

**OECD Reviews of Vocational
Education and Training**

A Skills beyond School Review of the Slovak Republic

Mihály Fazekas, Lucia Mytna Kurekova



OECD Reviews of Vocational Education and Training

A Skills beyond School Review of the Slovak Republic

Mihály Fazekas and Lucia Mytna Kurekova

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

Please cite this publication as:

Fazekas, M. and L. Mytna Kurekova (2016), *A Skills beyond School Review of the Slovak Republic*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris.
<http://dx.doi.org/10.1787/9789264233348-en>

ISBN 978-92-64-23333-1 (print)

ISBN 978-92-64-23334-8 (PDF)

Series: OECD Reviews of Vocational Education and Training

ISSN 2077-7728 (print)

ISSN 2077-7736 (online)

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Photo credits: Cover © LituFalco - Fotolia.com.

Corrigenda to OECD publications may be found on line at:

www.oecd.org/about/publishing/corrigenda.htm.

© OECD 2016

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgement of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to rights@oecd.org. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at info@copyright.com or the Centre français d'exploitation du droit de copie (CFC) at contact@cfcopies.com.

Acknowledgements

This review was written by Mihály Fazekas and Lucia Mytna Kurekova under the direction of Simon Field, OECD Directorate for Education and Skills. The authors are very grateful to Karol Jakubik and Monika Rybová in the Slovakian Ministry of Education for their work in facilitating the missions to Slovakia and the preparation of the report.

Table of contents

Summary: Strengths, challenges and recommendations.....	9
Strengths of the Slovak VET system.....	9
Challenges and recommendations.....	10
Chapter 1 Introduction	13
The policy review of The Slovak Republic and its place in the wider OECD study....	14
The structure of the report.....	14
Snapshot of the education system	15
Strengths of the Slovak VET system.....	22
Chapter 2 Apprenticeship and work-based learning.....	31
Challenges: Lack of work-based learning.....	32
Recommendation: Developing work-based learning	38
Supporting arguments for point 1: General arguments for work-based learning	38
Supporting arguments for point 2: Establishing a full apprenticeship system	42
Chapter 3 Developing post-secondary vocational pathways.....	53
Challenges: Limited provision and increasing demand.....	54
Recommendation: Developing post-secondary vocational programmes	59
Supporting arguments: improved labour market outcomes and rich.....	59
international evidence	59
Chapter 4 Better data.....	67
Challenges: Lack of data on key labour market outcomes.....	68
Recommendation: Improving data on labour market outcomes.....	70
Supporting arguments: Underpinning informed decisions and relatively	70
easy implementation.....	70
Chapter 5 Vocational teachers and trainers.....	77
Recommendation: Developing the vocational teaching workforce.....	81
Supporting arguments: Industry practitioners’ practical skills and skills.....	81
updating through work placements	81

Chapter 6 Integrating groups at risk	85
Challenges: Disadvantaged groups and youth at risk.....	86
Recommendation: Using VET to achieve more social inclusion	90
Supporting arguments: VET as an inclusion mechanism, recognition of	
informal learning and second chance education pathways as opportunities	
for low-skilled youth	90
Chapter 7 Preserving and improving general skills.....	97
Challenges: Increasing need for general skills, but insufficient provision.....	98
Recommendation: Tackling basic skills weaknesses	102
Supporting arguments: Lifelong learning, labour market success, and.....	
implementation options	102

Figures

Figure 1.1. Structure of the Slovak education system	17
Figure 1.2: Expenditure on general and vocational education, million euro (A) and thousands (B)	21
Figure 1.3 Vocational education and training as a share in upper secondary sector (ISCED 3), 2013	23
Figure 1.4: Early school leavers: International comparison	26
Figure 2.1. In the Slovak Republic, few upper secondary students are getting work experience	34
Figure 2.2: Youth unemployment rate (15 – 24 years): A European comparison, 2000-2013	36
Figure 3.1. In many other OECD countries postsecondary professional qualifications play a big role.....	60
Figure 5.1 Age distribution of teachers in secondary education, OECD, 2011.....	80
Figure 7.1 Differences in science performances between general programme students and pre-vocational and vocational programme students, 2006.....	100
Figure 7.2 Difference in average literacy proficiency among young adults aged 16 to 29 whose highest level of education is upper secondary, vocational and pre-vocational programmes compared to general programmes, 2012	101
Figure 7.3. Participation in formal and/or non-formal education (2012)	103
Figure 7.4. Wage premium of higher level skills compared to PIAAC literacy proficiency scores 0/1 (2012).....	104

