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VET in Europe – Country report

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CHAPTER 1.

External factors influencing VET

1.1 Country and its population

Slovakia as an independent country was established on 1 January 1993 after the dissolution of Czechoslovakia. It joined the OECD in 2000, NATO as well as the EU in 2004 and adopted the euro in 2009. The country is composed of 8 state administrative regions identical with 8 self-governing regions and 2 890 municipalities, out of which 138 are cities. Transfer of executive competences to self-governments started in the 1990s followed by decentralisation reforms in the education sector in the 2000s, maintaining schools by self-governments since 2002, and partial fiscal decentralization since 2005. Income of self-governing regions and municipalities however still depends substantially on centrally collected inhabitants' income tax, comprising a substantial part of their budgets. Similarly, financing and managing regional and local school networks have not yet been fully decentralised.

In 2012, Slovakia had an area of 49 035.56 km^2 with 5 410 836 inhabitants, of which 2 933 906 lived in urban areas, and a population density of 110.3 inhabitants per km^2 (all data Statistical Office as of 31 December 2012). Slovakia is a multicultural country with two large minorities: Hungarians living in the south and Roma living scattered around the country featuring strong population islands in the east. According to estimates of demography experts about 20% of ethnic Roma are living integrated into the majority, 50% are living partially integrated in their own communities within municipalities and 30% segregated in external settlements with weak supporting infrastructure. Only 25% of ethnic Roma declared themselves as belonging to the Roma nationality. Statistics offering declared nationality data according to censuses is in Annex 1. A share of ethnic Roma in total population is expected to culminate to 11% in 2035.

Since the end of the 1970s Slovakia has experienced a huge decrease in live births. A dramatic decline from 100 240 in 1979 and 80 116 in 1989 accelerated to a total depth of 50 841 in 2002. It was followed by a gradual year-on-year increase amounting to 61 217 in 2009, with a gradual decrease to 55 535 in 2012. For 2015, over 680 000 less young people aged 0-24 is forecasted compared to 1989, with further deterioration until 2025, as can be seen from the latest national projection data in Annex 2.

The ageing index increased severely from 33.9% in 1970 to 82.6% in 2011, according to censuses. Gradual population ageing is presented in Annex 3 offering age group data from censuses and ageing indexes in time series. Alternative data (as of end of year based on the Statistical Office survey) indicate a further deterioration, as an ageing index increased from

82.96% in 2011 to and 85.51% in 2012[1]. Further worsening can also be seen from the unfavourable trend in old-age dependency ratio presented in the following table.

Table 1. **Projected old-age dependency ratio*, 2010-60**

geo\time	2010	2015	2020	2030	2040	2050	2060
EU27	25.92	28.48	31.37	38.33	45.52	50.16	52.55
SK	16.93	19.14	23.59	31.36	37.99	51.38	61.80

Source: Eurostat; [tsdde511]; last update 30-10-2013; date of extraction: 28-10-2013.

NB: * the projected number of persons aged 65 and over expressed as a percentage of the projected number of persons aged between 15 and 64.

In 2012 old age dependency ratio was 17.8 compared to 26.7 in EU27, according to Eurostat. No substitution of the population decrease can be expected from migrants due to the traditionally very low numbers of asylum seekers, as can be seen from the data in Annex 4 indicating a huge, but only temporary increase of asylum seekers around the year of inclusion of Slovakia into the EU. There were only 616 people granted asylum and 214 granted citizenship during 1993 to 2012. In total 67 877 people had a valid residence permit by the end of 2012, out of which 53 437 had a permanent residence permit.

In February 2013, there were only 21 358 employed foreigners, out of which 16176 from EEA and Switzerland, registered by the Centre of Labour, Social Affairs and Family (ÚPSVaR, Ústredie práce, sociálnych vecí a rodiny).

1.2 Labour Force

The Survey on Adult Skills (PIAAC) offers the following picture of the Slovak labour force. There are not many elite performers (level 5) in both literacy and numeracy, but there are just few low performers. Slovakia scored second best in literacy and fifth best in numeracy among EU members in the share of people in level 1 and below. In contrast to this and not surprisingly, Slovakia is placed among the worst performing countries with over 20% of population lacking any experience with computers or lacking skills in using ICT for problem solving. Furthermore, solid average performance in numeracy and literacy is a result of better performance of older people compared to young people. Although the gap in performance between people aged 55-64 and 25-34 is very low in both literacy and numeracy in comparison to other EU members, the low difference is caused by comparably high

[1] See the publication of Statistical Office of the SR (2013) on social trends in the Slovak Republic available at http://portal.statistics.sk/files/Sekcie/sek_600/Socialne_statistiky/Trendy_soc_vyvoja/trendy-soc-vyvoja-sr-2013.pdf.

proficiency of elderly and comparably low proficiency of youngsters. This, together with bad results in using ICT for problem solving gives a clear signal of an urgent need of change in the current education policy. Nevertheless, the Slovak labour force is still considered well-educated and cost efficient. 91.7% of population aged 25-64 has completed at least upper secondary education, much more compared to EU27 with 72.6% in 2012. A share of persons aged 25-64 with low educational attainment (ISCED 0-2) decreased from 20% in 1998 to only 8.3 % in 2012, favourably less compared to 25.8 % in EU27. Comparison of educational attainment of adults aged 25-64 with the EU27 indicates a very low share of low-educated, but also an unfavourably lower share of tertiary educated corresponding to the tradition of strong secondary education in both volume and content. A wide stream of graduates from secondary VET and a strong tradition in technical education and working in the industry sector made Slovakia an attractive destination for production and assembly plants.

Table 2. **Education attainment of people aged 25 to 64 by ISCED level in 2012**

(%)

	ISCED 0-2	**ISCED 3-4**	**ISCED 5-6**
EU27	25.8	46.5	27.7
SK	8.3	72.7	19.0

Source: Eurostat; [edat_lfse_05], [edat_lfse_06], [edat_lfse_07]; last update: 10-09-2013; date of extraction: 28-10-2013.

Detailed national statistics comparing 2011, 2001 and 1991 Census data are in Annex 5. High education level of population is also confirmed by favourable early school leavers' data, as visible below. Slovakia already meets the EU 2020 benchmark (10%) as well as the 2020 national benchmark (6%).

Table 3. **Early leavers from education and training* in 2002-12**

(%)

	2002	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
EU28	16.9	16.4(b)	16.0	15.7	15.4	14.9	14.7	14.2	13.9	13.4	12.7(p)
EU27	17.0	16.5(b)	16.1	15.8	15.5	15.0	14.8	14.3	14.0	13.5	12.8(p)
SK	6.7	5.3 (b)	6.8	6.3	6.6	6.5	6.0	4.9	4.7	5.0	5.3

Source: Eurostat; LFS [edat_lfse_14]; last update: 10-09-2013; date of extraction: 28-10-2013.

NB: * Percentage of the population aged 18-24 with at most lower secondary education and not in further education or training; (b) – break in series (change in methodology); (p) – provisional.

Nevertheless, educational attainment as well as early school leavers data based on LFS and presented above do not reflect long-term unfavourable data of ethnic Roma, in particular those living in marginalised communities. There are no data available on ethnic Roma as it is forbidden to collect race and ethnicity data on a national basis. Data from one of the rare surveys indicate very low educational attainment of socially disadvantaged ethnic Roma.

Table 4. **Roma and non-Roma living in proximity aged 20 to 24 with at least upper secondary education compared to total population**

(%)

	Roma*			Non-Roma*			Total population**		
	Male	**Female**	**All**	**Male**	**Female**	**All**	**Male**	**Female**	**All**
Share	22	18	20	89	71	79	92.6	94.0	93.3

Source: United Nations Development Programme (UNDP)/World Bank/European Commission Regional survey 2011 and Eurostat [tps00186]; calculated and tabled by authors.

NB: * N=approximately 750 Roma households and 350 non-Roma households living in proximity; ** LFS.

Low educational attainment of Roma, in particular those living in segregated settlements of low living standards, is one of the most serious challenges for both the economy and the society in Slovakia. According to estimations regarding contribution to a potential increase of employed workforce in Slovakia[2]; inclusion of the Roma in the Slovak society would bring from 7% to 11% of GDP annually. Nevertheless, low job creation and long-term unemployment rates of qualified people already seeking jobs indicate a long way to this kind of improvement in GDP.

The table below presents a comparison of employment data for the EU27 and Slovakia. The national 2020 target of 72% is lower than the EU target of 75%, as the European target is apparently unrealistic for Slovakia.

Table 5. **Employment rate of age group 20-64 in 2011 by gender**

(%)

	EU27				Slovakia			
	Male	Female	Total	2020 target	Male	Female	Total	2020 target
2012	74.6	62.4	68.5	75	72.8	57.3	65.1	72

Source: Eurostat; LFS [lfsa_ergaed]; last update: 15-10-2013; date of extraction: 28-10-2013.

Although the Slovak GDP already exceeded pre crisis data, employment data are still significantly lower compared to 2008 in all education levels. No significant improvement is expected soon despite a further albeit moderate growth forecast. Low employment of low-educated individuals (29.5% compared to 52.2% in the EU27), but also low employment of ISCED 5-6 educated (74.8% compared to 81.9% in the EU27), indicate an urgent need of intervention.

[2] See report on cost of non-inclusion by Marcinčin and Marcinčinová (2009).

Table 6. **Employment rates of 20 to 64 aged by highest level of education attained**

(%)

ISCED		2004	2005	2006	2007	2008	2009	2010	2011	2012
ISCED 0-2	EU27	55.2	55.6	56.5	57.1	56.5	54.4	53.4	53.0	52.2
ISCED 0-2	SK	25.6	25.3	27.4	27.9	31.0	29.0	28.6	29.6(b)	29.5
ISCED 3-4	EU27	69.1	69.6	70.6	71.5	71.8	70.4	69.9	69.9	69.7
ISCED 3-4	SK	67.0	67.4	68.4	69.9	71.0	67.9	65.9	66.2(b)	66.5
ISCED 5-6	EU27	82.6	82.6	83.2	83.8	83.8	82.9	82.3	82.1	81.9
ISCED 5-6	SK	82.3	83.2	83.9	83.1	83.8	80.3	78.0	76.7(b)	74.8
ISCED 0-6	EU27	67.3	68.0	69.0	69.9	70.3	69.0	68.6	68.6	68.5
ISCED 0-6	SK	63.5	64.5	66.0	67.2	68.8	66.4	64.6	65.0(b)	65.1

Source: Eurostat; LFS [lfsa_ergaed]; last update: 15-10-2013; date of extraction: 28-10-2013.

NB: (b) – break in series (change in methodology).

Employment rates by age groups and the highest level of education attained in 2004-12 are offered in Annex 6.

Similarly, the unemployment data indicate lasting high unemployment in all education levels with an extremely high difference in unemployment of low level educated individuals in the EU27 and Slovakia (18% and 43% in 2012).

Table 7. **Unemployment rates of 20 to 64 aged by highest level of education attained**

(%)

ISCED		2004	2005	2006	2007	2008	2009	2010	2011	2012
ISCED 0-2	EU27	11.6	11.4	10.9	10.1	10.8	14.1	15.4	16.0	18.0
ISCED 0-2	SK	50.8	51.5	46.8	43.5	38.2	40.1	43.0	41.2(b)	43
ISCED 3-4	EU27	9.4	9.0	8.0	6.7	6.3	8.1	8.7	8.6	9.2
ISCED 3-4	SK	16.5	14.0	11.4	9.1	7.9	11.2	13.7	13.0(b)	13.1
ISCED 5-6	EU27	5.1	5.0	4.6	4.0	3.9	5.0	5.4	5.6	6.1
ISCED 5-6	SK	5.9	5.0	3.3	4.1	3.6	4.3	5.8	5.9(b)	6.9
ISCED 0-6	EU27	8.9	8.6	7.9	6.8	6.7	8.6	9.3	9.3	10.1
ISCED 0-6	SK	18.0	15.7	12.8	10.7	9.2	11.7	14.0	13.2(b)	13.6

Source: Eurostat; LFS [lfsa_urgaed]; last update: 15-10-2013; date of extraction: 28-10-2013.

NB: (b) – break in series (change in methodology).

Unemployment rates by age groups and the highest education level attained in 2004-12 are offered in Annex 7. More detailed national statistics on employment and unemployment rates of ages 15 to 64 offered in Annex 8 show that people with an ISCED 3A general education have a lower employment rate than ISCED 3 VET educated. In 2012, it was significantly less (40.8%) compared to people with ISCED 3A VET education (71.1% with

only a “maturita” school leaving certificate (vysvedčenie o maturitnej skúške), 78.3% with both “maturita” and a certificate of apprenticeship (výučný list), and 63.9% with only a certificate of apprenticeship). Apparently, graduates from general ISCED 3A programmes who failed to continue in tertiary education are in need of acquiring VET qualification.

The table above indicates a disproportionally high unemployment rate of ISCED 0-2 educated. This fact points to limited effectiveness of employment services suggesting that the low-skilled need different treatment than currently offered by education and subsequently active labour market policies. Receiving qualification for manual works in Slovakia is linked to a comparably high level of general education. A certificate of apprenticeship (ISCED 3C) can be obtained after at least 3 years of upper secondary education. There is no “fool-blood” scheme allowing for certification of vocational skills for simple works (crafts) only. Thus many low achievers from primary and secondary schools, in particular Roma, failing to achieve an ISCED 3C level of education are hampered to obtain at least some confirmation of related skills payable at the labour market. Apparently, ISCED 3C programmes with an unemployment rate with 17% in 2012 (see Annex 8 for details), as well as retraining programmes need new impulses, *inter alia*, short-track vocational courses allowing for acquiring competences for qualifications needed by the labour market. This also contributes to extremely high long-term unemployment with no signs of improvement for years (see Table 8). A slight decrease in 2008 and 2009 was caused by an increase of absolute numbers of the unemployed during the crisis.

Table 8. **Long-term unemployment – annual average**

(%)

	2001	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
EU27	3.9	4.0	4.2	4.3	4.1	3.7	3.1	2.6	3.0	3.9	4.1	4.6
SK	11.4	12.3	11.5	11.9	11.8	10.3	8.3	6.7	6.5	9.3	9.2	9.4

Source: Eurostat; LFS [une_ltu_a]; last update: 09-10-2013; date of extraction: 28-10-2013.

High unemployment and in particular very high unemployment of young people makes regulations of the labour market[3] a battlefield of politicians. A mismatch in labour market demand and supply, and above all, in supply and demand of school graduates (see also part 1.3) leads to dissatisfaction of employers. Employers' representatives insist on making the Labour Code more flexible, on reducing labour costs (in particular social insurance), and regulating access to tertiary education (in particular social science and humanities) and even

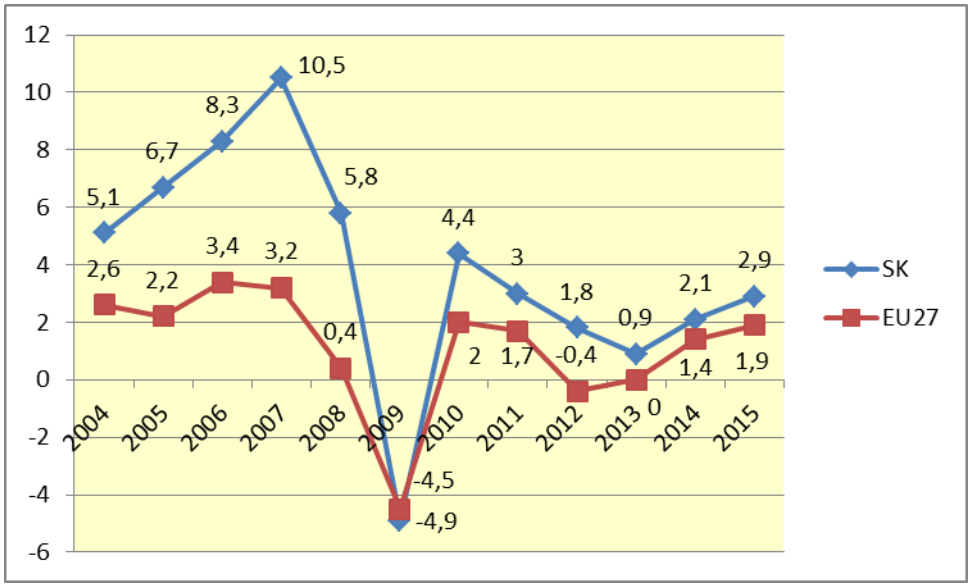
[3] See the brochure Labour market prepared by Slovak Investment and Trade Development Agency (SARIO) [2013] offering a concise overview of labour market regulation, available at http://www.sario.sk/userfiles/file/Ensario/PZI/why/labor/labour_market.pdf.

secondary general education. All these proposals except the last one are backed by right wing parties. Left wing parties support regulations on access to ISCED 3A secondary education to revive an ISCED 3C stream, refuse introduction of paying for tertiary education in public schools and promote active labour market policy to fight unemployment exploiting ESF resources. The Youth Guarantee scheme is warmly welcomed in contrast to right wing parties (see also part 2.3).

1.3 Economy

The Slovak economy grew significantly faster than the EU27 average with the exception of the end of the 1990s hit by political turbulences, and the end of the 2000s hit by the global financial and economic crisis. In both cases it recovered strongly.

Figure 1. **Real GDP growth rate - Percentage change on previous year**



Source: Eurostat; code: tec00115; last update: 27-11-2013; 2013-15 forecasted.

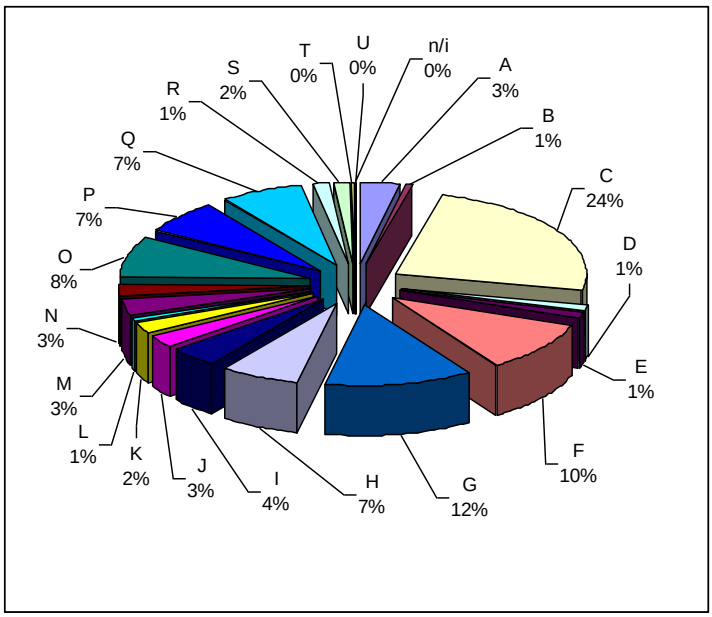
The key industries able to attract foreign investors and create new jobs in the 2000s were the automotive and electronics industries, followed by metallurgy, chemical, and plastics production. The financial and IT sectors were the most important growing sectors complementary to labour intensive sectors. After the crisis year 2009, the Slovak economy recovered quickly as a consequence of a revival in the automotive sector. But the risky composition of Slovakia's national economy is now more visible. Detailed data on the GDP composition by branches in 2012 are offered in Annex 9.

The Slovak economy is among the most open in the EU27 with total annual export and import accounting for 186% of GDP in 2012. Its openness and heavy dependence on export

of slow moving goods (in particular cars and LCD panels) makes a small Slovak economy very sensitive to business cycles. During the 2008-10 crisis industry suffered most with about 110 000 positions lost. Agriculture, the second most hit sector, lost over 21 000 jobs.

