

- a) According to the Eurostat data, the potential of vocational education and training (VET) in lowering unemployment seems to be rather limited in Slovakia:

A particular potential to facilitate transitions from school to work is demonstrated by **vocational education and training (VET)**, notably when it comprises work-based elements. Across the EU there is a positive correlation between participation in work-based learning and youth employment.



Data source: UOE data collection and Eurostat LFS
 In the UOE data collection, a VET programme is classified as "combined work- and school-based" if 25% or more of the curriculum is presented outside the school environment. Programmes where the work-based component accounts for 90% or more of the curriculum are excluded from the UOE data collection.
 Based on the UOE meta-data, the category "Combined work- and school-based VET" is not applicable to the educational systems of Bulgaria, Greece, Italy and Portugal. Figures on the category "Combined work- and school-based VET" are very low in Slovenia and Estonia (less than 1%); they are not available in Malta, Romania and the UK. Cyprus reported real zero values. "Combined work and school based VET" has been retrieved elsewhere for the following countries: Sweden (OECD, EAG 2012): negligible; Lithuania (Eurostat, EU_LFS AHM 2009): important'

Source: Quality and Relevance of Education and Training, EC
http://ec.europa.eu/europe2020/pdf/themes/30_quality_of_education_and_training.pdf

- b) "Countries with well established vocational and apprenticeship programmes have been more effective in holding the line on youth unemployment... At the same time, some consider vocational education a less attractive option than more academic education;

and some research suggests that participation in vocational education increases the risk of unemployment at later ages (Hanushek et al., 2011).”

Education at a Glance, OECD 2013

- c) Vocational study branches with “expanded training” already have a higher unemployment rate of graduates than the study branches without “expanded training”, according to the Report on Education of the Slovak Ministry of Education.
- d) Countries mentioned as examples of successful dual vocational education (Germany, Austria) have on average lower internal rate of return of investment to upper secondary education. Due to the high costs of the system.
- e) “...there has been a decline in dual vocational training places offered over the last 10-15 years.” *World Bank: World Development Report 2013, Youth Unemployment and Vocational Training, Background Paper*
- f) The youth unemployment rate in Germany seems to have reached lower numbers than the rate in the EU after the reforms of the labour market. In 2005, the youth unemployment rate was 18.3% in the EU and comparably high 15.6% in Germany. In 2012, it was 23.1% in the EU and 8.1% in Germany. During the mentioned period of time, Germany achieved significant systemic changes in the labour market (Hartz 4), not in education.

Recommendations: Prepare an impact analysis of further investment before considering the expansion of the dual system of upper secondary education.