Tables

Table 1.1. Number of students in general and in vocational upper secondary education, in thousands	18
Table 1.2. Employed by educational attainment, in thousands or percentage.....	19

Table 1.3. Number of secondary vocational schools by school type (October 2015)	20
Table 2.1: Changes in the structure of upper secondary education: 1999 – 2011, in thousands and percentage	33
Table 2.2: Graduate unemployment rate by study stream: 2012/2013	37
Table 3.1: Graduates in upper secondary education and entry rates into VET and academic fields, in thousands and percentage	55
Table 3.2: Predictions of labour market demand between 2013 and 2025 by occupational group and qualifications level in the Slovak Republic	57
Table 6.1. Education statistics of Roma and non-Roma living in their proximity, 2011	87

Boxes

Box 1.1 OECD reviews of vocational education and training	14
Box 2.1 What is work-based learning	32
Box 2.2: Types of work-based learning	39
Box 2.3. Workplace learning in Dutch school-based VET and apprenticeships	44
Box 3.1 What is post-secondary VET?	54
Box 3.2. The Swedish system of higher vocational education (HVE)	59
Box 3.3. Professional examinations in Switzerland	62
Box 4.1. Career guidance website in the Czech Republic	71
Box 4.2 Destinations surveys	72
Box 5.1. Teacher-worker pairing: Co-operation between VET institutions and industry in Finland	83
Box 6.1 Recognition of Prior Learning (RPL) in Iceland	92
Box 6.2. Second-chance education examples	93

Summary: Strengths, challenges and recommendations

Strengths of the Slovak VET system

- Vocational education and training (VET) constitutes a large part of the Slovak education system with the share of vocational students in upper secondary education among the highest in OECD countries. The Slovak Republic VET system is built on a strong and long tradition.
- High school completion rates are high. In 2013 early leaving from education and training was just over 6%, half the EU28 average (Eurostat, 2014).
- The Slovak VET system is relatively comprehensible to key stakeholders and it is fairly flexible accommodating different models of division of learning between theory and practice.
- Active engagement of some key stakeholders support policy delivery as well as reform, in particular large employers, national employers' associations and foreign chambers of commerce are actively engaged and keen to build a better VET system.
- Key stakeholders in government, schools, and employers share a consensus about the need to reform VET and the key problems which need to be addressed such as responsiveness to labour market needs.
- New initiatives both at the national and local levels such as the new Law on Vocational Education and Training passed in 2015 set directions for policy change towards greater work-based learning orientation.

Challenges and recommendations

1. Lack of work-based learning

Demographic decline and strong competition from academic education are currently putting pressure on the Slovak Republic VET system. The Slovak Republic VET system has been marked by infrequent opportunities for work-based learning, and the labour market outcomes of school-based VET programmes are weak. Recent legislation has sought to tackle this by introducing a dual style apprenticeship system.

Recommendation: Promote work-based learning throughout the whole Slovak VET system by introducing mandatory work-based learning in all programmes; establish a full apprenticeship system taking account of international evidence on the requirements of such a system.

2. Limited provision of postsecondary vocational education and increasing demand

While post-secondary vocational programmes exist in the Slovak Republic they enrol relatively few students, and are insufficient to meet future demand for higher level vocational skills. These programmes do not offer the scale of upskilling for graduates of the initial vocational system that might encourage the more able students to enter the vocational track.

Recommendation: Encourage the growth of post-secondary VET, filling a gap in provision, and developing attractive higher level vocational programmes to which VET graduates may aspire.

3. Lack of data on key labour market outcomes

While the data on VET currently available for policy makers, employers, students, and parents are valuable, they are limited in many respects and crucial dimensions of labour market outcomes are not adequately monitored, such as matching between the field of studies and occupation. Such gaps in data collection limit the capacity of policy makers and students to make informed decisions.