Since its independence Slovakia has been all the time characterised by a strong share of employment in industry, regardless of the changes in other sectors, e.g., a growth in the service sector and a dramatic decrease of employed people in agriculture – from over 256 000 in 1992 to 71 300 in 2011, followed by an increase to 75 400 in 2012. The following graph offers the composition of employment in economy by NACE sectors in 2012. Full data in 2008-12 are in Annex 10.

Figure 2. **Employment in national economy by NACE sectors in 2012**



Source: Statistical Office

NB: A Agriculture, forestry and fishing; B Mining and quarrying; C Manufacturing; D Electricity, gas, steam and air-condition supply; E Water supply, sewerage, waste management and remediation; F Construction; G Wholesale and retail trade; repair of motor vehicles and motorcycles; H Transportation and storage; I Accommodation and food service activities; J Information and communication; K Financial and insurance activities; L Real estate activities; M Professional, scientific and technical activities; N Administrative and support service activities; O Public administration and defence; compulsory social security; P Education; Q Health and social work activities; R Arts, entertainment and recreation; S Other service activities; T Activities of households as employers; U Activities of extraterritorial organisations; n/i not identified.

1.4 Educational attainment and value of qualifications

The youth education attainment level is very high, with 92.7% of the population aged 20-24 having completed at least upper secondary education compared to the EU27 average of 80.2% in 2012. Both females' figures (93.6%) and males' figures (91.8%) were the best in the EU27. This high education attainment however does not translate into success in

placement in the labour market. Unemployment of young people is extremely high and over the EU27 data in all education levels, as presented in the table below.

Table 9. **Unemployment of young people aged 15-24 by education level in 2012**

(%)

Education level	EU27	SK
All levels	22.8	34.0
ISCED 0-2	30.4	66.0
ISCED 3-4	20.0	31.0
ISCED 5-6	17.9	29.1

Source: Eurostat, code: [lfsa_urgaed], last update: 22-11-2013.

Unemployment of graduates of schools and types of programmes is offered in the next table.

Table 10. **Graduate unemployment rates in 2012/2013 period by education**

(%)

Schools	Secondary specialised (VET)			Grammar	All secondary	Tertiary	Graduates total	All population
ISCED	3A	3A*	3C	3A	3	5+	3+	0-6
May 2013	13.1	16.1	15.0	4.9	11.6	6.4	9.6	14.3
June 2012	17.3	19	19.9	6.7	15.0	9.7	12.9	13.3
Median***	19.2	25.1	23.6	6.6	17.1	5.3	12.1	14.1

Source: ÚPSVAR, ÚIPŠ (Herich, J. (2013)); tabled and adjusted by authors.

NB: * With extended hours of practical training; ** Unemployment rate according to labour offices (all disposable registered unemployed, not only graduates); *** Median of monthly data in the period of June 2012 to May 2013 (with an inflow of first graduates in June and the month before the next inflow).

If median is taken as an indicator of the risk of unemployment, the highest risk of unemployment can be seen in graduates from secondary specialised school (SOŠ) study branches with extended hours of practical training (25.1%), followed by graduates from SOŠ training branches (23.6%) and SOŠ study branches (19.2%). A significantly lower risk can be seen in graduates from grammar schools (6.6%) and higher education graduates (5.3%). The risk of unemployment of grammar school graduates is however diminished by their progression into higher education. The risk of unemployment of grammar schools graduates is considered similar to those of VET schools, provided this positive effect of "higher education factor is eliminated"[4]. Higher education undoubtedly leads to easier employment, however the increase of higher education graduates does not correspond with labour market demand in Slovakia. As a consequence brain drain and local over-qualification is in increase.

[4] See report by Herich, J. (2013), p. 11.

Furthermore, financing per capita not balanced by quality checking and elimination of low quality providers, results in an increase of easy-to-get higher education diplomas and secondary VET qualifications, which is criticised by employers as not matching required skills in jobs. A significant part of difficulties is caused by permanent ignoring of needs of schools in renewal of equipment and replacing elderly teachers and trainers by quality professionals as visible from a long-term extremely low investment in education (see Tables 19 and 20). Solution to the mismatch between supply and demand is seen in creation of a new national qualifications system with qualification standards corresponding to labour market needs and introducing elements of a dual system involving employers in provision of training in required quality and numbers. Success in transformation of IVET already announced by both politicians and employer representatives, and supported by ESF, will however require a revision of financing VET and an immediate intensive employers' capacity building related to the VET provision. More jobs for tertiary graduates are inevitable to prevent from the brain drain, as with the exception of the ICT sector Slovakia has not yet been discovered by investors interested in highly skilled workers.

CHAPTER 2.

Providing vocational education and training in a lifelong learning perspective

2.1 National education and training system with Diagram

Short overview

Although slightly changed in the 1990s and in 2008, the Slovak education system is still substantially based on the Czechoslovak system as established by a fundamental reform from the 1970s. It featured a strong secondary VET originally designed for 85% of respective age cohort, complemented by a slim, strongly academically oriented general education stream and restrictive access to tertiary education. The education system was designed to supply qualified secondary VET graduates with at least ISCED 3C education level. The Slovak education system still features a high share of secondary VET graduates and a low share of early school leavers. Many secondary VET school graduates enter universities that dramatically expanded in number of institutions as well as students. Bachelor programmes aimed at entering the labour market are, however, rare and students massively progress to master programmes. Some of post-secondary programmes offered by secondary VET schools leading to a higher professional level of education (ISCED 5B) were originally highly valued by both students and the labour market. Their attractiveness has been weakening, in particular when compared to a university studies boom. Initially, only universities were recognised by legislation as higher education institutions, which hampered development of a non-university segment of tertiary education. The following table presents a flow of population aged 15 in 2005 within the education system. Detailed data are in Annex 11.

Table 11. **Distribution of respective age cohort in formal education by ISCED level**

(%)

Age	School year	ISCED								
		1	**2**	**3A Gen**	**3C**	**3A VET**	**4A**	**5B**	**5A**	**All**
21	2011/2012	0.0	0.2	0.3	1.0	4.5	1.2	1.6	**91.2**	100
20	2010/2011	0.0	0.4	1.2	1.8	**15.5**	1.3	1.7	**78.1**	100
19	2009/2010	0.0	0.4	**12.6**	4.1	**43.5**	0.3	0.8	**38.2**	100
18	2008/2009	0.0	0.7	**26.0**	**11.5**	**57.8**	0.0	0.0	3.9	100
17	2007/2008	0.1	2.0	**28.2**	**20.6**	**49.1**	0	0	0.0	100
16	2006/2007	0.2	6.0	**27.1**	**19.5**	**47.2**	0	0	0	100
15	2005/2006	0.3	**42.1**	**19.3**	**10.7**	**27.5**	0	0	0	100

Source: Institute of Information and Prognoses of Education (ÚIPŠ, Ústav informácií a prognóz školstva); UOE data; aggregate, not individualised data used; calculated and tabled by authors. Figures in bold indicate a mainstream flow.

NB: 0.0 – less than 0.05, but more than zero; 0 – real zero; Gen – general.

Explaining the Diagram

Pupils enter primary education at the so-called basic school usually at the age of 6 years. It is composed of two stages, the first lasting for four years and the second one for five years, within which pupils are taught all subjects by subject specialists. After completion of basic school, students, typically at the age of 15, make their choice of secondary school. They can decide for VET at secondary specialised schools, for conservatory or for grammar school.

Secondary specialised schools (SOŠ, stredná odborná škola) offer a variety of ISCED 3A programmes preparing students for both higher education and/or the labour market in professions requiring a quality general and professional education with a firm grounding in theory. Furthermore, they offer ISCED 3C programmes for blue-collar professions and rarely also ISCED 2C programmes. In specific cases, SOŠ offer post-secondary studies, content-related rated ISCED 4A and ISCED 5B. There are in total 436 VET programmes approved for the 2013/2014 school year and an additional 57 programmes are being tested as experimental. There is no genuine apprenticeship system in Slovakia although ISCED 3C students are often called apprentices. It refers to the late tradition and a stream of secondary vocational schools (SOU, stredné odborné učilište) that does not exist anymore. Since the 2008/2009 school year these schools have also been categorised and named SOŠ.

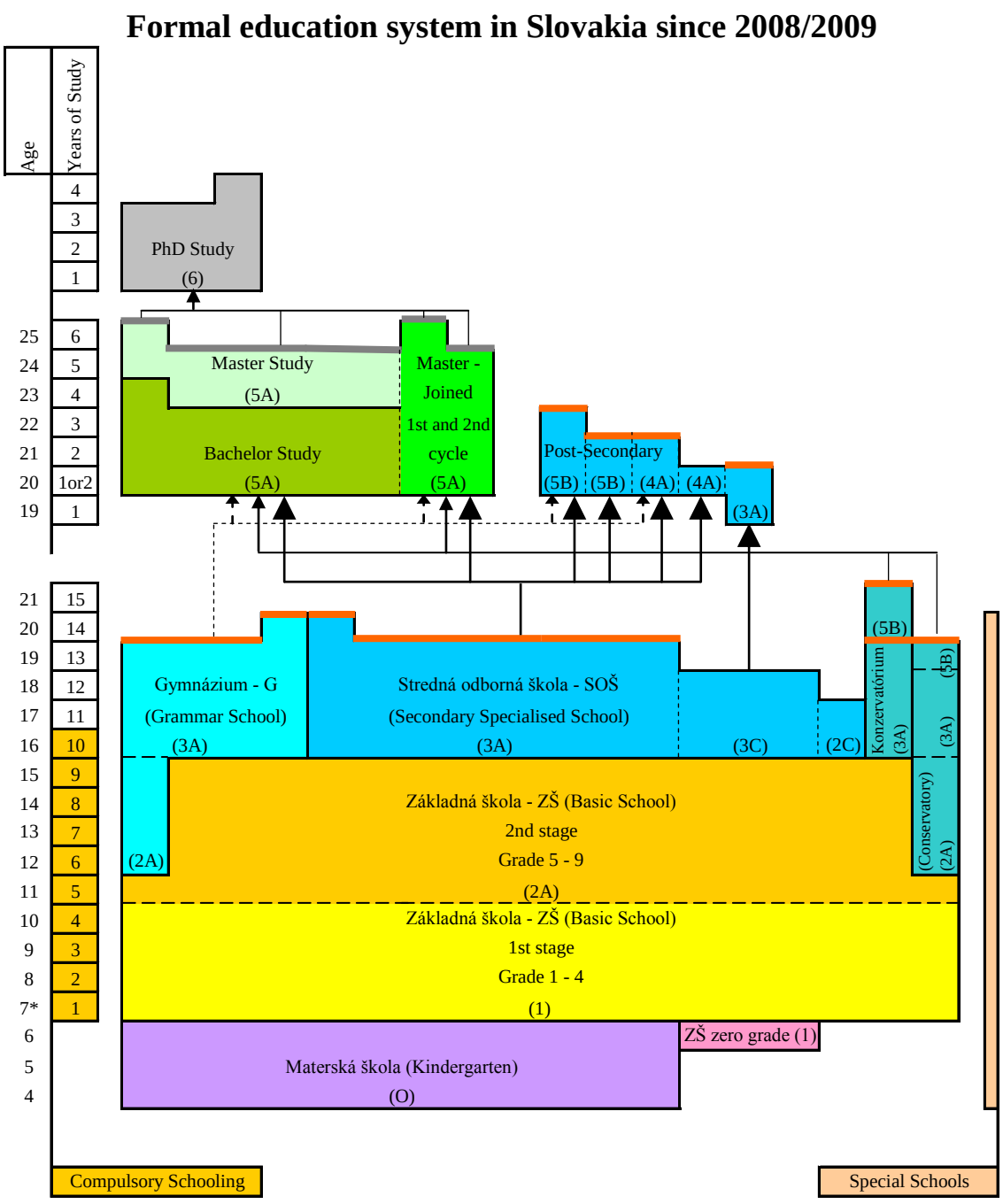
Conservatories (konzervatórium) of two types: dance conservatory, and music and drama conservatory were originally subsumed under secondary specialised schools. Since 2008, they have been recognised as an autonomous stream explicitly stated in legislation and statistics. There are together 21 programmes approved for the 2013/2014 school year.

Grammar school (gymnázium) was originally created to focus on theoretical knowledge and academic skills. Grammar school offers three programmes. Standard educational programmes last for 4 years. The bilingual version (with English, German, French, Spanish or Italian as a complementary language of instruction) lasts for 5 years. The so-called long form of study (for pupils completing Grade 5 of basic school) lasts for 8 years.

Very rarely (see e.g. Table 15 and Figure 5), grammar schools offer VET and VET schools offer general programmes, as a consequence of merging of schools.

Compulsory education lasts for 10 years and this usually means nine years of basic school and at least one year at secondary school. Such a construction is intended as in-built driver to prevent leaving education early. Although there is neither education level nor classification recognised in reference to the completion of compulsory education according to legislation, it is implicitly expected that students achieve at least an ISCED 3C education level. An overview of education levels as set by national legislation with respective ISCED and NQF codes is offered in Annex 12.

Figure 3.


Formal education system in Slovakia since 2008/2009
Age
Years of Study
PhD Study
(6)
Master Study
(5A)
Bachelor Study
(5A)
Master - Joined
1st and 2nd cycle
(5A)
Post-Secondary
(5B) (5B) (4A) (4A)
(3A)
Gymnázium - G
(Grammar School)
(3A)
Stredná odborná škola - SOŠ
(Secondary Specialised School)
(3A)
(3C)
(2C)
(5B)
Konzervatórium
(3A)
(5B)
(3A)
(Conservatory)
(2A)
(2A)
Základná škola - ZŠ (Basic School)
2nd stage
Grade 5 - 9
(2A)
Základná škola - ZŠ (Basic School)
1st stage
Grade 1 - 4
(1)
ZŠ zero grade (1)
Materská škola (Kindergarten)
(O)
Compulsory Schooling
Special Schools
Giving access to higher education
Giving access to PhD
(N) ISCED level
EQF levels have not yet been officially set, preliminary set NQF levels are offered in Annex 12
* As a rule, pupils reach the age of 7 during the first year of their compulsory schooling.
Enrolment after 6th birthday is required by legislation.

Private and church-affiliated schools emerged first in the 1990s and gradually increased substantially in numbers, as visible below.

Table 12. **Number of schools by types and ownerships in 2012/2013**

Schools in 2012/2013	Mainstream					Special education	
	Basic	Grammar	Secondary VET	Conser-vatories	Higher education	Basic	Secondary
Public	2 023	151	362	6	20+3*	210+32**	119
Private	41	38	86	9	12	16+4**	3
Church	113	55	19	1	0	9	5
Total	2 177	244	467	16	35	235+36**	127

Source: ÚIPŠ.

NB: * state schools (health, police, army); ** affiliated to health care institutions.
There were also one private grammar school, one public VET school and four private VET schools delivering part-time study that were included in the table.

Special schools provide education and training to mentally and physically challenged students. Since the early 1990s, the trend to integrate special education needs (SEN) students has been increasing and inclusion efforts are supported by legislation and fiscal reward.

Table 13. **Number of schools and individually integrated students with special needs**

	1996			2012		
	Basic	Secondary	All	Basic	Secondary	All
Schools	852	133	985	1 737	508	2 245
All students	2 510	352	2 862	21 754	6 221	27 975
Autistics	.	.	.	233	48	281
Mentally handicapped	322	0	322	3 563	0	3 563
Hearing impaired	390	49	439	330	142	472
Visually impaired	373	85	458	259	112	371
Communication disorders	511	0	511	999	0	999
Physically challenged	914	218	1 132	664	348	1 012
Behavioural disorders	.	.	.	820	169	989
Learning disorders	.	.	.	11 695	5 277	16 972
Gifted	.	.	.	714	125	839
Other				2 477	0	2 477

Source: ÚIPŠ; tabled and recalculated by authors.

NB: . - not identified.

Despite this, a system of special schools continues to play an important role in assisting SEN students to cope with the demands of the society and the labour market. There are both

general stream special schools (basic schools and grammar schools) and vocational stream schools. A lot of criticism is aired because of enrolment of socially disadvantaged and predominantly ethnic Roma from marginalized communities to special schools endangering them in achieving a qualification demanded on the labour market. Such a practice violates the law as these schools are designed for handicapped children. Therefore, the so-called zero grades affiliated to basic schools can be opened as preparatory for socially disadvantaged children (predominantly from Roma communities living in segregated settlements).

The formal education system is completed with a set of specialised facilities providing assistance to schools, parents and students (e.g., school service centres, school catering facilities, school clubs, centres of leisure, youth centres, in-country schools, pedagogical and psychological counselling centres) and offering additional specialised education (e.g., language schools, etc.). Basic schools of arts are state subsidised institutions offering paid education (with symbolic fees) in music, dance, fine arts and drama for gifted and/or motivated children and adults. Centres of practical training (strediská praktického vyučovania) provide for the practical training of students who receive theoretical education at VET schools, having no option for delivery of appropriate school-based practical training.

Curriculum

The curricular policy in VET is based on the paper "Concept of a two-level model of educational programmes in VET in the Slovak Republic" approved by the government on 6 June 2007, and subsequently the Education Act No. 245/2008 Coll.[5], introducing competence-based state educational programmes representing requirements of the state. Individual VET schools are entitled to develop their own curriculum expressed by school educational programmes compatible with respective state educational programme requirements, and reflecting relevant labour market needs.

There are 32 fields of study recognised by legislation for secondary schools; a full list of VET fields (some of them interlinked) is offered in Annex 14.

The following table offers numbers of state educational programmes developed by the State Institute of Vocational Education (ŠIOV, Štátny inštitút odborného vzdelávania) for secondary specialised schools of education sector, corresponding to respective fields of study.

[5] Act No. 245/2008 Coll. is available in Slovak at http://www.minedu.sk/data/att/4593.pdf.

Table 14. **State educational programmes by ISCED levels since 2010/2011**

	ISCED 2C	ISCED 3C	ISCED 3A	ISCED 4A	ISCED 5B	Total
SEP	9	17	20	23	14	83

Source: ŠIOV.

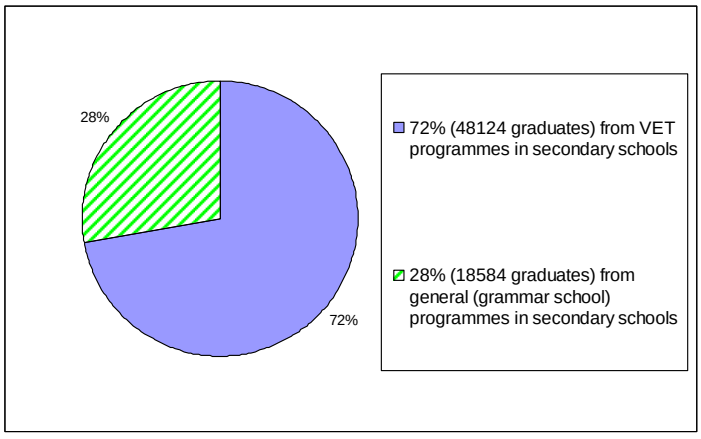
NB: State educational programmes for conservatories, specialised secondary schools for SEN students, and schools of health and interior sectors developed outside State Institute of Vocational Education are not included.

A change in programming has been introduced since the 2013/2014 school year. In contrast to the table above state educational programmes are not offered separately for respective ISCED level programmes. They now cover a study field as a whole containing programmes (and ISCED levels). There are together 23 new state educational programmes developed by ŠIOV[6] regulating a vocational component of study fields. General education component of respective VET programmes is offered separately[7], elaborated for respective subjects by the National Institute for Education.