Recommendation: Establish a nation-wide VET school leaver survey measuring labour market outcomes and transition to further education. Make sure that it is regularly used in policy making and career guidance.

4. Little industry experience among an ageing VET teaching staff

Teachers and trainers of vocational subjects in The Slovak Republic face many challenges. The world of work is changing rapidly and often fundamentally, requiring teachers and trainers to continuously update their skills and knowledge. Many teachers and trainers have relatively little industry experience when entering the teaching profession, and have limited opportunities to keep their practical knowledge of industry up-to-date. The teaching workforce has also been aging and schools face difficulties in attracting younger people, not least due to uncompetitive wages in the education sector.

Recommendation: Facilitate the entry of industry practitioners into the teaching workforce and promote familiarity with industry among existing teaching staff through regular industry placements.

5. Integrating groups at risk

Young people from disadvantaged backgrounds face particular risks. Primary schools have struggled to teach basic skills, especially for at risk students. Disadvantaged youth often fail to acquire skills and therefore face a danger of labour market exclusion. This disadvantage is accentuated by low permeability of the educational system for low-educated in particular. Lower secondary vocational ISCED 2C programmes gather at risk groups without offering good labour market prospects. Recognition of prior learning and second-chance education opportunities are very limited.

Recommendation: Use VET in general, and work-based learning and recognition of informal learning in particular, to integrate groups at risk, including the Roma, into the labour market. Expand second-chance education opportunities based on provision of formal certification and on-the-job-learning.

6. Preserving and improving general skills

Solid literacy, numeracy, and problem-solving skills lay the foundation for healthy labour markets; however the Slovak Republic faces multiple challenges in basic skills among VET participant. With globalisation and rapid technological change, the need for adequate general skills is increasing. Many students enter the VET system with weak general skills and fail to catch up later. Vocational programmes are not always adequately geared towards supporting general skills development.

Recommendation: Ensure effective provision of basic skills of literacy, numeracy, and problem solving in vocational programmes, including apprenticeship programmes with a substantial work-based learning element, and provide targeted help for weak performers.

Chapter 1

Introduction

This chapter describes the OECD policy study of secondary vocational education and training (VET), the review of The Slovak Republic, summarises the main features of the country system and sets out an assessment of its particular strengths. The challenges, dealt with in subsequent chapters, are also enumerated.

The policy review of The Slovak Republic and its place in the wider OECD study

This review is one of a series of country reports on vocational education and training (VET) in OECD countries. The context for this review is the analysis of vocational education and training systems developed by the OECD in both the *Learning for Jobs* exercise and the more recent *Skills beyond School* exercise (see Box 1.1).

Box 1.1 OECD reviews of vocational education and training

In a sequence of more than 40 country studies, the OECD has been reviewing vocational education systems around the world since 2007. Thirty-seven country studies have been published alongside two major reports drawing together the policy lessons from this very large range of international experience – these are *Learning for Jobs*, published in 2010, and *Skills beyond School* published in 2014.

The country studies cover Australia, Austria, Belgium (Flanders), Canada, Chile, China, Costa Rica, the Czech Republic, Denmark, Egypt, Germany, Hungary, Iceland, Indonesia, Ireland, Israel, Kazakhstan, Korea, Mexico, the Netherlands, Norway, Peru, Romania, the Slovak Republic, Spain, Sweden, South Africa, Switzerland, the United Kingdom, the United States and Vietnam.

For more information please see:

OECD (2010), *Learning for Jobs, OECD Reviews of Vocational Education and Training*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264087460-en>.

OECD (2014), *Skills beyond School: Synthesis Report*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264214682-en>.

See also: www.oecd.org/education/vet

The Slovak Republic initially prepared a country background report. An OECD team then visited The Slovak Republic on 6-10 October 2014 and returned for a seminar on 20 January 2015. During the mission and seminar they discussed the issues arising with a wide range of stakeholders.

The structure of the report

This first chapter places the review of the Slovak Republic in the context of the wider OECD policy study, presents the structure of the report, describes the main features of VET system in the Slovak Republic, compares it with other systems internationally, explores some key

compares it with other systems internationally, explores some key international indicators bearing on the system and examines its strengths and challenges.