2.2 Government-regulated VET provision

In 2012/2013, there were in total 44 090 graduates (of which 19 921 female) from full-time secondary and post-secondary non tertiary VET programmes, compared to 18 253 graduates (of which 10 991 female) from full-time general (grammar school) programmes. In addition, there were in total 4 034 graduates (of which 2 670 female) from VET programmes, compared to 331 graduates (of which 162 female) from general (grammar school) programmes in part-time studies.

Figure 4. **Graduates from VET programmes and general programmes* in 2012/2013**



Source: ÚIPŠ.

NB: * full-time and part-time graduates together from all programmes and all secondary schools including special schools.

[6] See http://www.siov.sk/svp-pre-ovp/21658s.

[7] See http://www.siov.sk/svp-na-sos-pre-vseobecne-vzdelavanie/21653s.

The following table indicates that 76.7% of VET graduates from full-time courses have acquired at least an ISCED 3A level of education opening them a door to higher education, and that former strong ISCED 3C programmes shrank to 19% of all graduates in 2012/2013. Furthermore, 8.2% of graduates are former ISCED 3C graduates who acquired an ISCED 3A "maturita" school-leaving certificate after an additional 2 years of study. Thus these data demonstrate the weakness of training aimed at blue-collar professions and craftsmen, as well as a disproportionately higher participation of females at higher ISCED level programmes, and marginality of post-secondary studies and of ISCED 2C studies.

Table 15. **VET graduates* from full-time courses in 2012/2013**

Programme ISCED level	Total		Female		Female/total index
	N	%	N	%	
ISCED 5B	630	1.43	450	2.26	0.70
ISCED 4A	278	0.63	175	0.88	0.65
ISCED 3A follow-up**	3 625	8.22	1 485	7.45	0.41
ISCED 3A	30 215	68.53	14 687	73.73	0.49
ISCED 3C	8 377	19.00	2 774	13.93	0.33
ISCED 2C	965	2.19	350	1.76	0.36
Total	44 090	100.00	19 921	100	0.45

Source: ÚIPŠ.

NB: * full-time graduates together from all schools: 619 graduates from conservatories, 384 from VET programmes offered by grammar schools and 1 127 graduates from special secondary schools for SEN students are added to 41 960 graduates from SOŠ; ** ISCED 3A follow-up programmes are intended for graduates from content-based interlinked ISCED 3C programmes.

A detailed picture about VET graduates is offered in Annex 16 where all full-time VET programme graduates are presented by an ownership type of institutions (public, private and church-affiliated).

The most populated fields of study in 2012/2013 were as follows: economics and services (codes 62, 63, 64) with 18 971 graduates, electrical engineering with 4 753, and engineering with 4 476 graduates, representing together 63.96% of all graduates. Detailed data about all fields are presented in Annex 17.

IVET programmes

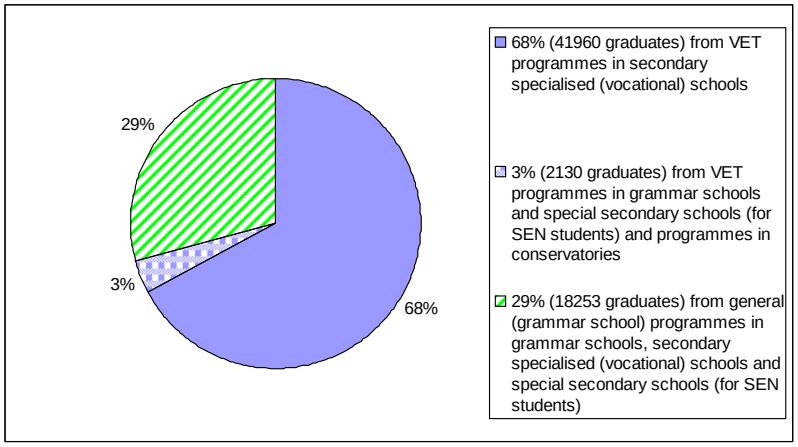
All secondary, post-secondary and tertiary programmes are presented in an overview with their main features (e.g., duration of studies, balance between general and vocational subjects, access to other pathways) in Annex 18.

Secondary level

There is no genuine IVET at lower secondary level except programmes offered in dance conservatory and in special schools for SEN students. A marginal two-year ISCED 2C programme is offered by secondary schools with training for simple and auxiliary works, completed by awarding a lower secondary vocational education level.

Slovak upper secondary IVET is school-based with the crucial position of secondary specialised schools offering predominantly ISCED 3A programmes. The following graph demonstrates that 68% of secondary school graduates in 2013 are from VET programmes at secondary specialised schools, 3% from other schools, while the remaining 29% represent the general education stream.

Figure 5. **Distribution of graduates from full-time programmes at secondary schools in 2012/2013**



Source: ÚIPŠ.

After the merging of the two VET streams, originally offered by secondary specialised schools and secondary vocational schools, and after renaming the former secondary vocational schools in 2008; VET programmes were gradually redesigned according to the principles of a newly introduced curricular reform and revisited again in 2012 (see part on curriculum in chapter 2.1). The following programmes are offered

- ISCED 3A study branches with a strong focus on theory by former secondary specialised schools titled “study branches” (študijný odbor). In study branches, students participate in the working process or assist there in the form of continuing activity for a period set by curricula; this usually happens in the summertime. Graduates of these programmes receive a “maturita” school-leaving certificate;
- ISCED 3A study branches with a stronger focus on practice by former secondary vocational schools were renamed as “study branches with extended hours of practical training” (odbor s rozšíreným počtom hodín praktického vyučovania). In these study

branches practical training is alternated with theoretical education in school workshops or in places suitable for training that are contracted by schools during the whole school year. Graduates of these programmes receive a “maturita” school-leaving certificate, and also a certificate of apprenticeship provided school curricula contain at least 1 400 hours of practical training, of which 1 200 hours is specific vocational training;

- ISCED 3C programmes completed with a certificate of apprenticeship. These programmes have gradually weakened, losing their attractiveness in competition with ISCED 3A programmes.

The following data indicate a strong decline in number of ISCED 3C graduates in both absolute numbers and in a share.

Table 16. **Number of ISCED 3 graduates by programmes**

Programme ISCED level	**2011**		**1999**		**2011/1999 index**
	N	**%**	**N**	**%**	
ISCED 3A Gen	19 219	27.6	15 648	17.2	1.2
ISCED 3A VET	38 542	55.2	48 220	53.1	0.8
ISCED 3C VET	12 019	17.2	26 870	29.6	0.4
ISCED 3 Total	69 780	100	90 738	100	0.8

Source: Eurostat (UOE data).

NB: Gen – general.

As already mentioned there is no apprenticeship in Slovakia although ISCED 3C students are sometimes called apprentices. They are, however, regular secondary school students, according to law, and, as a rule, with no contracts with employers. Practical training of ISCED 3C students was and is usually dominantly school-based. Even if organised outside the school, in centres of practical training or workplaces, it is ensured by a contract between the school and provider. In marginal cases, a student, if older than 15, signs a contract according to which he/she is in training for an employer. Nevertheless, even students who receive theoretical education in school and practical training at the workplace of a respective entity (craftsman or enterprise) will remain considered students of the school-based VET system. Dissatisfaction of employers with the quality of graduates led to a decision to promote work-based learning and gradual introducing a dual form of VET. Experimental piloting in cooperation with Austria and Germany is already agreed, adoption of an amendment of the Act on VET introducing “elements of dual VET” is envisaged for 2014.

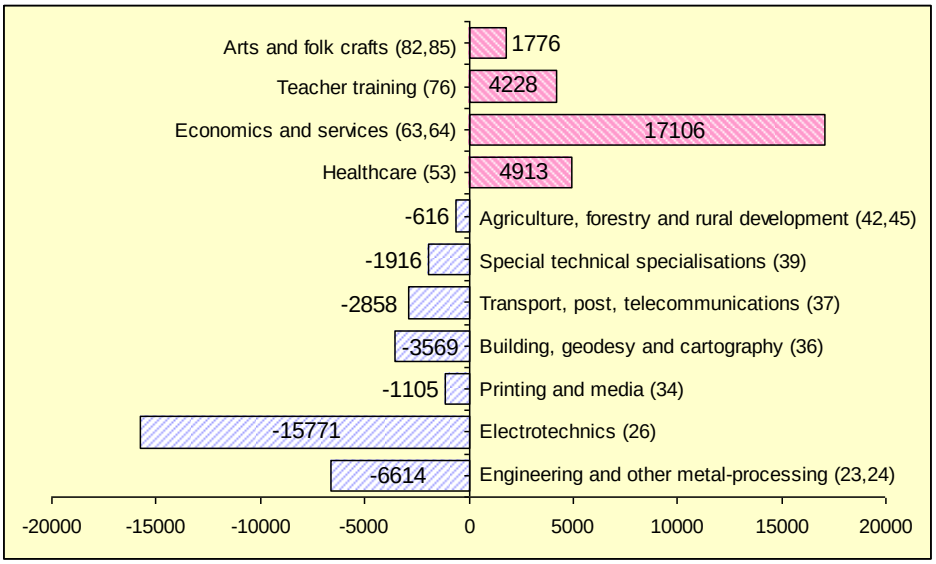
The mismatch between supply of graduates and demand in the labour market is also heavily criticised by employers. Analysis of the composition of the most important VET programmes at public, private, and church-affiliated schools (see a detailed analysis and

data in Country report 2012, chapter 2.2 Government-regulated VET provision) proved that fighting imbalance between labour demand and supply cannot be expected from private and church affiliated schools without changes in regulation of regional schooling. Private schools focus on attractive fields trying to satisfy students' demand; e.g., economics and services, arts, disregarding the variety of programmes needed for the economy. Church-affiliated schools prefer "pro-social" and "female" fields such as health care and teacher training in support of the church mission, and also economics and services to offer programmes very attractive for girls. Thus, non-public schools feature a disproportionately low share of fields crucial for industries dominating in the national economy. E.g., 6.6% of students in public schools, only 0.9% in private schools, and no students in church-affiliated schools were in engineering, and 15.2%, 4.8% and 5.6%, respectively, in electrical engineering in 2012.

Therefore, self-governing regions have been empowered to regulate entry into all secondary schools including private and church-affiliated ones (see more in 3.2). No doubt, this kind of regulation can be helpful, but cannot be sufficient for addressing reasons of supply demand mismatch. One of problems is visible from the following graph that depicts the difference between numbers of girls and boys in full-time ISCED 3A studies by selected fields of study in SOŠ.

This figure transparently illustrates the study fields attractive for girls and boys. It also explains that a surplus of graduates from economics and services, as well as high unemployment of graduates from these programmes is gender specific.

Figure 6. **Difference between numbers of girls and boys in selected study fields* 2012/2013**



Source: ÚIPŠ.

NB: * full-time ISCED 3A programmes in SOŠ, positive numbers indicate a surplus of girls and negative numbers indicate a surplus of boys; full data are in Annex 19.

Post-secondary level

All programmes described below are regulated in a same way as upper secondary programmes, as they are all offered by secondary specialised schools.

Traditionally, there are two kinds of post-secondary non tertiary programmes in Slovakia:

- follow-up programmes offered to ISCED 3C graduates; and
- three types of "post-maturita" programmes for ISCED 3A graduates (refresher programmes, qualifying programmes, and specialising programmes).

In addition, ISCED 5B higher professional studies are offered by some secondary VET schools based on the experience initiated by the PHARE programme in the 1990s. There are only vocational programmes offered within post-secondary non tertiary education.

Follow-up programmes are offered to graduates from content-based interlinked ISCED 3C programmes willing to receive a higher status ISCED 3A "maturita" school leaving certificate. As a rule, it lasts for two years and finishes with a "maturita" examination certifying an ISCED 3A level of education. This kind of programme is offered to adults of all ages. Quite often, 18-year old graduates of ISCED 3C programmes enter this programme in full-time study immediately after finishing the ISCED 3C programme. Older people prefer it in the form of part-time study.

Refresher programmes are at least 6 months in length and are completed by a final exam. These studies aimed at updating previously acquired knowledge and skills are rated an ISCED 4A level of education. Refresher programmes are to be elaborated autonomously by schools in cooperation with other players to secure quality and to compete on the market.

Qualifying programmes are at least 2 years in length completed by a "maturita" school leaving examination. These programmes, rated ISCED 4A, are aimed at gaining an additional or new qualification as graduates obtain a second "maturita" school leaving certificate in a branch other than the one studied earlier.

Specialising programmes are at least 2 years in length. These programmes are aimed at acquiring new specific knowledge and skills related to the previously received education and training within the same or similar branch of study. In contrast with qualifying programmes, these studies are completed by an absolutorium exam and graduates attain a higher professional education level rated ISCED 5B.

Higher professional studies are 3 years in length, rated ISCED 5B, and completed by an absolutorium exam. In contrast to specialising programmes, no strong interlinking in content with previous study is required. Currently offered higher professional studies are, however, not recognised as tertiary education by the Higher Education Act. Graduates attain a higher professional education level only.

Tertiary level

All Slovak public higher education institutions were originally expected to provide university type education. The new Higher Education Act No. 131/2002 Coll.[8] stipulated the existence of non-university education and non-research based tertiary education and led to current categorisation of all higher education institutions, including private ones, into 23 universities (offering studies in all three cycles interrelated with research), 10 higher education institutions (offering bachelor, master, but not PhD studies), and 2 newly established professional higher education institutions (offering predominantly bachelor studies and doing only applied research).

International data offered below indicate a dramatic increase in numbers of students during the last decade, but also serious imbalance in the provision of tertiary education. (See also a structural problem explained in the notice below the table.)

Table 17. **Students in higher education in Slovakia by programme orientation**

ISCED	ISCED 5A		ISCED 5B*		ISCED 5	ISCED 6
Year	N	%	N	%	Total	N
2000	123 136	95.6	5 605	4.4	128 741	7 173
2006	184 380	98.5	2 824	1.5	187 204	10 739
2007	204 645	98.9	2 241	1.1	206 886	11 066
2008	216 583	99.0	2 220	1.0	218 803	10 674
2009	222 519	99.1	2 061	0.9	224 580	10 417
2010	221 362	99.0	2 215	1.0	223 577	10 949
2011	211 618	98.8	2 505	1.2	214 123	12 182
2011 EU27	16 726 344	86.4	2 627 569	13.6	19 353 913	745 267

Source: Eurostat (UOE); [educ_enrl1tl]; extracted on: 28-10-2013; last update: 24-10-2013.

NB: * ISCED 5B higher professional studies mentioned earlier as developed within the PHARE programme and intended to create non-university tertiary education stream are included here, no ISCED 5B studies are however offered by higher education institutions; : – not available.

An increase of tertiary students has translated in a surplus of students in social science and humanities while a remarkable increase of mathematics, science and technology students visible in the last decade is not substantial in its share. According to the annual report on higher education 2012, 58.1% of all students studied in social sciences, humanities and services, and this share was even 80.2% in private higher education institutions. Disproportion compared to the national economy structure can also be illustrated by 2012 data regarding graduates. Almost two thirds of these graduates graduated from social science and humanities and only 22.55% from mathematics, science and technology.

[8] Act No. 131/2002 Coll.is available in Slovak at www.minedu.sk/data/att/4425.rtf.

Table 18. **Full-time and part-time studies graduates by fields of study in 2012**

Fields of study	**N**	**%**
Agricultural, forestry and veterinary sciences	1 965	2.89
Science (including mathematics)	3 150	**4.64**
Social sciences, humanities and services	42 664	62.79
Technology	12 168	**17.91**
Sciences on culture and arts	1 670	2.46
Military and security sciences	1 875	2.76
Health	4 460	6.56
Total	67 952	100

Source: MŠVVŠ; Annual report on higher education 2012.

According to Eurostat, a share of students at ISCED levels 5-6 enrolled in science, mathematics, computing, engineering, manufacturing, construction in 2011 represented 23.7% of all students, compared to 25.6% in the EU27. Furthermore, a share of ISCED 6 graduates from science, mathematics, computing, engineering, manufacturing & construction fields in total ISCED 6 graduates decreased strongly from 57.9% in 1998 to 37.6% in 2011 and was lower compared to the EU27 (43.2%). However it is positive that the number of ISCED 5-6 graduates in mathematics, science and technology per 1 000 inhabitants aged 20-29 in 2011 was 18.0%, over EU27 average (16.8%).

According to national statistics, there were 204 724 students in higher education in 2012, of which 17.5% in private institutions and 28.3% in a part-time form of study, while 2.2% of all students were foreigners. Conditions for admission to higher education studies are set autonomously by respective universities and/or their faculties. No entrance tests are obligatory. Regular students entering higher education are 19 years old, as this is a regular age of graduation from secondary school. 26 300 out of 56 977 (46.2%) of 2011/2012 secondary graduates with a “maturita” school leaving certificate registered in higher education programmes in 2012. A share of new entrants of all ages with Slovak citizenship (41 692) in a population of 19 year olds (72 240 as of 31 December 2012) was 57.7%.

Marginal registration fees are required to cover the costs of the admission procedure, however, no tuition fees are required for full-time studies at state/public universities. Students studying more than one study programme or studying longer than the officially programmed length of study are, however, payers. Part-time students also pay fees. Interestingly, average wages of university (broken also by faculties) graduates were placed on the web[9]. In 2011, the average income of 2009/2010 graduates from full-time master studies was EUR 814.

[9] Newer data are not available, nevertheless, see http://vs.iedu.sk/en that is partly in English and offers also other interesting data.

Financing

VET funding arrangements are very simple. Initial VET is dominantly funded from the state budget, as there is no tradition of typical apprenticeships in the country and the secondary VET is school-based. All VET schools including private and church-affiliated qualify for state budget contributions offered on a per capita principle. Private schools additionally collect fees from parents, church-affiliated schools do not. They can however benefit from donations of the parish community. Private schools are not eligible for contributions from the state budget for capitals (even not in case of emergency – in contrast to public and church-affiliated schools).

Public full-time tertiary education is for free financed by the state via specific allocation formulae; part-time education is for a fee with limits set by the Ministry of Education, Science, Research and Sport (MŠVVŠ, Ministerstvo školstva, vedy, výskumu a športu). Private institutions collect fees.

CVET is funded from the pocket of interested players, employers or individual participants. Labour market retraining is financed from the state budget and from the ESF.
There are no sophisticated instruments implemented to support co-financing or direct investment in education/learning by private subjects. All proposals for tax incentives in support of IVET and/or continuing VET for individuals were finally rejected or abolished after a short period.

Businesses still co-finance initial VET only in a very limited way as regards to systemic support. They can contribute to individual benefits of secondary VET students co-financing their training with some expenditures (costs of meals, accommodation, travelling, medical and psychological testing required by specific professions, as well as provision of work and protective equipment) in relation to a contract on their future employment. These expenditures are recognised as tax deductibles. Other contributions of businesses to improvement of training are not recognised as tax deductibles. Therefore, only very profitable businesses are able to co-finance IVET in a larger extent. The VET Fund created in 2010 is dysfunctional, without financial means, as legislation envisaged voluntary contributions only.

Schools are eligible to apply via an affiliated NGO for tax credits equal to 2% of personal income tax (since 2001) and 2% of corporate tax (since 2004).In Slovakia, investing in education has not been a priority, as visible from comparison with the EU27.

Table 19. **Total public expenditure on education as % of GDP, for all levels of education**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
EU27	4.9	4.99	5.10	5.15	5.06	5.04	5.03	4.95	5.07	5.41	5.44
SK	4.1	3.99	4.31	4.30	4.19	3.85	3.80	3.62	3.61	4.09	4.22

Source: Eurostat; [educ_thexp]; tabled by authors; last update: 09-07-2013.

Lagging behind the EU27 level is also better visible from the following table comparing GDP per capita and expenditures on educational institutions per capita.

Table 20. **Annual expenditure on public and private educational institutions per student compared to GDP per capita by level of education**

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
ISCED 5-6	EU27	:	37.5	37.6	36.9	35.7	37.1	36.5	36.3	36.9	38.9	39.3*
	SK	44.0	46.0	37.4	35.0	44.4	36.1	33.7	28.3	28.3	29.6[1]	29.8
ISCED 2-4	EU27	:	26.0	25.9	25.9	25.2	26.4	26.0	25.1	25.9	27.8	28.5*
	SK	16.3	16.3	17.2	18.0	18.7	16.9	16.5	15.9	17.1	20.6[2]	20.7
ISCED 1	EU27	:	18.4	19.0	19.7	19.7	19.7	20.3	20.6	21.1	22.6	23.6*
	SK	11.3	10.9	11.6	15.1	14.1	17.5	17.9	17.3	17.9	22.6[3]	24.7

Source: Eurostat [tps00069]; tabled by authors.

NB: Expenditure at ISCED 5B is included under upper secondary level of education (ISCED 2-4); Expenditure for independent private educational institutions is not available for 2007 and 2008;
[1] second lowest in the EU27; [2] second lowest in the EU27; [3] seventeenth in the EU27; : – not available; * estimate.

These data can be seen as an indicator of political support for education: how much of the wealth of the country is invested by other European countries, and that even poorer countries than Slovakia invest comparably more in education. Only expenditures for elementary (ISCED 1) are on par with the EU27 average.

Managing IVET

IVET in Slovakia, with the exception of the health sector under the Ministry of Health (MZ, Ministerstvo zdravotníctva) and specific cases (firemen, police) under the Ministry of Interior (MV, Ministerstvo vnútra), is fully regulated by educational authorities (see chart in Annex 13). However, since adoption of Act on VET No. 184/2009 Coll.[10] influence of employers increased in all phases:

- programming; as a creation of state educational programmes as well as a provision of IVET in regions is coordinated by social partners to better adjust to labour market needs;

[10] Act No. 184/2009 Coll. is available in Slovak at www.minedu.sk/data/att/4398.rtf.

- designing curricula; as curricula developed autonomously by respective schools based on state educational programmes must be discussed with employers to comply with labour market needs before their issuing;
- provision of practical training by VET schools; as work-based training is preferred and conditions for provision of practical training within schools redefined;
- school leaving examination; as the position of delegates of guilds or professional associations to influence examination was strengthened.

The new VET governance gradually introduced since 2008 is represented by

- "sectoral assignees" (e.g., chambers, employers' associations) set for respective fields of study by legislation (see Annex 14) as defenders of employers' interests and professional counterparts to education sector authorities and experts;
- National VET Council, an ultimate coordinating body affiliated to the government (see www.radavladyovp.sk) discussing all important documents (e.g., regional strategies, sectoral strategies); backed by Council's own 15 working groups focusing on respective fields of education to support adjusting a network of VET programmes within respective fields of study to meet labour market needs;
- eight Regional VET Councils composed of representatives of state, self-government, employers and employees, the most powerful bodies in preparing background documents, in particular VET regional strategies.

Sectoral VET Councils that were originally introduced by the Act on VET and established by employers' representatives in cooperation with respective sectoral ministries and the Ministry of Labour, Social Affairs and Family (MPSVR, Ministerstvo práce, sociálnych vecí a rodiny) to provide for sectoral expertise were cancelled by amendment of the Act on Employment services coming in force since 1 May 2013. Their role was partly taken over by the aforementioned Council's own working groups and partly by Sectoral Councils[11] set earlier within the labour sector to support creation of the National System of Occupations;

Teachers and trainers

IVET staff is dominantly bound to the education institutions. There are traditionally three categories of VET school teachers officially recognised by the education sector legislation: teachers of general subjects, teachers of vocational subjects, and teachers of practical training. The latter category of teachers is involved in practical lessons at school, e.g., in laboratories and practical lessons connected to workplaces specified within curricula and

[11] Sectoral Councils created within the ESF project are backed by the Act on Employment Services since 1 May 2013, see part 3.1.

aimed at applying theoretical knowledge gained during theoretical subjects. Trainers are responsible for assisting in gaining respective skills (predominantly manual) during practical training. Although VET in Slovakia is dominantly school-based, in some cases practical training is offered outside the school. Based on an agreement between a school and a company, practical training can be provided directly by the company in its own premises and by its own staff, but under the supervision of the school. These professionals are often called instructors to differentiate between them and trainers from schools.

No specific requirements are set for higher education teachers, but teachers without a PhD are considered insufficiently qualified. Numbers of teachers in respective schools and levels are offered in Annex 15.

Teacher training is traditionally offered by universities. VET teachers, who are university graduates from other than teacher programmes look for receiving full teacher qualification by completing complementary pedagogical studies (CPS) aimed at acquiring pedagogical competence.

All higher education institutions have redesigned their programmes in line with the Bologna process and submitted the reconstructed study programmes for accreditation. The reform also contributed to an emergence of new programmes, *inter alia,* bachelor studies for VET trainers. Although formal requirements for secondary VET school trainers remained unchanged and tertiary education is not required in contrast to teachers, VET trainers enter universities to achieve a Bachelor degree, allowing them also better remuneration in public sector jobs (including schools). Nevertheless, the traditional option to acquire pedagogical competence via non tertiary complementary pedagogical studies has remained preserved, losing attractiveness for trainers.

A shortage of qualified vocational subject teachers and a low attractiveness of vocational teacher training programmes for both students and universities resulted in an amendment of Act No. 317/2009 Coll. on pedagogical staff and professional staff. From November 2013 universities do not need to ask the government-affiliated Accreditation Commission for accrediting teacher training programmes (including assessment of the quality of their research in respective field) and can offer just complementary pedagogical studies (not regulated anymore by the Higher Education Act No. 131/2002 Coll. and subsequent decree on CPS) and accredited by the Accreditation Board of MŠVVŠ originally established for accreditation of programmes of continuing professional development of teachers and other pedagogical staff. This measure is expected to help IVET schools to attract practitioners to work as teachers and trainers and to offer alternatives for adoption of qualifications. On the other hand, this measure is criticised as creating a double standard and endangering research in pedagogy, in particular with regard to general subject teacher qualifications.

The aforementioned Act No. 317/2009 Coll. on pedagogical staff and professional staff[12] introduced the credit system for standards driven continuing training. Accreditation of continuing training programmes is carried out by Accreditation Council for Continuing Training of Pedagogical and Professional Staff established in November 2009 as an advisory body to MŠVVŠ. The law also specifies personal and qualification prerequisites concerning all categories of pedagogical and professional staff for four career levels representing a career path: beginner, independent worker, and worker with the first and the second attestation.

2.3 Other forms of training

Learning opportunities for vulnerable groups

Slovakia is among the EU countries with the lowest number of drop-outs and early school leavers (5.3% in 2012) and therefore alternative programmes are quite marginal. Nevertheless, statistics would be different for the Roma ethnic minority; in particular the Roma population living in segregated settlements. An alarming situation is reported by practitioners and also documented by the following survey data.

Table 21. **Early school leaving rate of young Roma and non-Roma living in proximity**

(%)

	Non-Roma			Roma		
	Male	**Female**	**All**	**Male**	**Female**	**All**
ESL (aged 20-24)	11	29	21	78	82	80

Source: Own calculation based on data from UNDP/WB/EC Regional survey 2011.

NB: sample composed of about 750 Roma and 350 non-Roma households living in proximity; ESL – early school leavers.

There are specific programmes to assist integration of low-skilled, in particular Roma, or inexperienced graduates into the labour market. They are, however, organised within active labour market policies and usually co-financed by the ESF. A specific Measure 3.1 "Enhancing educational level of members of marginalised Roma communities" targets Roma through Activity 3.1.3 aimed at continuing education of members of marginalised Roma communities and Activity 3.1.4 aimed at "continuing education" of people and the support of organisations engaged in reintegration into the labour market of Roma. (Activities 3.1.1 and 3.1.2 refer to initial education.) Measure 3.2 "Enhancing education level of people with special educational needs (SEN)" contains similar activities. Activity 3.2.3 is aimed at

[12] Act No. 317/2009 Coll. is available in Slovak at www.minedu.sk/data/att/4126.pdf.

“continuing education” of SEN people, while Activity 3.2.4 is aimed at supporting those working at their reintegration. (Activities 3.2.1 and 3.2.2 refer to initial education.)

Two activities can be perceived as system related interlinked with IVET:

A “second chance schools” initiative is targeted at adults without completion of lower secondary education. The objective of the programme is to bring them back to school and assist them in completing basic school, while also obtaining a lower secondary education level certificate. This activity has not proved substantially successful in Slovakia so far, *inter alia*, due to low employability of general ISCED 2 graduates on the labour market and low job creation for them. It is inevitable to include VET components in this kind of activities.

The active labour market policy instrument “Graduate practice” is offered to graduates from secondary and tertiary schools who had failed to enter employment. (See part on training for the unemployed below.)

In contrast to young people who also suffer from high unemployment, older workers, in particular those living in less developed regions and dismissed from blue-collar working positions, are hardly employable. There is no programme worth mainstreaming that proved to improve their employability. ICT trainings for adults are successful in fighting the digital divide; however, do not tackle their vulnerability in competition with younger unemployed.

CVET programmes including training for the unemployed and adult learning

The main objective of CVET was traditionally considered within an economic frame as personal development driven by employers’ requirements: to acquire higher qualification necessary for promotion, to increase employability and in general to raise productivity, competitiveness and economic efficiency, in particular via upgrading relevant skills. However little is known about employer-provided training as no national statistics and national surveys are available.

The main objective of adult education was traditionally less focused on employment related aspects, and more on the quality of life of adults. It was considered as a complementary activity, in particular to satisfy personal and social needs and interests not necessarily related to the workplace.

Now, CVET and adult education are seen as an integral part of lifelong learning and their future development should be supported by the newest 2011 Lifelong learning strategy, adopted by the government in October 2011. Here are national data offering numbers of programmes, trainees, and graduates.

Table 22. **Training programmes, trainees and graduates by type of training in 2012**

Type of training activity	Activities	%	Trainees	%	Graduates	%
Continuing professional training	8 744	42.33	97 526	45.65	71 440	50.76
Training for partial qualification	2 992	14.48	32 072	15.01	26 210	18.62
Interest and cultural education	3 867	18.72	32 988	15.44	16 698	11.86
Civics	30	0.15	775	0.36	709	0.50
Education for older people	197	0.95	5 137	2.40	1 266	0.90
Other	4 817	23.32	44 932	21.03	24 290	17.26
Not available (data missing)	9	0.04	212	0.10	126	0.09
Total	20 656	100	213 642	100	140 739	100

Source: ÚIPŠ.

NB: 4 016 bodies registered by the Ministry of Interior as training providers were addressed, 1 230 institutions responded positively, of which 680 reported provision of educational activities in 2012, 335 institutions offered programmes accredited by MŠVVŠ.

Provision of training was covered by 12 609 trainers (lecturers), of which 2 581 (20.47%) have pedagogical qualification, and 1 509 administrators, thus by 14 118 staff people in total. In 2011, numbers of graduates were about the same, but the number of offered activities tripled in comparison to 2010. A decrease by 30% in both numbers of activities and graduates in 2012, compared to 2011, resulted from reduced resources. The three most important sources of financing learning were traditionally EU funds, private companies (including enterprises), and trainees themselves, as visible from 2011 data in the following table.

Table 23. **Distribution of sources of financing of CVET/LLL* in 2011 and 2012**

Sources of financing	2011		2012	
	EUR	%	EUR	%
Trainees	**10 560 686.06**	19.23	**11 057 729.88**	29.68
Private companies	**16 319 293.37**	29.71	**11 242 453.93**	30.18
Public sector	2 269 385.97	4.13	2 800 192.66	7.52
of which: labour offices	384 111.02	0.70	313 912.64	0.84
municipalities	356 754.12	0.65	409 504.80	1.10
self-governing regions	933 424.88	1.70	1 608 581.25	4.32
other sources	595 095.95	1.08	468 193.97	1.26
State budget	7 430 337.28	13.53	4 397 546.14	11.81
Foundations	323 395.78	0.59	211 405.37	0.57
EU funds	**16 600 989.35**	30.22	**4 227 715.66**	11.35
Others	1 425 153.84	2.59	981 613.44	2.64
Total	54 929 241.65	100	37 250 655.77	100

Source: ÚIPŠ.

NB: * data from well-disciplined institutions: In 2011, 581declared provision of education (of which 554 submitted also data on financing), In 2012, 680 declared provision of education (of which 651 submitted also data on financing); data cover also provision of training for unemployed people and do not cover part-time studies in formal education offered to adult learners.

In 2012, a dramatic decrease can be seen in funding from EU sources, partly compensated by financing of training by trainees themselves.

The Act on LLL No. 568/2009 Coll.[13], in force since 2010, specified accreditation procedures opening doors to acquiring formal qualifications via alternatives to IVET. This act also stipulates provision of a proof of lecturers' "capability" for programme accreditation. The application procedure explicitly requires submission of a certificate on completion of training focused on lecturing competences or a proof of practice of a lecturer within this educational institution. Certification of lecturing competences will be covered by the National Lifelong Learning Institute (NÚCŽV, Národný ústav celoživotného vzdelávania) taking over a certification agenda from the Slovak Association of Adult Education Institutions (AIVD, Asociácia inštitúcií vzdelávania dospelých) and upgrading it from an unofficial to formal procedure. Setting of lecturer's qualification standards is among 44 qualifications identified in cooperation with employers as urgently needed by the labour market and/or in need of revisiting current qualification standards.

Training offered within employment services

Unemployed people are served by public employment services provided by the headquarters of ÚPSVaR and its network of labour offices spread throughout the country. Employment services are regulated by Act No. 5/2004 Coll. on employment services[14]. In addition, employed people can also be entitled to be served by labour offices, provided they are at risk of dismissal. Disadvantaged groups served preferably are identified by § 8(1) of this act (see Annex 20). Active labour market policies (ALMP) directly related to CVET can be seen from the table below (see explanation of tools below the table): policies are presented in comparison of recent years with the year 2004.

Table 24. **People affected via active labour market policies in 2004 and 2007 to 2012**

ALMP tool	2004	2007	2008	2009	2010	2011	2012
§ 46	27 208	8 890	12 143	17 924	8 824	1 367	1 785
§ 47	- *	12 537	13 863	29 921	20 381	0	0
§ 51	14 462	8 937	7 451	11 764	21 176	17 295	16 442
Total**	273 354	304 249	264 801	208 016	251 966	114 713	94 043

[13] Act No. 568/2009 Coll. is available in Slovak at www.minedu.sk/data/att/4125.pdf.

[14] Act No. 5/2004 Coll. is available in Slovak at www.employment.gov.sk/zakon-5_2004zz.pdf.

Source: ÚPSVaR.

NB: § 46 Education and training for the labour market of the unemployed job seeker and employed job seeker; § 47 Education and training for the labour market of employee; § 51 Contribution for the graduate practice;
* the tool not implemented; ** the number of people affected by all active labour market policy tools.

The first two training instruments (§ 46 and § 47) are also widely used abroad, the third is a country specific response to high youth unemployment. Graduates eligible for Graduate practice (§ 51) are offered an opportunity to improve professional skills and gain practical experience from employment during 20 hours weekly for a period of three months in minimum and six months in maximum in the case they were accepted by an organisation offering them. Although widely applied, and comparably only slightly reduced compared to the first two and compared to 2010, this instrument was assumed to have high deadweight. In 2012, only 14 358 out of 16 442 completed the practice and only 4 473 were placed in the labour market. From May 2013, the graduate practice must be linked to the content of the study programme a graduate completed, and a financial benefit to participants is reduced to 65% instead of 100% of the subsistence minimum. Furthermore, new specific instruments to address youth unemployment initiated by the European Commission and co-financed by EU funding were adopted.

Within National Project XXI “Supporting job creation”, with duration from November 2012 to August 2015, small traders, businesses and other organisations can apply for contribution from ESF resources of maximum EUR 456.57 monthly to cover part of employee costs for an initial period of newly created jobs for young people up to 29 years of age, backed by § 54 “Pilot projects” of Act No. 5/2004 Coll. on employment services. EUR 70 million reallocated from ESF Operational Programme Education to Operational Programme Employment and Social Inclusion translated into 11 000 new jobs, according to MPSVR. Additional EUR 100 million should be allocated in 2014 and 2015 to create 15 000 new positions under the direct reflection of the Youth Guarantee initiative.

In contrast to training of job seekers (§ 46), training of employees (§ 47) was introduced in pre-crisis years with a comparably low level of unemployment and availability of unspent ESF means from other activities. It was aimed at improving skills of employees and later offered as prevention from mass dismissals in the years of crisis. State deficit consolidation efforts stopped provision of this training and also led to strong reduction of training of job seekers (§ 46) compared to 2010, and dramatic reduction compared to 2004.

Table 25. **Share of retraining tools in all ALMP expenditures in 2004 and 2008 to 2012**

(%)

Tool	2004	2008	2009	2010	2011	2012
§ 46	10.7	3.0	3.6	1.6	0.1	0.5
§ 47	-*	6.9	18.9	9.2	0**	0**

Source: ÚPSVaR; tabled and calculated by authors.

NB: NB: § 46 Education and training for the labour market of the unemployed job seeker and employed job seeker; § 47 Education and training for the labour market of employee; * tool not existing; ** tool not applied.

The data also indicate low trust of policy makers in effectiveness of training. Instead, contributions for self-employment were offered generously, permanently increasing since 2004. Although containing a training component aimed at elaboration of a business plan for starting a new business, this tool is not included in the table. Furthermore, this measure also needs a serious revision as it is costly and its efficiency is very questionable. In comparison to the EU27 data, a share of retraining is disproportionally low and a share of contributions for self-employment of individuals is disproportionally high in both total ALMP beneficiaries and total spending on ALMP. This reflects higher attractiveness of other tools over retraining for both administrators and the unemployed.

ALMP expenditures in Slovakia are very low, heavily depending on EU funds and not responding to the unemployment level. In addition to three earlier presented tools a new one – costs of benefits for disabled trainees (§ 48b) is offered to illustrate a low profile of retraining activities in the ALMP portfolio and its vulnerability in competition with other tools, despite improvement in 2012.

Table 26. **Budget assigned for active labour market policies in 2004 and 2008 to 2011**

(EUR)

Tool	2004	2008	2009	2010	2011	2012
§ 46	5 455 898.5	3 725 446.92	5 841 204.64	3 034 974.09	182 565.62	684 191.08
§ 47	- *	8 501 069.87	30 642 710.81	17 483 907.28	0	0
§ 48b	- *	401 026.46	251 399.11	125 396.74	3 248.80	81 652.14
§ 51	5 152 065.6	4 815 714.30	10 989 976.03	20 005 283.85	17 200 025.22	16 952 732.76
Total**	50 789 976.9	123 688 504.51	162 181 943.50	190 438 447.16	178 957 749.53	136 073 693.46

Source: ÚPSVaR.

NB: EUR 1 = SKK 38.796 as of 31 December 2004; 2008 to 2011 data offered in EUR by the ÚPSVaR;
§ 46 Education and training for the labour market of the unemployed job seeker and employed job seeker; § 47 Education and training for the labour market of employee; § 48b Provision of benefits during training for the labour market and preparation for assertion at the labour market of disabled citizen (1 693, 1 066, 466, 11 and 290 people affected in 2008, 2009, 2010, 2011 and 2012, respectively); § 51 Contribution for the graduate practice;
* not implemented; ** including also additional tools listed in the act.

2.4 National challenge

IVET

A demographic decline, financing per capita and no counterbalancing measure aimed at rewarding quality of graduates changed the strategy of school managers. Schools are dominantly input market oriented trying to attract as many students as possible to secure the richest possible budget. Financing per capita introduced without quality checks of graduates resulted in gradual deterioration of their quality, as schools subordinated pedagogy to the economy. Quality and employability of graduates became secondary. Insufficient financing from the state budget deepens the modernisation debt. In particular, the quality of VET graduates is endangered as schools lag behind in technology development.

Here are the major challenges and objectives for IVET:

- Investment in education
  - Investment in education (the OECD lowest and among the lowest in the EU27, and below levels of comparable countries) must be increased;
- Assuring quality of school graduates
  - Learning environment must be improved and supply of learning materials and aids must be secured as a precondition for relevance of any evaluation (self-evaluation, inspection and employers' supervision);
  - A self-evaluation model developed within the ESF project by an expert team of State School Inspection can partly contribute to improvement, and regional authorities should be invited to support implementation of this model. In addition State School Inspection should create an inspection framework interrelated with self-evaluation and rethink introducing a risk-based inspection model;
  - Qualification standards are expected to be revised within an ESF project to be run in 2013 by the State Institute of Vocational Education, aimed at interlinking the National Qualifications System with the National System of Occupations (see also Chapter 3);
  - Adjusting networks of secondary schools and programmes to both regional labour market needs and needs of personal development of students is a perennial challenge for authorities. This is however hampered by insufficient knowledge of future skills needs and underdeveloped research related to labour market development. Non-existing graduates' progression tracking statistics and only anecdotal evidence on placement of graduates in the labour market is a major systemic deficiency;
  - Post-secondary VET and tertiary VET should be revised. Reviewing the Bologna process implementation and introducing bachelor studies adjusted to labour market needs is the major challenge for higher education institutions.

CVET/LLL

Slovakia failed to reach the 2010 LLL participation benchmark of 12.5% with an extremely low share of participation 2.8% compared to 9.1% average in EU27 countries in 2010. The national benchmark of 15% in 2015 set in 2007 also seems to be unrealistic, as no sign of substantial improving is visible so far (3.1% in 2012). Thus the ET 2020 benchmark of 15% is also at risk under the current trend.

- The LLL strategy adopted by the government in 2011 was complemented by the Action plan adopted by MŠVVŠ in February 2012 to address four LLL strategy priorities. The Action plan Measure 4.1 envisages identification of a fiscal instrument to enhance participation of adults in LLL. A fiscal incentive is considered an appropriate impulse for change by educators, however, heavily opposed by economists and unlikely introduced in times of fiscal prudence;
- Although a focus on key competences can be seen in the 2007 LLL strategy; a new LLL strategy adopted in 2011 highlighted their importance again with the criticism that the earlier strategy covered this issue "only at a low level" and did not develop "the method of their acquisition". The Action plan to the 2011 LLL strategy indicated in its Measure 4.2 creation of a multimedia platform in support of autonomous improvement of key competences by means of learning opportunities provided through this platform. The following key competences are explicitly stressed: communication in foreign languages, digital competence, social and civic competences, and entrepreneurship. However a respective ESF national project has not yet been launched;
- The Accreditation Commission affiliated to MŠVVŠ, which is responsible for accreditation of educational programmes, as well as the Accreditation Commission affiliated to the Ministry of Health concentrate on assessment of input conditions that are in detail regulated by the Act on LLL No. 568/2009 Coll. But, the output quality is, as a rule, left up to the market power and clients. Quality of provision of CVET/LLL and informing about the quality of respective learning opportunities is still seen as a serious problem. A new ESF national project mentioned above should address this by creating an electronic communication platform;
- Training activities of traditional adult learning or retraining of jobseekers and a lot of CVET (with the exception of specific CVET regulated sectorally) are still completed with certificates of attendance only, as the development of the learning outcomes-based National Qualifications System has just started (see more in Chapter 3).

CHAPTER 3

Shaping VET qualifications

For a long time there was no explicit definition of the term “qualification” in the Slovak legislation. The Act on LLL No. 568/2009 Coll. established the terminology specifying partial and full qualification as a compliance with respective qualification standards (in terms of knowledge, skills, and abilities required by respective working activity or even occupation). Nevertheless, the former approach understanding qualification as the conjunction of achieved education level, sometimes complemented by specific qualifying conditions (vocational capabilities), and optionally also working experience, all officially recognised, still prevails.

Furthermore, there is a tradition in both general education and IVET to speak preferably about level of education. Therefore, all educational background documents refer to “educational” requirements to be achieved for graduation rather than to “qualification” requirements. Of course, in IVET programmes education and training for profession is more pronounced compared to other programmes. However, graduates from VET schools are said to only receive their “first” qualification, in order to leave space for additional requirements (e.g., of other sectors legislation) for gaining “qualification” *per se*.

Recently, with establishment of the National System of Occupations and first efforts to redesign existing national qualifications into a learning outcomes-based National Qualifications System (NQS) with qualifications requirements available in one place (on-line platform), discussions about clarifying the difference between education level and qualification becomes more important again. There are many qualifications regulated by sectoral legislation often acquired within CVET and continuing professional development featuring different approaches: some are already learning outcomes-based and some are rather traditional and based on education content. NQS fundamental contribution can also be seen in covering other than education sector qualifications.

Nevertheless, for the sake of simplicity, we will ignore details and also speak about qualifications with regard to IVET programmes: a table of types of qualifications awarded by the IVET system is in Annex 21.

3.1 Designing qualifications, occupational and educational standards

According to the Act on LLL, designing qualification means meeting requirements needed for enlisting into NQS. A precondition for this is elaboration of qualification and assessment standards. However, NQS seems to be restricted to the education sector so far, and

progress in describing qualifications is still very slow. Designing a qualification is interrelated with designing an IVET programme. Developing a new IVET programme is based on a procedure that is very strictly regulated by educational authorities:

Initiation – a new programme development is usually initiated by employers in need of specialists not supplied to the labour market or also by schools looking for new opportunities to survive in a competitive market with a decreasing number of learners. As a rule, employers and a particular school in the neighbourhood approach the education authority;

Inception – a project must be submitted to MŠVVŠ asking for approval of experimental study. This experimental study proposal must be backed by a supportive declaration of establisher (self-governing region) and must be discussed with a school board, local/regional employers, and the respective institution representing employers set as the so-called sectoral assignee by legislation (see Annex 14). A new school educational programme (containing *inter alia* graduate's profile and detailed curricula) must be elaborated as well as project implementation documentation (time schedule, personnel, and financial capacities). A cooperating reliable guarantor willing to supervise and evaluate the experiment must be engaged. The project is discussed by the respective working group of the National VET Council and in case of positive recommendation it is approved by MŠVVŠ. This programme is officially registered, but can only be applied by schools (one to three) participating in the experiment;

Evaluation – every year the guarantor (often the State Institute of Vocational Education) evaluates progress of the project and informs MŠVVŠ about any changes or adjustments emerging during the experiment. This phase is finished by final evaluation by the guarantor. It must be done by the end of a calendar year in which the full experimental programme was completed. An explicit statement recommending or not recommending a new study programme must be expressed;

Mainstreaming - in case of positive evaluation by the guarantor the ministry enlists, without any further delay, the evaluated programme into the network of study programmes. After this, any establisher can ask MŠVVŠ for approval to offer the new programme in its school. Schools that were not involved in the experiment must develop their own school educational programmes, as only a framework of the original school educational programme is made public.

Occupational standards are being developed within ESF projects aimed at creation of a National System of Occupations (NSO) run by Trexima Ltd. under the supervision of MPSVR. 391 occupational standards elaborated in cooperation with social partners and officially approved were made public at the NSO portal (www.sustavapovolani.sk) by November 2013, with 1 400 occupations (out of total 1 800) to be completed at the end of the ESF project in September 2015. In addition to the Register of Occupations complying with

ISCO-08 and containing occupational standards; this interactive platform also contains the Register of Competences (with databases identifying relevant knowledge, skills, and general abilities for occupational standards).

Twenty Sectoral Councils have been created to assist in developing occupational standards. A full list of Sectoral Councils operating within the NSO project with the lists of members is available at the aforementioned NSO portal. A field specialist from the State Institute of Vocational Education is a member of a respective council to take care on coherence with IVET. The Alliance of Sectoral Councils coordinates Sectoral Councils activities and finally approves occupational standards developed by respective councils. It is presided over by the nominee of MPSVR (currently a representative of employers) and comprises representatives of all ministries, all self-governing regions, and other social partners, as well as the heads of all Sectoral Councils. Since 1 May 2013 responsibilities of these councils and of the Alliance are stipulated by §35b of the Act on Employment Services.

Prior to the 2008 curricular reform, education was based on curricula backed by detailed educational documentation, which had to be approved by MŠVVŠ. Since 2008, education has been based on MŠVVŠ-approved state educational programmes developed for entire groups of related fields of education, based on which individual schools prepare their own school-specific school educational programmes.

Thus educational standards are set by state educational programmes covering all study and training branches and are composed of the so-called content standards and the so-called performance standards, as set by the Education Act No. 245/2008 Coll. Performance standards can be seen as learning outcomes that students are supposed to attain during the study and demonstrate when completing the study. They are expressed in particular in relation to vocational competences (the required body of knowledge, the required skills, the required personal predispositions, characteristics, and abilities). In addition, general competences are expressed in state educational programmes for ISCED 2C, 3C and 3A programmes. Furthermore, key competences are expressed in all state educational programmes reflecting international discourse. The so-called assessment standards are considered a supportive tool for evaluation of achieving performance standards and are to be elaborated by respective schools within their school educational programmes.

The 2008 curricular reform preceded creation of NSO and NQS, thus progress in both will also affect educational and assessment standards developed and used earlier. Although an ESF project aimed at the creation of a learning outcomes-based NQS is pending, MŠVVŠ, pushed by the Act on LLL No. 568/2009 Coll., started to work on descriptions of qualifications in terms of national qualification and assessment standards[15].

[15] A current list of “LLL qualifications” is placed at www.isdv.fri.uniza.sk/Qualifications.aspx.

Since the 2008 curricular reform, the influence of employers on designing standards has significantly increased as a consequence of new VET governance (National VET Council, Regional VET Councils, Sectoral Councils and "sectoral assignees"; see part Managing IVET in 2.1) set by Act No. 184/2009 Coll. on VET[16]. Nevertheless, just with completing NQS a feedback loop between respective standards will become fully institutionalised. Currently, ensuring the labour market relevance of knowledge, skills and competence development in VET is based on natural personal feedback offered by involved specialists; in particular, those in Sectoral Councils in the labour sector concerning occupational standards and those in the aforementioned bodies of new VET governance in the education sector concerning education and qualification standards. The future must bring an overarching solution, hopefully brokered by a new 2013-15 ESF project "Creation of NQS" that started in March 2013. Development of NQS qualification standards should also capitalise on the experience of Sectoral Councils with NSO.

3.2 Anticipating labour market needs

There have been no reliable instruments developed for anticipation of labour market needs so far. There is no institution and there are no specialists focusing on qualitative anticipation of skills needs. There were only ad-hoc sectoral/regional data collected, without efforts to develop regular national instruments to be used periodically to monitor labour market supply and demand.

Sectoral VET Councils were expected to play a crucial role, *inter alia,* in anticipation of sectoral skills needs and translating them into the so-called "plans of labour market needs" in terms of numbers of graduates in respective study/training branches for the following five years. Nevertheless, results were disappointing as "plans of labour market needs" submitted to the National VET Council were of limited validity and reliability. It is not surprising, as all data available for their elaboration were based on estimations of insiders only, as no professionally designed employers' surveys are regularly conducted. In recognition of this weak point an amendment of legislation was agreed upon, and responsibility for anticipation of labour market needs was shifted to MPSVR. Committees for Employment Issues affiliated to each of the 46 labour offices were expected to carry out an analysis of labour market developments. As a consequence estimations of labour market needs had to be elaborated for each of 8 self-governing regions to offer them a basis for regulation of entry to respective study programmes.

[16] As already mentioned, Sectoral VET Councils were removed from the Act on VET by amendment of this act. It was on request of employers' representatives arguing by the existence of Sectoral Councils in the labour sector and suggesting expansion of their focus to also cover the role of Sectoral VET Councils.

An amendment of Act No. 184/2009 Coll. on VET made self-governing regions responsible for setting numbers of classes for first grades at secondary schools with a seat in their territory, including church-affiliated and private schools. Therefore, regional parliaments adopted in autumn 2013 a regulation for the 2014/2015 school year prescribing the numbers of classes to be opened in respective schools[17]. Regulations were based on

- 9 criteria set by the law;
- guidance document of the MŠVVŠ No. 35/2013 that further elaborates 9 criteria;
- education strategy of the self-governing region; and
- estimation of labour market needs offered by labour sector authorities[18].

Due to a lack of data Trexima Ltd. suggested a proxy of estimations of regional labour market needs for 41 categories (4 digits in SK ISCO-08). Respective data were calculated from estimations of retiring staff (with a weight of 75%) and macro-economic forecasting (with a weight of 25%).

Furthermore, unemployment data of graduates of all schools broken down by programmes are made available on the web to inform interested, in particular families, before making decision on selection of school. It must, however, be stressed that any analysis focusing on registered unemployment data offers only a biased picture. Until an official instrument collecting data on the transition from VET to work (e.g., at least tracking graduates for three years after graduation) is introduced, no relevant data for analysis will be available, as all education sector data ends with graduation from schools.

Many efforts were undertaken, co-financed by the ESF, with insufficient results due to weak project management, but also due to the lack of research capacity and expertise. While it is understandable that there was no experience in this field during the command economy period it is hard to understand why the relevant research capacities were not created after 1989. No skills surveys are conducted and even no school-to-work transition data are collected. There are only two institutions with some experience in this field – the Institute of Economic Research of the Slovak Academy of Sciences making forecasting based on an econometric model[19], and the aforementioned company Trexima Ltd. Therefore, an ESF project is announced to develop/adjust know-how for anticipating labour market needs. Indication of VET programmes offering an insufficient number of graduates and programmes featuring a surplus of graduates on the labour market is being developed as a proxy for reducing a mismatch between supply and demand on the labour market. A list of respective

[17] Self-governing regions were expected not just to specify the total numbers of classes, but also the numbers of classes for individual study programmes. All self-governing regions but one declined to do so arguing by a lack of relevant data.

[18] In contrast to original expectations, estimation of labour market needs for 2017 (a year of graduation of newly enrolled students) was prepared on request of authorities by the private company Trexima Ltd.

[19] See Vantuch, J., Jelinkova, D. (2012b), p. 40.

study and training programmes has been already developed in partnership with social partners backed by § 3(1)c of the Act on VET to assist in regulation of numbers of classes and study programmes in 2015/2016.

3.3 National challenge

Although Slovakia welcomed the Copenhagen declaration, its participation in post-Copenhagen activities is very limited. Preoccupied with local developments, in particular creation of new legislation, Slovakia is lagging behind in implementation of almost all Copenhagen instruments.

- A delay in launching an ESF funded project aimed at developing the learning outcomes-based National Qualifications System (NQS) is a fundamental failure of MŠVVŠ in stark contrast with progress in the development of the National System of Occupations (NSO) under the supervision of MPSVR. The 2013-2015 ESF project run by the State Institute of Vocational Education and aimed at creation of NQS interlinked with the existing NSO was launch in March 2013;
- Slovakia decided to adopt an eight-level National Qualifications Framework (NQF) and managed to set an initial version of descriptors for all levels, however without wide support from the professional community. Creation of the NQF was embedded into the Act on LLL No. 568/2009 Coll. by its amendment in force since November 2012, but descriptors of NQF have not yet been officially approved and the referencing process is in its very start. A revision of NQF initial documents is expected within creation of NQS. A comparative analysis[20] elaborated within this ESF project suggested to revise NQF descriptors and focus on communication function of the NQF in the first phase. It was further suggested to redesign the NQF in the next phase[21] building on the experience from the revision of qualifications planned within the ESF project;
- Although importance of improving quality assurance is pronounced in high voice by experts and authorities, the impact of EQAVET on Slovakia is marginal so far;
- An ECVET feasibility study for Slovakia was elaborated by the Slovak National Observatory of VET commissioned by the Slovak Academic Association for International Cooperation within the project “National Forum as tool for improving LLL strategies”. An ECVET National Framework for Slovakia was proposed with a focus on learning outcomes-based mobilities instead of implementation of a credit points system

[20] See Vantuch et al. (2013).

[21] NQF with refined descriptors and/or categories of descriptors introducing a structural change in the qualifications system (e.g. advanced levels following a certificate of apprenticeship) and allowing for smooth integration of qualifications subsystems.

complementary to the credit system applied in higher education. The standpoint of authorities is yet missing;

- Recognition of non-formal and informal learning is currently almost impossible. The Act on LLL No. 568/2009 Coll., and in particular its amendment in force since November 2012, opened the door to flexibility in learning and acquiring qualifications through CVET, however, with only limited implementation so far due to delay in the development of NQS hampering acquirement of qualification or partial qualification. Thus certifying vocational capabilities required for permission to start up some trades is offered rather than awarding (partial) qualification according to the Act on LLL by authorised institutions - schools and, as a novelty, professional associations like chambers or guilds.

Despite strong progress in reforming VET since 2008 two weak points have remained unaddressed and must be therefore permanently stressed:

- Low investment in education causes lower quality of equipment and low attractiveness of IVET for young professionals to become teachers or trainers. Thus even the best shaped qualification documents are insufficient provided a quality training staff is not available;
- Low investment in VET research and labour market analyses hampers understanding of labour market needs. Data on transition of graduates into work and national employers' surveys are the most urgently missing tools to identify skills needs and skill gaps at workplace level.

CHAPTER 4

Promoting participation in vocational education and training

4.1 Types and characteristics of promotion

IVET

A long-term population decline, higher attractiveness of secondary general education and a financing scheme based on per capita contributions from the state budget pushed VET schools to regular campaigning to attract students. Promotion activites, such as school open days, local/regional career days, advertisement in media, and touring basic schools to meet students and their parents, are in increase in number and quality. In recognition of the need of professionalisation of campaigning, a specific instrument – a grant giving scheme focused on promotion of VET programmes, where graduates are required by employers, but programmes are not interesting for pupils/parents, was launched by MŠVVŠ in 2013. The maximum amount for one project is EUR 2 500. A minimum of 5% of the total costs must come from the applicant's own resources and 15% of the total costs must come from the employer requiring VET in programmes featuring shortages in graduates. 11 projects submited by VET school establishers were selected to be supported by EUR 24 885 in total.

A decline in interest in secondary technical VET and increasing enrolment in humanities and social science tertiary studies is attributed by some experts to low attention paid by basic schools to develop technology skills of pupils. Since 1995, a competition focused on the technical skills of lower secondary pupils has been organised by specialists from Constantine the Philosopher University in Nitra to offset this unfavourable development. The Technology Olympiad is aimed at raising the interest of pupils in technology, encouraging their creativity and making them active in learning technology during their out-of-school activities, and also motivating them in further studies in technically oriented study programmes. The competition consists of two parts: a knowledge test covering topics taught in the subject Technology, and a practical assignment requiring the constructing of some kind of product from materials. A dedicated "EduTech Portal" for basic school technology teachers with information on the Olympiad has been created.

Fairs with a focus on VET have a long tradition, e.g., the largest and oldest ones JUVYR (standing for Junior and Production) in Bratislava - 22 years, Young Creator in Nitra - 21 years. There are also other fairs with shorter tradition and regional influence with a wider scope, e.g. PRO EDUCO in Košice. The long-term tradition in diverse skills competitions got an important impulse towards "professionalisation" of competitions with the emerging of Euroskills. MŠVVŠ as well as employers strengthened support for competitions to generate

national representatives for Euroskills. Earmarked funding from the state budget is offered to the State Institute of Vocational Education to cover organisational costs of competitions with an international dimension from 2013.

Scholarships for socially disadvantaged students can also be seen as promoting participation in VET. This policy is intended to cover at least partial costs of education (e.g., travel costs, food, accommodation, learning aids, etc.), to prevent dropping out from schools of students whose parents are in material need or below subsistence minimum.

Incentives for enterprises to invest in IVET set by the Act on VET No. 184/2009 Coll. are limited to some expenditures related to a contracted student, as explained earlier. As also employers call for a less restrictive application of tax deducting instruments to improve the learning environment (e.g., better school equipment or provision of more sophisticated practical training), further tax related incentives were suggested by the working group preparing an amendment of the Act on VET to be submitted to the government in 2014. Two ESF projects were launched in 2013 with components that might contribute to increase of interest in VET. A project “Supporting vocational guidance of basic school pupils, designing polytechnic education focused on development of working skills and working with gifted pupils in technology” reflects the need to attract pupils and promote IVET earlier than before making the choice on upper secondary school. The project is aimed at equipping 49 pilot basic schools (lower secondary level) to support practice-oriented learning and to strengthen the quality of learning environment within the subject Technology. Piloting skills competitions of lower secondary pupils corresponding to upper secondary VET and craftsmanship competitions is also an important part of this project. Within the project “Development of secondary VET” 21 pilot schools were selected to be developed into Centres of VET offering first-class practical training in well-equipped workshops. These centres should serve as “lighthouse schools” for regions and sectors, and as centres of excellence they should also support development of VET by additional functions (continuing professional development of teachers, promotion of innovations, translation of impulses from the world of work into the world of education).

CVET and LLL

The first of four key priorities of the 2011 Lifelong learning strategy is as follows: Lifelong learning will be attractive to every citizen of the Slovak Republic and supported by all stakeholders involved. Since 2012, adoption of fiscal incentives in support of individual CVET/LLL (refused in 2008 within adoption of the Act on LLL No. 568/2009 Coll.) has been put on the table again. As already mentioned, the 2012 Action plan for implementation of the 2011 Lifelong learning strategy envisages identification of a fiscal instrument to increase participation of adults in LLL. Nevertheless, the fiscal consolidation seems to postpone

adoption of relevant measures again. The only substantial resources in support of CVET are linked to ESF funded projects, that are however specific and administratively demanding. Operational Programme Education, Measure 2.1 “Support for continuing education” is aimed at increasing employability by improvement of key competences of inhabitants. In contrast to rich opportunities within IVET, stronger policies aimed at easing access to CVET are urgently needed.

A new instrument is available for making adults sensitive to benefits of VET. A searchable database of accredited training programmes is offered by MŠVVŠ, replacing a simple list of training providers and their programmes. This database is a component of the Information System of Continuing Education set up following the Act on LLL.

The National Lifelong Learning Institute, a national LLL contact point, is implementing a 2012-13 project, “Promotion of the national lifelong learning and lifelong guidance strategy”. Project Activity 3 is aimed at creating the regional communication strategy.

4.2 Guidance and counselling, structures and services

The provision of career guidance and counselling for learning, career, and employment is the responsibility of two sectors: education and labour.

The following two types of facilities provide guidance and counselling in the education sector: centres of educational and psychological counselling and prevention and centres of special education guidance and counselling. The following are specialists offering services: educational counsellors in primary and secondary schools, school psychologists, school special pedagogues, therapeutic pedagogues, social pedagogues and prevention coordinators. All this is explicitly listed in the Education Act No. 245/2008 Coll. as comprising the guidance and counselling system in the education sector.

Guidance and counselling services offered by the aforementioned specialists and facilities are targeted at primary and secondary school students. Educational counsellors are regular teachers and therefore the quality of their career guidance is often disputed. New programmes have been accredited since 2010 aimed at their training, based on a new credit-based continuing professional development model set by Act No. 317/2009 Coll. on pedagogical staff and professional staff.

Students in higher education are served by career information and guidance centres, which were established with the support of the ESF in many universities throughout the country. To offer young people at least some relevant information on the labour market for their career decisions MŠVVŠ launched two websites informing on unemployment rates of graduates of individual secondary schools and on average incomes of graduates of respective higher education institutions.

Two institutions were established to capitalise on international experience:

- Euroguidance Centre Slovakia, hosted by the National LLL Programme Agency, focusing on guidance practitioners and policy makers from both the education and employment sectors providing quality information on lifelong guidance;
- National Forum for Lifelong Guidance, an advisory board to MŠVVŠ hosted by the National Institute for Lifelong Learning serving as the secretariat of this board.

The most important players in the labour sector offering career guidance and counselling for the unemployed are the offices of labour, social affairs and family; agencies of supported employment (focusing on long-term unemployed and people with disabilities), and partly also agencies of temporary employment.

There is no formal qualification required for offering career information and guidance in the offices of labour, social affairs, and family. For career counsellors working at the counselling services units of the offices of labour, social affairs and family, a master level of university degree is required without any further specification. Similar to education counsellors in primary and secondary schools, further professionalization is needed.

Guidance and counselling for adults *per se* is institutionally less developed. Nevertheless, improvement is expected from a new ESF project (see next sub-chapter).

Services offered on the Internet are of increasing importance, in particular for young people. Besides commercial job seeking platforms (the most important being www.profesia.sk), there are also other instruments envisaged related to the development of the National System of Occupations and National Qualifications System. A National System of Occupation portal, www.sustavapovolani.sk, offers information on employers' requirements on job performance. Furthermore, it is possible to look for specific information concerning prospects on the labour market in the module "Analysis of individual potential" of an earlier developed Integrated System of Type Positions (www.istp.sk).

Recently launched national ESF projects can fix this problem provided available resources are spent effectively.

- 25 counselling centres for adults have been established in 2013 within the national ESF project "Further education and counselling for adults as an instrument for better assertion into the labour market" run by NÚCŽV;
- The national ESF project "Development of secondary VET" run by ŠIOV in cooperation with employers´ representatives should offer continuing training for counsellors in 400 VET schools and facilitate career guidance and counselling for 35 000 students in these students;
- Within the national ESF project operated by ŠIOV (see subchapter "IVET" in chapter 4.1) the following activities are envisaged

- development and delivery of continuing professional development programme of lower secondary school counsellors;
- examining an impact of excursion of lower secondary pupils from 49 pilot schools into enterprises and VET schools;
- development of an online instrument aimed at identification of individual potential of learners to improve career guidance and counselling;
- development of jobs catalogue to better inform pupils and parents about future career opportunities.

4.3 National challenge

Specialised financial instruments are needed to engage businesses in both promotion and co-financing VET. The year 2014 will show whether MŠVVŠ will manage to persuade the Ministry of Finance to accept changes in tax policy suggested by the working group preparing amendment of the Act on VET and to accept more generous tax incentives in support of IVET.

Guidance and counselling services must be improved in quality and targeting to make a difference between reflecting desires of youngsters, their natural abilities and talents, and their employability. Unfortunately, the implementation of policy papers and legislation addressing career guidance and counselling was very slow, partly due to a lack of financial resources. Recently launched aforementioned national ESF projects can help to fix this problem provided available resources are spent effectively.

Acronyms

AIVD	Asociácia inštitúcií vzdelávania dospelých v SR (Association of Adult Education Institutions in the SR)
ALMP	Active labour market policy
CPS	Continuing pedagogical studies
CVET	Continuing vocational education and training
EEA	European Economic Area
EQAVET	European Quality Assurance Reference Framework for VET
ESF	European Social Fund
EU	European Union
EU27	27 EU member states
GDP	Gross domestic product
ICT; IT	Information communication technology; Information technology
ISCED	International Standard Classification of Education
ISCO	International Standard Classification of Occupations
ISTP	Integrovaný systém typových pozícií (Integrated System of Type Positions)
IVET	Initial vocational education and training
LFS	Labour Force Survey
LLL	Lifelong learning
MPSVR	Ministerstvo práce, sociálnych vecí a rodiny (Ministry of Labour, Social Affairs and Family)
MŠVVŠ	Ministerstvo školstva, vedy, výskumu a športu (Ministry of Education, Science, Research and Sport)
MV	Ministerstvo vnútra (Ministry of Interior)
MZ	Ministerstvo zdravotníctva (Ministry of Health)
NACE	General Classification of Economic Activities of the European Community
NGO	Non-governmental organisation
NQF	National Qualifications Framework
NQS	National Qualifications System
NÚCŽV	Národný ústav celoživotného vzdelávania (National Institute for LLL)
SEN	Special education needs
SKK	Slovak crown (currency)
SK	Slovakia
SOŠ	Stredná odborná škola (secondary specialised school)
SOU	Stredné odborné učilište (secondary vocational school)
SR	Slovak Republic
ŠIOV	Štátny inštitút odborného vzdelávania (State Institute of Vocational Education)
ŠÚ	Štatistický úrad (Statistical Office)
UOE	UNESCO, OECD, Eurostat
ÚIPŠ	Ústav informácií a prognóz školstva (Institute of Information and Prognoses of Education)
ÚPSVaR	Ústredie práce sociálnych vecí a rodiny (Centre of Labour, Social Affairs and Family)
VET	Vocational education and training

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Annexes

Annex 1.

Population by nationality in Censuses 2011, 2001 and 1991

Population nationality	2011		2001		1991	
	N	%	N	%	N	%
Slovak	4 352 775	80.65	4 614 854	85.79	4 519 328	85.69
Hungarian	458 467	8.49	520 528	9.68	567 296	10.76
Roma**	105 738	1.96	89 920	1.67	75 802	1.44
Czech	30 367	0.56	44 620	0.83	52 884	1.00
Ruthenian	33 482	0.62	24 201	0.45	17 197	0.33
Ukrainian	7 430	0.14	10 814	0.20	13 281	0.25
Other	26 284	0.49	20 016	0.37	19 765	0.37
Undeclared	382 493*	7.09	54 502	1.01	8 782	0.17
Total	5 397 036	100	5 379 455	100	5 274 335	100

Source: Statistical Office.

* 2001 Census suffered from medial anti-campaign asking people not to provide sensitive data; ** collecting statistical data based on ethnicity is forbidden; every inhabitant is free to indicate his/her nationality; thus, within census many ethnic Roma announced nationality other than Roma.

Annex 2.

Age-specific demographic trends by age groups until 2025

Year	Total	0-24			25-64			65+		
		Total	Male	Female	Total	Male	Female	Total	Male	Female
1989	5287663	2145137	1094119	1051018	2362473	1168836	1193637	780053	323540	456513
1989 (%)	100	40.6	20.7	19.9	44.7	22.1	22.6	14.8	6.1	8.6
2010	5423703	1579076	807547	771529	3168744	1574793	1593951	675883	253500	422383
2015 (%)	100	26.8	13.7	13.1	59.1	29.5	29.6	14.2	5.5	8.7
2025	5521745	1381445	705247	676198	3092830	1564758	1528072	1047470	429349	618121
2025 (%)	100	25.0	12.8	12.3	56.0	28.3	27.7	19.0	7.8	11.2

Source: Statistical Office (1989 data) and INFOSTAT 2007 update of Demographic prognosis 2002.

Annex 3.

Population age groups and the ageing index according to Censuses 1970-2011

Year	Population total	Age group								
		0-14		15-64		65+		Undeclared		Ageing index
		N	%	N	%	N	%	N	%	
2011	5 397 036	826 516	15.3	3 886 327	72.0	682 873	12.7	1 320	0.02	82.6
2001	5 379 455	1 015 493	18.9	3 705 515	68.9	610 923	11.4	47 524	0.9	60.2
1991	5 274 335	1 313 961	24.9	3 415 721	64.8	543 180	10.3	1 473	0.0	41.3
1980	4 991 168	1 302 072	26.1	3 162 504	63.4	519 388	10.4	7 204	0.1	39.9
1970	4 537 290	1 232 721	27.2	2 883 333	63.5	418 340	9.2	2 896	0.1	33.9

Source: Statistical Office; censuses.

NB: Ageing index = (65+/0-14)*100.

Annex 4.

Immigration to Slovakia in 1993-2012

Year	Asylum seekers	Asylum granted	Citizenship granted
1993	96	41	0
1994	140	58	0
1995	359	80	0
1996	415	72	4
1997	645	69	14
1998	506	53	22
1999	1 320	26	2
2000	1 556	11	0
2001	8 151	18	11
2002	9 743	20	59
2003	10 358	11	42
2004	11 395	15	20
2005	3 549	25	2
2006	2 849	8	5
2007	2 642	14	18
2008	909	22	4
2009	822	14	1
2010	541	15	3
2011	491	12	7
2012	732	32	0
Total	57 219	616	214

Source: Ministry of Interior, http://www.minv.sk/?statistiky-20 [cited 30.10.2013]; tabled by authors.

Annex 5.

Education attainment of people aged 25 to 64 by ISCED level in 2011, 2001 and 1991

Educational attainment		2011	2001	1991
Total	N	5 397 036	5 379 455	5 274 335
	%	100	100	100
ISCED 2	N	808 490	1 132 995	1 512 818
	%	15.0	21.1	28.7
ISCED 3C (CoA)	N	721 999	1 060 854	1 004 657
	%	13.4	19.7	19.0
ISCED 3C (without CoA)	N	522 039	203 290	110 060
	%	9.7	3.8	2.1
ISCED 3A (MSLC) + CoA	N	191 208	251 992	788 890**
	%	3.5	4.7	
ISCED 3A (MSLC) VET	N	1 089 751	846 029	15.0
	%	20.2	15.7	
ISCED 3A (MSLC) GEN	N	235 014	253 408	168 973
	%	4.4	4.7	3.2
ISCED 5B	N	80 616	26 648	5 852
	%	1.5	0.5	0.1
ISCED 5A – Bc	N	122 782	17 917	306 920**
	%	2.3	0.3	
ISCED 5A – M	N	584 544	382 013	
	%	10.8	7.1	5.8
ISCED 6	N	40 642	23 394	
	%	0.7	0.4	
Without school education*	N	846 321	1 095 382	1 341 004
	%	15.7	20.4	25.4
Undeclared	N	153 630	85 533	35 161
	%	2.8	1.6	0.7

Source: Statistical Office; Census.

NB: CoA – certificate of apprenticeship, MSLC – "maturita" school leaving certificate, GEN – general education stream, VET – vocational stream, Bc – 1st cycle studies, M – 2nd cycle studies.
* including children up to 16 years; in 1991 including children up to 15 years; ** in 1991 ISCED 3A (MSLC) + CoA and ISCED 3A (MSLC) VET calculated together and all ISCED 5A and 6 cycles calculated together.

Annex 6.

Employment rates by age groups and highest level of education attained in 2004-12

(%)

Age	ISCED		2004	2005	2006	2007	2008	2009	2010	2011	2012
15-24	0-2	EU27	24.7	24.7	24.6	25.1	24.7	22.5	21.4	21.7	20.6
	0-2	SK	2.1	1.9	2.1	2.5	2.5	1.9	2.0	2.2	2.2
	3-4	EU27	46.9	47.0	48.0	48.9	49.2	46.2	44.9	44.5	43.7
	3-4	SK	47.3	45.1	44.9	47.8	45.1	39.5	36.4	35.8(b)	36.1
	5-6	EU27	60.8	60.2	60.3	61.6	61.9	58.0	56.9	55.5	54.5
	5-6	SK	59.6	69.1	65.8	62.0	57.0	42.7	30.8	23.7(b)	23.2
	0-6	EU27	35.7	36.0	36.6	37.3	37.4	35.0	34.0	33.7	32.9
	0-6	SK	26.3	25.6	25.9	27.6	26.2	22.8	20.6	20.0(b)	20.1
25-49	0-2	EU27	66.2	66.1	66.9	67.5	67.1	64.1	62.8	62.1	60.7
	0-2	SK	37.0	30.4	34.1	32.7	37.1	33.4	32.1	32.8(b)	34.2
	3-4	EU27	79.0	79.2	80.3	81.3	81.8	80.3	79.8	79.8	79.3
	3-4	SK	77.4	77.9	79.8	80.8	82.6	79.7	77.4	77.7	77.9
	5-6	EU27	87.8	87.8	88.4	88.9	89.0	88.0	87.4	87.0	86.5
	5-6	SK	88.0	88.8	89.6	88.1	88.1	85.9	84.6	83.5(b)	82.2
	0-6	EU27	77.7	78.0	79.0	79.8	80.2	78.6	78.1	78.0	77.5
	0-6	SK	75.2	75.5	77.7	78.5	80.5	78.1	76.0	76.2	76.2
50-64	0-2	EU27	41.3	42.5	43.5	44.2	43.8	43.3	43.1	43.3	43.7
	0-2	SK	17.3	22.6	24.3	26.2	28.6	28.0	27.7	28.1(b)	27.5
	3-4	EU27	55.2	56.7	57.9	59.1	59.5	59.4	59.6	60.4	61.3
	3-4	SK	50.5	52.5	52.8	55.0	57.4	55.5	54.7	55.3(b)	55.8
	5-6	EU27	72.9	73.6	74.1	74.8	74.6	74.5	74.5	74.8	75.7
	5-6	SK	71.0	71.8	73.9	74.7	78.6	75.8	75.5	76.0(b)	74.5
	0-6	EU27	51.7	53.3	54.4	55.6	56.5	56.5	56.7	57.5	58.6
	0-6	SK	45.0	48.8	50.5	52.2	55.0	53.8	53.5	54.6(b)	55.0

Source: Eurostat; [lfsa_ergaed]; last update: 15-10-2013; date of extraction: 28-10-2013.

NB: b – break in series (change in methodology).

Annex 7.

Unemployment rates by age groups and highest level of education attained in 2004-12

(%)

Age	ISCED		2004	2005	2006	2007	2008	2009	2010	2011	2012
15-24	0-2	EU27	21.3	21.8	21.3	20.1	21.2	26.1	27.4	28.2	30.4
	0-2	SK	73.7	76.8	74.0	66.2	62.5	64.6	67.3	63.9(b)	66.0
	3-4	EU27	17.9	17.3	15.5	13.4	12.9	17.1	18.2	18.6	20.0
	3-4	SK	28.6	25.2	21.4	15.3	14.6	24.3	30.6	30.9(b)	31.0
	5-6	EU27	12.8	14.3	13.5	11.4	11.7	15.5	16.3	16.7	17.9
	5-6	SK	24.5(u)	17.3	16.2(u)	19.0	15.5	22.4	27.5	24.2(b)	29.1
	0-6	EU27	18.6	18.6	17.3	15.5	15.6	19.9	20.9	21.3	22.8
	0-6	SK	32.8	30.1	26.6	20.3	19.0	27.3	33.6	33.4(b)	34.0
25-49	0-2	EU27	11.8	11.7	11.2	10.4	11.1	14.8	16.3	16.9	19.1
	0-2	SK	51.7	57.4	51.4	50.3	44.3	48.3	50.4	48.9(b)	48.5
	3-4	EU27	8.5	8.2	7.3	6.1	5.7	7.5	8.2	8.1	8.8
	3-4	SK	15.0	13.0	10.6	8.8	7.7	10.4	12.8	12.0(b)	12.2
	5-6	EU27	5.0	4.8	4.3	3.7	3.7	4.8	5.3	5.5	6.2
	5-6	SK	5.1	4.2	2.7	3.5	3.3	3.7	5.0	5.7	6.7
	0-6	EU27	8.3	8.1	7.3	6.4	6.3	8.2	8.9	9.0	9.9
	0-6	SK	16.4	14.6	11.9	10.2	8.8	10.9	13.0	12.3(b)	12.6
50-64	0-2	EU27	8.0	7.7	7.5	6.9	7.2	9.1	10.2	10.8	12.6
	0-2	SK	40.3	34.1	31.0	28.5	24.5	25.4	27.5	25.8(b)	30.9
	3-4	EU27	8.1	7.6	6.9	5.7	5.2	6.2	6.7	6.5	6.7
	3-4	SK	15.1	11.8	10.1	7.8	6.3	8.6	10.7	10.6(b)	10.6
	5-6	EU27	3.8	3.8	3.6	3.2	2.8	3.4	3.6	3.7	3.7
	5-6	SK	4.3(u)	5.2	2.8(u)	2.9(u)	2.1(u)	2.5(u)	4.6	3.8(b)	4.0
	0-6	EU27	7.1	6.7	6.3	5.5	5.2	6.3	6.9	6.9	7.4
	0-6	SK	16.6	13.5	11.2	9.4	7.6	9.3	11.2	10.6(b)	11.1

Source: Eurostat; [lfsa_urgaed]; last update: 15-10-2013; date of extraction: 28-10-2013.

NB: u – unreliable; b – break in series (change in methodology).

Annex 8.

Employment and unemployment rates of 15-64 aged by education in 2004-05 and 2007-12

(%)

	2004	2005	2007	2008	2009	2010	2011	2012
Employment rate								
ISCED 2	14.2	13.5	15.0	16.3	14.7	14.5	15.2	15.3
ISCED 3C (CoA)	64.9	65.0	68.6	70.4	67.4	64.0	64.2	63.9
ISCED 3C (without CoA)	65.7	70.2	71.1	76.7	75.0	69.5	69.6	69.7
ISCED 3A (MSLC) + CoA	72.1	72.6	78.3	79.3	74.0	71.8	73.7	78.3
ISCED 3A (MSLC) GEN	42.8	41.9	41.9	41.8	38.9	39.0	40.1	40.8
ISCED 3A (MSLC) VET	70.9	71.9	73.9	74.2	71.7	70.8	70.7	71.1
ISCED 5B	72.7	75.3	71.6	71.7	73.1	67.5	79.6	73.4
ISCED 5A – Bc	77.8	71.1	74.7	65.7	57.1	50.7	48.2	48.8
ISCED 5A – M	83.0	84.2	84.5	86.5	84.3	83.6	82.9	81.5
ISCED 6	95.3	97.3	78.2	84.3	85.7	83.7	83.6	86.6
Without school education*	-	-	-	-	-	1.2	-	-
Total	56.9	57.7	60.7	62.3	60.1	58.8	59.3	59.7
Unemployment rate								
ISCED 2	51.1	53.1	44.6	39.3	41.6	44.1	42.3	44.5
ISCED 3C (CoA)	20.5	18.7	12.3	10.8	14.0	17.6	16.8	17.0
ISCED 3C (without CoA)	19.6	12.7	10.9	7.3	11.1	16.8	16.3	12.8
ISCED 3A (MSLC) + CoA	16.8	15.4	8.2	8.4	15.1	18.9	12.2	9.7
ISCED 3A (MSLC) GEN	14.2	12.9	9.2	7.7	12.9	13.1	14.7	16.0
ISCED 3A (MSLC) VET	12.5	10.0	6.3	5.7	8.6	10.2	10.0	10.4
ISCED 5B	11.1	8.5	7.8	5.8	5.6	10.3	5.8	4.7
ISCED 5A – Bc	5.4	6.8	3.9	4.7	7.7	10.8	7.9	9.2
ISCED 5A – M	5.6	4.8	3.8	3.4	3.8	5.1	5.6	6.7
ISCED 6	-	-	3.7	2.1	2.4	2.5	4.2	3.8
Without school education*	-	-	100	75.0	50.0	36.4	100.0	50.0
Total	18.1	16.2	11.0	9.6	12.1	14.4	13.7	14.0

Source: Statistical Office.

NB: CoA – certificate of apprenticeship, MSLC – "maturita" school leaving certificate, GEN – general education stream, VET – vocational stream, Bc – 1st cycle studies, M – 2nd cycle studies.
* including children up to 16 years; - – did not exist or is unreliable.

Annex 9.

Gross domestic product by branches of NACE Rev. 2

(million EUR at current prices)

NACE	1995	2000	2005	2007	2008	2009	2010	2011	2012
Total	19319.00	31177.08	49314.22	61449.71	66842.40	62794.39	65897.02	68974.16	71096.02
A	992.58	1240.00	1591.14	2233.53	2504.58	1933.77	1720.70	2146.26	2040.22
B,C,D,E	5378.53	8019.91	12894.24	16639.15	17461.71	14005.31	15991.04	16979.16	17552.27
F	910.42	2006.09	3030.72	4682.27	6069.51	5654.26	5417.58	5575.85	5341.00
G,H,I	3851.10	6341.26	10215.62	12172.66	13598.80	12569.63	13108.91	13301.07	14482.95
J	495.30	986.15	1718.51	2291.29	2446.65	2721.31	2727.66	2803.92	2843.16
K	1077.74	620.59	1887.47	1952.98	1999.96	2195.27	2129.87	2409.27	2637.56
L	1136.61	2251.94	2842.75	3316.81	3635.07	3760.79	3919.14	4202.41	4357.18
M,N	732.33	1730.34	2599.73	3665.92	4299.92	4341.78	4551.32	4568.84	4909.56
O,P,Q	2440.31	4016.36	5839.04	6862.10	7310.72	8088.74	8482.22	8350.72	8647.97
R,S,T,U	305.27	587.66	1185.50	1570.67	1311.54	1803.72	1867.65	2058.76	2190.23
Taxes	1998.81	3376.78	5509.53	6062.34	6203.94	5719.82	5980.92	6577.90	6093.92

Source: Statistical Office; Methodology ESA95 by quarterly NA.

NB: A – Agriculture, forestry and fishing; B,C,D,E – Industry total, F – Construction; G,H,I – Wholesale and retail trade, repair of mot. vehicles and motorcycles, transportation and storage, accommodation and food service activities; J – Information and communication; K – Financial and insurance activities; L – Real estate activities; M,N – Professional, scientific and technical activities, administrative and support service activities; O,P,Q – Public administration and defence, compulsory social security, education, human health and social work activities; R,S,T,U – Arts, entertainment and recreation, repair of household goods and other services. Taxes – Net taxes on products.

Annex 10.

Employed by economic activities (SK NACE Rev.2) in 2008-12

(thousands)

NACE category	2008	2009	2010	2011	2012
Economy in total	2 433.8	2 365.8	2 317.5	2 315.3	2 329.0
A Agriculture, forestry and fishing	96.3	84.9	75.0	71.3	75.4
B Mining and quarrying	14.1	10.9	13.9	11.6	12.7
C Manufacturing	639.9	565.2	530.0	560.7	570.3
D Electricity, gas, steam and air-condition supply	29.9	30.7	27.0	26.4	24.3
E Water supply, sewerage, waste management and remediation	35.2	33.4	31.1	28.2	26.1
F Construction	257.6	257.2	258.3	241.0	240.7
G Wholesale and retail trade; repair of motor vehicles and motorcycles	292.3	312.7	306.3	298.2	289.9
H Transportation and storage	158.4	151.3	145.4	150.3	157.0
I Accommodation and food service activities	107.6	107.1	103.6	99.1	97.2
J Information and communication	45.8	48.8	55.9	56.5	61.1
K Financial and insurance activities	55.5	50.0	47.8	51.9	51.9
L Real estate activities	13.0	13.0	13.8	10.6	16.0
M Professional, scientific and technical activities	76.5	82.0	75.4	76.3	72.1
N Administrative and support service activities	60.2	58.6	59.5	60.5	61.5
O Public administration and defence; compulsory social security	167.0	178.4	189.0	190.2	184.8
P Education	164.0	162.0	165.0	161.7	157.4
Q Health and social work activities	151.2	149.8	157.1	157.5	161.3
R Arts, entertainment and recreation	24.6	28.7	26.8	26.3	28.2
S Other service activities	38.6	35.2	31.2	29.4	35.0
T Activities of households as employers	5.7	5.1	4.8	6.4	5.4
U Activities of extraterritorial organisations	0.7	0.8	0.9	0.9	0.8
Not identified	0.3	0.3	0.3	0.5	0.1

Source: Statistical Office.

Annex 11.

Distribution of respective age cohort in formal education by ISCED level

	1	2	3A Gen	3C	3A VET	4A	5B	5A	All in education	Population	NIFE*
2011/2012 21 years	7	62	95	328	1413	378	500	28874	31657	78299	46642
2011/2012 21 years (%)	0.02	0.20	0.30	1.04	4.46	1.19	1.58	91.21	100	100	59.57
2010/2011 20 years	3	127	446	653	5550	461	603	28006	35849	78938	43089
2010/2011 20 years (%)	0.01	0.35	1.24	1.82	15.48	1.29	1.68	78.12	100	100	54.59
2009/2010 19 years	8	216	6293	2057	21660	161	378	19025	49798	78911	29113
2009/2010 19 years (%)	0.02	0.43	12.64	4.13	43.50	0.32	0.76	38.20	100	100	36.88
2008/2009 18 years	26	470	16997	7546	37825	14	11	2576	65465	78861	13396
2008/2009 18 years (%)	0.04	0.72	25.96	11.53	57.78	0.02	0.02	3.93	100	100	16.97
2007/2008 17 years	54	1457	20104	14691	35041	0	0	28	71375	78799	7424
2007/2008 17 years (%)	0.08	2.04	28.17	20.58	49.09	0	0	0.04	100	100	9.4
2006/2007 16 years	125	4458	20189	14500	35119	0	0	0	74391	78799	4408
2006/2007 16 years (%)	0.17	5.99	27.14	19.49	47.21	0	0	0	100	100	5.58
2005/2006 15 years	263	32867	15047	8333	21479	0	0	0	77989	78796	807
2005/2006 15 years (%)	0.34	42.14	19.29	10.68	27.54	0	0	0	100	100	1.02
2004/2005 14 years	438	73173	3814	2	34	0	0	0	77461	78794	1333
2004/2005 14 years (%)	0.57	94.46	4.92	0.00	0.04	0	0	0	100	100	1.69
2003/2004 13 years	825	77100	2	0	0	0	0	0	77927	78783	856
2003/2004 13 years (%)	1.06	98.94	0.00	0	0	0	0	0	100	100	1.08
2002/2003 12 years	1729	76357	0	0	0	0	0	0	78086	78780	694
2002/2003 12 years (%)	2.21	97.79	0	0	0	0	0	0	100	100	0.88
2001/2002 11 years	4328	73705	0	0	0	0	0	0	78033	78052	19
2001/2002 11 years (%)	5.55	94.45	0	0	0	0	0	0	100	100	0.02
2000/2001 10 years	32821	44454	0	0	0	0	0	0	77275	77308	33
2000/2001 10 years (%)	42.47	57.53	0	0	0	0	0	0	100	100	0.04

Source: ÚIPŠ (UOE data), calculated and tabled by authors.

NB: Distribution covers the same population (10 years old in 2000) in a flow; it is not based on individualised flow data, as these are not collected. 0.00 – less than 0.05 but more than zero; 0 – real zero, Gen – general.
* NIFE – not in formal education; absolute numbers and a share in total population (%).

Annex 12.

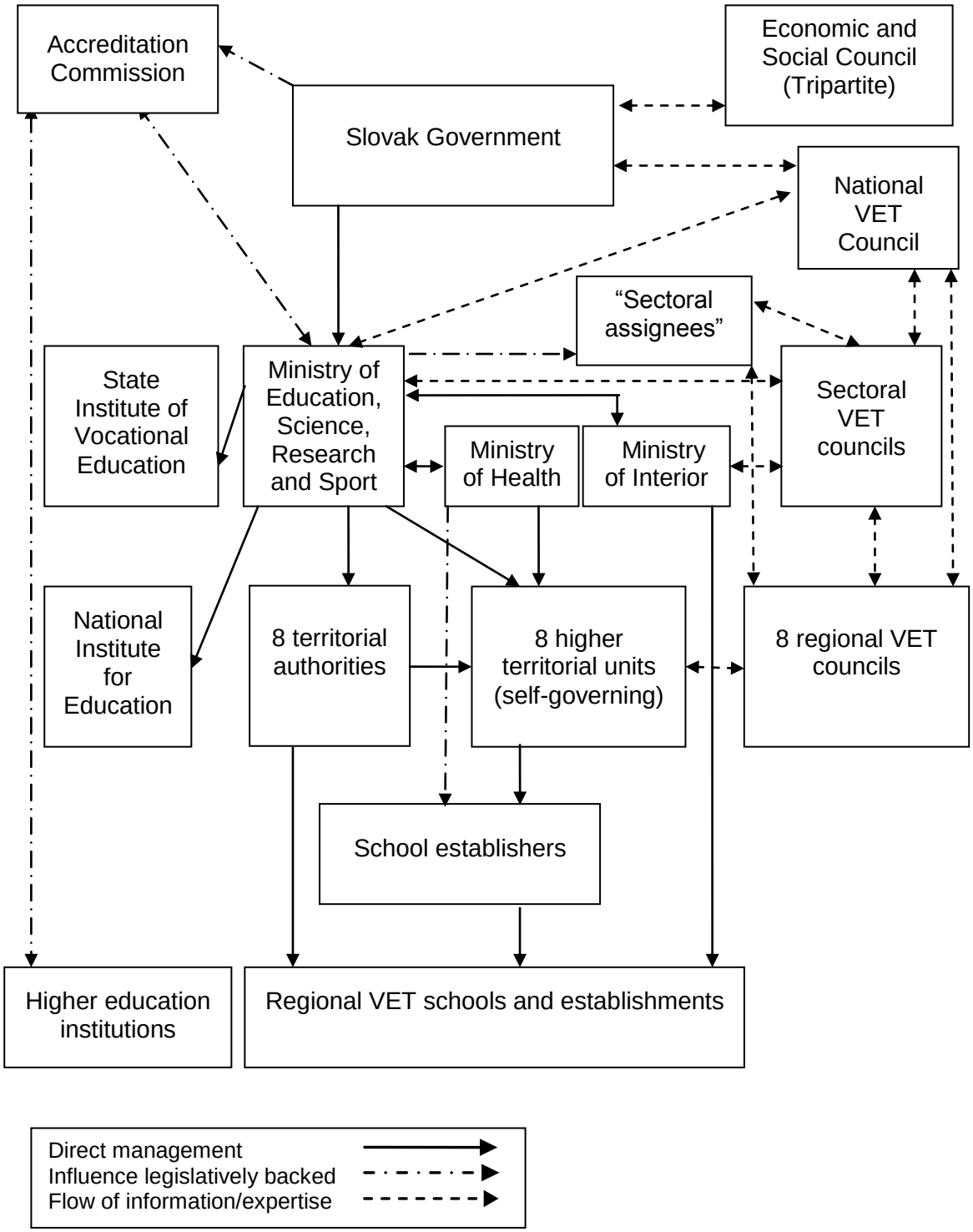
Education levels (according to Act No. 245/2008 Coll.)

Level	Type of study at school	NQF*
Pre-primary	Kindergarten – ISCED 0	
Primary	1st stage of basic school – ISCED 1	1
Lower secondary	2nd stage of basic school – ISCED 2	2
Lower secondary vocational	Secondary specialised school, 2-year programme with a final exam – ISCED 2C (extraordinarily with a certificate of apprenticeship)	2
Secondary vocational	Secondary specialised school, 3 to 4-year programme with a final exam (usually also with a certificate of apprenticeship) – ISCED 3C	3
Full secondary general (upper secondary)	Grammar school 4 to 8-year programme with a "maturita" school leaving certificate – ISCED 3A	4
Full secondary vocational (upper secondary)	Secondary specialised school 4 to 5-year programme with a "maturita" school leaving certificate (in some cases also with a certificate of apprenticeship) – ISCED 3A Conservatory after 4th year – ISCED 3A	4
	Secondary specialised school follow-up study (usually 2 years) for ISCED 3C secondary vocational education graduates; completed by a "maturita" school leaving exam – ISCED 3A	4
	Secondary specialised school "post-maturita" refresher study (at least 6 months) completed by a final exam – ISCED 3A	**
	Secondary specialised school "post-maturita" qualifying study (at least 2 years) completed by 2nd "maturita" school leaving exam – ISCED 4A	5
Higher professional (post-secondary or tertiary)	Secondary specialised school "post-maturita" specialising study (at least 2 years) completed by absolutorium – ISCED 5B	5
	Secondary specialised school higher professional study (2 to 3 years) with absolutorium Conservatory after 6th year – ISCED 5B	5

NB: * preliminary categorisation adopted by the Ministry of Education, Science, Research and Sport, not yet embedded in legislation; ** no agreement reached so far.

Annex 13.

IVET management in 2012



NB: From 1 January 2013 territorial authorities under the Ministry of Interior (eight district offices with the seat in the capitals of regions) took over the responsibilities of former autonomous regional school offices by MŠVVŠ that were abolished under the public administration reform called ESO (Effective, Trustworthy and Open state).

Annex 14.

Groups of study fields referring to VET programmes at secondary VET schools and employer representatives (sectoral assignees)

Code	Field of study and employer representatives: “sectoral assignees”
11	Physical-mathematical sciences – not set
21	Mining, geology and geological technology – Slovak Chamber of Mines (Slovenská banská komora) in cooperation with National Union of Employers (Republiková únia zamestnávateľov)
22	Metallurgy – National Union of Employers in cooperation with Slovak Chamber of Commerce and Industry (Slovenská obchodná a priemyselná komora)
23,24	Engineering and other metal-processing I, II – Slovak Chamber of Commerce and Industry in cooperation with Federation of Employers' Associations of the Slovak Republic (Asociácia zamestnávateľských zväzov a združení Slovenskej republiky) and Slovak Chamber of Trades (Slovenská živnostenská komora)
26	Electrical engineering – Slovak Chamber of Commerce and Industry in cooperation with Federation of Employers' Associations of the Slovak Republic and National Union of Employers
27	Technical chemistry of silicate – Federation of Employers' Associations of the Slovak Republic in cooperation with Slovak Chamber of Commerce and Industry
28	Technical and applied chemistry – Federation of Employers' Associations of the Slovak Republic in cooperation with Slovak Chamber of Commerce and Industry and Slovak Chamber of Agriculture and Food (Slovenská poľnohospodárska a potravinárska komora)
29	Food-processing – Slovak Chamber of Agriculture and Food in cooperation with National Union of Employers, Federation of Employers' Associations of the Slovak Republic and with Slovak Chamber of Trades
31	Textile and clothing – not set
32	Processing of hides, plastics, rubber, shoes production – Slovak Chamber of Commerce and Industry in cooperation with National Union of Employers and Federation of Employers' Associations of the Slovak Republic
33	Wood-processing – National Union of Employers in cooperation with Slovak Chamber of Commerce and Industry and Slovak Chamber of Trades
34	Printing and media – Federation of Employers' Associations of the Slovak Republic in cooperation with Slovak Chamber of Commerce and Industry
36	Building, geodesy and cartography – National Union of Employers in cooperation with Slovak Chamber of Commerce and Industry, Slovak Chamber of Trades and Federation of Employers' Associations of the Slovak Republic
37	Transport, post and telecommunication – Federation of Employers' Associations of Slovak Republic in cooperation with Slovak Chamber of Commerce and Industry and National Union of Employers
39	Special technical specialisations – not set
42,45	Agriculture, forestry and rural development I, II – Slovak Chamber of Agriculture and Food in cooperation with Slovak Chamber of Foresters (Slovenská lesnícka komora) and Federation of Employers' Associations of the Slovak Republic
43	Veterinary sciences – Slovak Chamber of Agriculture and Food in cooperation with

	Federation of Employers' Associations of the Slovak Republic and Slovak Veterinary Chamber (Komora veterinárnych lekárov Slovenskej republiky)
53	Healthcare branches at secondary heath schools – Slovak Chamber of Medical - Technician Workers (Slovenská komora medicínsko-technických pracovníkov), a successor of Slovak Chamber of Laboratory Technicians, Assistants and Technicians (Slovenská komora laborantov, asistentov a technikov), Slovak Chamber of Physiotherapists (Slovenská komora fyzioterapeutov), Slovak Chamber of Orthopaedic Technicians (Slovenská komora ortopedických technikov), Slovak Chamber of Nurses and Midwives (Slovenská komora sestier a pôrodných asistentiek), Slovak Chamber of Dental Technicians (Slovenská komora zubných technikov) in cooperation with Federation of Employers' Associations of the Slovak Republic
62	Economic sciences – National Union of Employers in cooperation with Federation of Employers' Associations of the Slovak Republic, Slovak Chamber of Commerce and Industry and Slovak Chamber of Trades
63,64	Economics and organisation, retail and services I, II – National Union of Employers in cooperation with Federation of Employers' Associations of the Slovak Republic, Slovak Chamber of Commerce and Industry and Slovak Chamber of Trades
68	Legal sciences – not set
72	Mass-media, library and information sciences – not set
75	Pedagogical sciences – not set
76	Teacher training – not set
82, 85	Arts and folk crafts I, II – Slovak Chamber of Trades in cooperation with Federation of Employers' Associations of the Slovak Republic
92	Security services – not set
99	Special fields (for SEN students) – not applicable

NB: Fields of study with similar name refer to programmes originally offered by different types of schools. Fields of study coded 23, 42, 63, 82 were originally offered by secondary specialised schools, now they include ISCED 3A programmes with vocational practice and ISCED 4A and 5B programmes, whereas programmes within fields of study coded 24, 45, 64, 85 were originally offered by secondary vocational schools, now they include ISCED 3A programmes with vocational training, ISCED 3A follow-up programmes, ISCED 3C programmes and ISCED 2C programmes.
“Professional assignees” are set by legislation as representatives of employers serving as a counterpart to education sector specialists and authorities in cooperation concerning VET programming, processing and assessment.

Annex 15.

Number of teachers in 2012/2013 school year

Type of school	Full-time teachers		Part-time teachers	
	Total	Female	Total	Female
Kindergartens	14 515	14 489	0	0
Basic schools	30 195	25 982	5 189	2 959
Basic schools of arts	3 727	2 520	2 811	1 740
Language schools	171	128	404	347
Grammar schools	6 134	4 623	1 456	917
Conservatories	496	308	539	305
Secondary specialised schools	12 237	8 752	2 816	1 857
Secondary schools under other ministries*	135	41	10	3
Special schools	4 854	4 176	495	348
Schools affiliated to health institutions	231	217	18	16
Higher education institutions (HEI)	10 426	4 670	1 552	549
HEI of other ministries*	399	203	219	94

Source: ÚIPŠ.

NB: * schools under other ministry than the Ministry of Education, Science, Research and Sport.

Annex 16.

VET graduates at VET school* full-time programmes in 2012/2013

Programme ISCED level	Public		Private		Church-affiliated		Total	
	Total	Female	Total	Female	Total	Female	Total	Female
ISCED 5B	307	229	48	35	16	15	371	279
ISCED 4A	206	138	54	31	-	-	260	169
ISCED 3A follow-up**	3 208	1 320	269	120	97	32	3 574	1 472
ISCED 3A	26 184	12 309	2 652	1 565	671	533	29 507	14 407
ISCED 3C	6 614	2 105	789	294	145	39	7 548	2 438
ISCED 2C	605	218	80	26	15	7	700	251
Total	37 124	16 319	3 892	2 071	944	626	41 960	19 016

Source: ÚIPŠ.

NB: - programmes not offered.
* secondary specialised schools VET graduates only; 325 graduates who were offered grammar school programmes at secondary specialised schools are not included; students of VET programmes offered exceptionally by grammar schools are not included (see a respective table below); ** ISCED 3A follow-up programmes are intended for graduates from content based interlinked ISCED 3C programmes.

Graduates of full-time VET programmes in grammar schools in 2012/2013

Programme ISCED level	Public		Church-affiliated		Total	
	Total	Female	Total	Female	Total	Female
ISCED 3A follow-up*	26	0	-	-	26	0
ISCED 3A	300	53	0	0	300	53
ISCED 3C	36		0	o	36	0
ISCED 2C	16	5	6	5	22	10
Total	378	58	6	5	384	63

Source: ÚIPŠ.

NB: 5B and 4A programmes are not offered, private grammar schools do not offer any VET programmes; - programmes not offered.
* ISCED 3A follow-up programmes are intended for graduates from content based interlinked ISCED 3C programmes.

Graduates of full-time programmes in conservatories* in 2012/2013

Programme ISCED level	Public		Private		Church-affiliated		Total	
	Total	Female	Total	Female	Total	Female	Total	Female
ISCED 5B	179	111	56	39	24	21	259	171
ISCED 3A	224	125	122	74	14	10	360	209
Total	403	236	178	113	38	31	619	380

Source: ÚIPŠ.

NB: * conservatories offer only 5B and 3A programmes.

Graduates of full-time VET programmes in special secondary schools for SEN students in 2012/2013

Programme ISCED level	Public		Private		Church-affiliated		Total	
	Total	Female	Total	Female	Total	Female	Total	Female
ISCED 4A	18	6	-	-	-	-	18	6
ISCED 3A follow-up*	25	13	-	-	-	-	25	13
ISCED 3A	48	18	-	-	0	0	48	18
ISCED 3C	776	332	17	4	0	0	793	336
ISCED 2C	229	82	3	2	11	5	243	89
Total	1 096	451	20	6	11	5	1 127	462

Source: ÚIPŠ.

NB: 5B programmes are not offered; - programmes not offered.
* ISCED 3A follow-up programmes are intended for graduates from content based interlinked ISCED 3C programmes.

Annex 17.

Graduates from full-time VET programmes of secondary schools* in 2012/2013

Code	Field of study	Number of graduates	Of which female
21	Mining, geology and geological technology	0	0
22	Metallurgy	63	2
23	Engineering and other metal-processing I	669	7
24	Engineering and other metal-processing II	3 807	48
26	Electrical engineering	4 753	43
27	Technical chemistry of silicate	4	0
28	Technical and applied chemistry	236	156
29	Food-processing	766	534
31	Textile and clothing	371	355
32	Processing of hides, plastics, rubber, shoes production	20	10
33	Wood-processing	815	27
34	Printing and media	509	119
36	Building, geodesy and cartography	2 904	237
37	Transport, post and telecommunication	2 037	386
39	Special technical specialisations	1 507	455
42	Agriculture, forestry and rural development I	700	280
43	Veterinary sciences	201	149
45	Agriculture and forestry and rural development II	598	174
53	Healthcare branches at secondary heath schools	1 687	1 395
62	Economic sciences	26	15
63	Economics and organisation, retail and services I	10 243	7 580
64	Economics and organisation, retail and services II	8 702	5 460
68	Legal sciences	123	82
72	Mass-media, library and information sciences	170	52
76	Teacher training	1 196	1 112
82	Arts and folk crafts I	1 889	1 234
85	Arts and folk crafts II	72	3
92	Security services	11	2
99	Special fields (for SEN students)	11	4
	Total	44 090	19 921

Source: ÚIPŠ.

NB: * SOŠ, conservatories, grammar schools, special secondary schools and classes for SEN students at mainstream schools. In addition, in part-time studies, there were in total 4 034 graduates (of which 2 670 female) from VET programmes, compared to 331 graduates (of which 162 female) from grammar school programmes. Fields of study with similar name refer to programmes originally offered by different types of schools. Fields of study coded 23, 42, 63, 82 were originally offered by SOŠ, now they include ISCED 3A programmes with vocational practice and ISCED 4A and 5B programmes, whereas programmes within fields of study coded 24, 45, 64, 85 were originally offered by secondary vocational schools, now they include ISCED 3A programmes with vocational training, ISCED 3A follow-up programmes, ISCED 3C programmes and ISCED 2C programmes.

Annex 18.

Types of IVET programmes at secondary, post-secondary and tertiary levels

Programme level	Sector	Balance between general and vocational subjects	NQF	ISCED	Duration of studies	Access to other pathways
Lower secondary						
Dance conservatory	Arts	n/a	2	2A	4 years*	Conservatory ISCED 3**
Training for simple and auxiliary working***	***	General subjects below 10% ****	2	2C	2 or 3 years	Labour market; Complementary studies*****
Training for mentally disabled***	***	13% ******	2	2C	3 years	None
Practical school (for mentally strongly disabled)	-	Diverse*******	2	2C	3 years	None
Upper secondary						
Study branch	(1)	43-48% / 57-52%#	4	4	4 or 5 years	4A, 5B, 5A
Study branch with extended hours of practical training	(2)	43-48% / 57-52%#	4	4	4 or 5 years	4A, 5B, 5A
Training branch	(3)	about 25% / 75%##	3	3	3years###	3A (follow-up)
Post-secondary						
Follow-up study branch	(A)	44-47% / 56-53%##	4	3A	2 years	4A, 5B, 5A
Qualifying	(B)	100%	4	4A	2 years	5B, 5A
Specialising	(C)	100%	5	5B	2 years	5A
Higher professional	(C)	100%	5	5B	3 years	5A
Refresher	(B)	100%	####	4A	6 month+	4A, 5B, 5A
Tertiary						
Bachelor study	All	n/a¤¤	6	5A	3 - 4	2nd cycle
Master study	All	n/a¤¤	7	5A	1 - 3	3rd cycle
Continual (Integrated) study	Exc¤	n/a¤¤	7	5A	5 - 6	3rd cycle
PhD study	All	n/a¤¤	8	6	3 - 4¤¤¤	-

Source: ÚIPŠ.

NB: Calculations of balance between general and vocational subjects were based on programmes valid till 1 September 2013. Since then mathematics is more pronounced in technical programmes, second foreign language is made optional in some programmes, and disposable lesson hours for schools' choice are not prescribed in two separate packages for vocational and general subjects.
NQF level is indicated according to the preliminary categorisation adopted by the Ministry of Education, Science, Research and Sport, not yet embedded in legislation.
* Dancing branch is designed as 8-year programme; however after 4 years a respective level of education is achieved and continuing in other secondary school programme is possible;
** Or any secondary school, if not able or interested to continue;

*** Engineering and other metal processing; Technical chemistry of silicate chemistry; Food-processing; Textile and clothing; Processing of hides, plastics, rubber, shoes production Wood-processing and musical instruments production; Building, geodesy and cartography; Agriculture and forestry and rural development; Economics and organisation, retail and services.
**** 126 out of 1 890 total hours within 2-year programme and 192 out of 2 880 hours within 3-year programmes;
***** Programme specially designed to complete lower secondary (general) education as it is not possible for them to continue in secondary education to achieve ISCED 3 level; they are however expected to enter labour market and they also prefer to do so;
****** e.g., 384 out of 2 976 (13 %) in 3-year Metallurgy programme.
******* Depends on allocation of free and disposable working hours; basic distribution is as follows: 24 - general, 24 - vocational, 15 – free/optional, 15 - disposable of total 78 week hours in three-year programme;
# 57 %/43 % in study branches with practice at a bilingual school due to more hours of the foreign language; similarly in cases of both types of study branch at schools with minority language of instruction (Hungarian);
a share of general subjects is slightly higher at schools with minority language of instruction (Hungarian);
exceptionally there are two combined programmes lasting for 4 years: butcher/cook and pastry maker/cook and one experimental programme beekeeper lasting for one year;
no agreement reached so far;
¤ There is no bachelor programme in Speech disorders (Logopedy), Veterinary, Medical and Theological studies;
¤¤ n/a – not available, it is fully up to individual schools to decide upon this and it varies from programme to programme;
¤¤¤ 5 years in part-time studies;
(1) Mining, geology and geological technology, Metallurgy, Engineering and other metal-processing, Electrical engineering, Technical chemistry of silicate chemistry, Applied chemistry, Food-processing, Textile and clothing, Processing of hides, plastics, rubber, shoes production, Wood-processing and musical instruments production, Printing industry and media, Building, geodesy and cartography, Transport, post and telecommunication, Special technical specialisations, Agriculture and forestry and rural development, Veterinary sciences, Economics and organisation, retail and services, Library and information sciences, Pedagogy, Arts and artistic crafts, Healthcare (supervised by the Ministry of Health);
(2) As (1) except Mining, geology and geological technology, Technical chemistry of silicate chemistry, Veterinary sciences, Library and information sciences, Pedagogy, Healthcare;
(3) As (1) plus Information technology and except Metallurgy, Special technical specialisations, Veterinary sciences, Pedagogy;
(A) The same as in case of upper secondary study branch with practice listed under (1) except the following: Special technical specialisations, Veterinary sciences, Library and information sciences, Pedagogy, Healthcare (supervised by the Ministry of Health);
(B) The same as in case of upper secondary study branch with practice listed under (1) plus Physics and mathematics, Economic sciences, Legal sciences; Furthermore, Special technical specialisations and Security services supervised by the Ministry of Interior;
(C) Mining, geology and geological technology, Engineering and other metal-processing, Electrical engineering, Food-processing, Textile and clothing, Transport, post and telecommunication, Special technical specialisations, Agriculture and forestry and rural development, Veterinary sciences, Economics and organisation, retail and services, Legal sciences, Pedagogical science, Arts and artistic crafts, Healthcare (supervised by the Ministry of Health).

Annex 19.

Students in full-time ISCED 3A programmes at VET schools by fields of study in 2012/2013

Code	Field of study	Number of students	Of which female
21	Mining, geology and geological technology	11	2
22	Metallurgy	187	26
23	Engineering and other metal-processing I	2 235	14
24	Engineering and other metal-processing II	4 531	62
26	Electrical engineering	16 031	130
28	Technical and applied chemistry	808	531
29	Food-processing	372	189
31	Textile and clothing	163	160
33	Wood-processing	663	31
34	Printing and media	2 563	729
36	Building, geodesy and cartography	5 513	972
37	Transport, post and telecommunication	5 028	1 085
39	Special technical specialisations	4 216	1 150
42	Agriculture, forestry and rural development I	2 513	1 064
43	Veterinary sciences	811	612
45	Agriculture and forestry and rural development II	395	82
53	Healthcare branches at secondary heath schools	7 157	6 035
63	Economics and organisation, retail and services I	34 820	24 898
64	Economics and organisation, retail and services II	8 724	5 427
68	Legal sciences	176	124
72	Mass-media, library and information sciences	757	210
76	Teacher training	4 936	4 582
82	Arts and folk crafts I	4 657	3 260
85	Arts and folk crafts II	115	14
92	Security services	121	29
	Total	107 503	51 418

NB: Fields of study with similar name refer to programmes originally offered by different types of schools. Fields of study coded 23, 42, 63, 82 were originally offered by secondary specialised schools, now they include ISCED 3A programmes with vocational practice and ISCED 4A and 5B programmes, whereas programmes within fields of study coded 24, 45, 64, 85 were originally offered by secondary vocational schools, now they include ISCED 3A programmes with vocational training, ISCED 3A follow-up programmes, ISCED 3C programmes and ISCED 2C programmes.

Annex 20.

Disadvantaged groups according to Act No. 5/2004 Coll. on employment services

- A citizen below 26 years of age, who has completed his/her systematic vocational preparation in full-time study courses less than two years ago and failed to acquire his/her first regularly paid employment (hereinafter referred to as “graduate“);
- A citizen older than 50 years;
- A citizen maintained on the register of job seekers for at least 12 consecutive months (hereinafter referred to as “long-term unemployed citizen”);
- A citizen who attained lower than (ISCED 3C) secondary vocational education;
- A citizen who failed to acquire regularly paid employment for at least 12 consecutive months before registering into the register of job seekers;
- A citizen of the third country who has been granted asylum or is a beneficiary of subsidiary protection;
- A citizen who lives as a lone person with one person reliant on her/his care or more persons reliant on her/his care, or who cares for one child before completing his/her compulsory educiation;
- A disabled citizen.

Annex 21.

Types of qualifications awarded in IVET

Education pathway/programme	Certificate
Secondary VET programmes	
2-year (extraordinarily 3-year) ISCED 2C training branch with a final exam*	A certificate on final exam, extraordinarily also a certificate of apprenticeship
3 to 4-year ISCED 3C training branch with a final exam	A certificate on final exam and a certificate of apprenticeship
4 to 5-year ISCED 3A study branch with extended hours of practical training with a "maturita" school leaving exam	A "maturita" school leaving exam certificate (in some cases also with a certificate of apprenticeship)
4 to 5-year ISCED 3A study branch with a "maturita" school leaving exam	A "maturita" school leaving exam certificate (in some cases also with a certificate of apprenticeship)
6-year ISCED 5B study branch at conservatory	A "maturita" school leaving exam certificate after 4th year with the option to leave conservatory or stay for two additional years to receive an absolutorium diploma
8-year study branch at dance conservatory (containing both lower and upper secondary levels)**	A "maturita" school leaving exam certificate, a certificate on absolutorium exam and an absolutorium diploma after 8th year
Post-secondary non tertiary VET programmes	
At least 6-month developing and refresher study with a final "post-maturita" exam	A certificate on final "post-maturita" exam
2-year follow-up study branch with a "maturita" school leaving exam	A "maturita" school leaving exam certificate
At least 2-year qualifying study with a vocational component of "maturita" school leaving exam (2nd "maturita")	A "maturita" school leaving exam certificate (for vocational component)
At least 2-year specialising study with an absolutorium exam	A certificate on absolutorium exam and an absolutorium diploma
3-year higher professional study with an absolutorium exam	A certificate on absolutorium exam and an absolutorium diploma
Conservatory in final classes (5th-6th year of continuing training")***	A certificate on absolutorium exam and an absolutorium diploma
Tertiary programmes	
1st level (Bachelor)	A certificate on a state exam and a Bachelor diploma
2nd level (Master)	A certificate on a state exam and a Magister, Engineer, Doctor diploma
3rd level (PhD)	A certificate on a state exam and a PhD diploma
Specific VET programmes for mentally challenged students	
Practical school	A final certificate (stating the area of activity the pupil is able to perform)
Vocational school	3 types of certificates based on the level on meeting respective standards (trained, fully trained, and trained with qualification); the highest level resulting in receiving a certificate on final exam and a certificate of apprenticeship

NB: * for basic school low achievers or those who even did not complete basic school (due to repeating classes);
** a specific case; the programme focused on pupils completing Grade 5 of basic school; it is an upper secondary level from the graduates age point of view, however, graduates are trained in a high level (ISCED 5B);
*** the programme can only be entered after receiving "maturita" from the same conservatory programme.