The following Chapters advance policy recommendations. Each chapter is set out as:

1. *The challenge* – the problem that gives rise to the recommendation.
2. *The recommendation* – the text of the recommendation.
3. *The supporting arguments* – the evidence that supports the recommendation.

Snapshot of the education system

Structure of the system

Vocational education is offered by secondary vocational schools (*stredná odborná škola* - SOŠ), an umbrella term covering a diversity of secondary VET schools that specialize in different fields of study ranging from traditional industrial fields and crafts to economics and management fields. Three main levels of study are offered in the VET system: ISCED 2C (lower secondary vocational education), ISCED 3C and ISCED 3A (upper secondary vocational education).

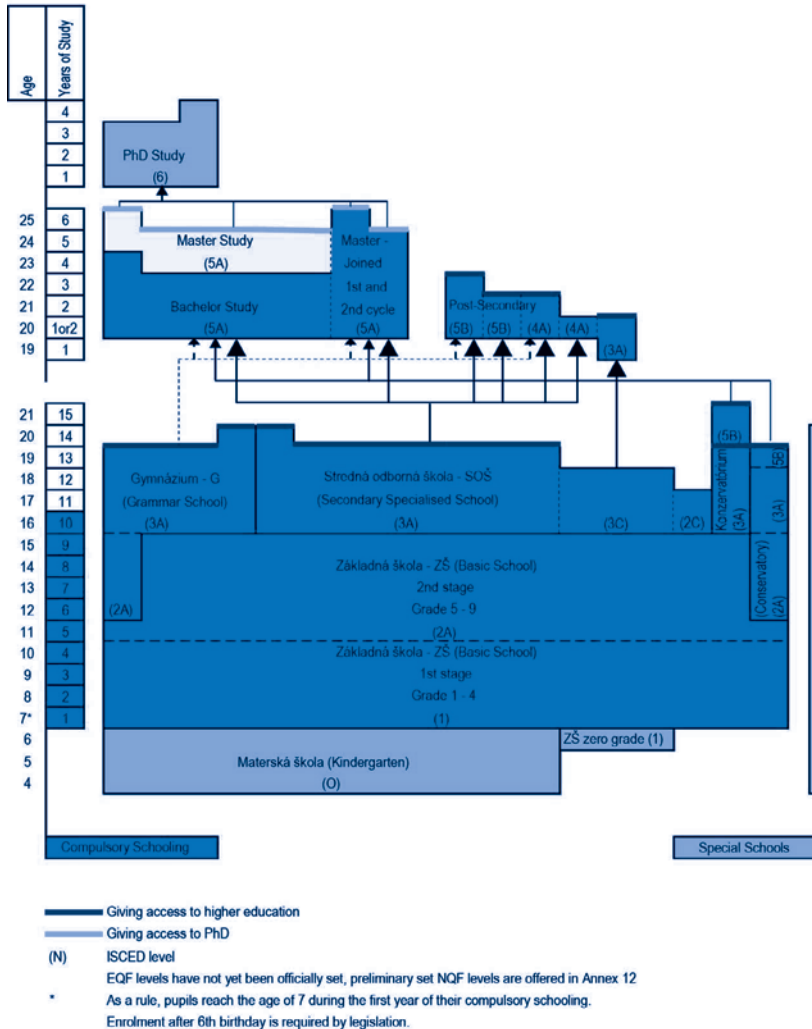
- First, students can pursue four-to-five year long **ISCED 3A programmes** leading to the *maturita* - a school leaving examination allowing university studies - or **ISCED 3A programmes with extended hours of practical training** which enable pupils to earn both the *maturita* leaving certificate and an apprenticeship certificate.
- Second, **ISCED 3C programmes** typically last three-to-four years and result in an apprenticeship certificate. These programmes aim to prepare students for entry to the labour market. While pupils in ISCED 3C programmes are typically called apprentices, practical training is offered at schools and many schools have no attachment to firms.
- Third, secondary IVET programmes involve a two-to-three year-long **ISCED 2C training programme** and are offered to low-achievers from primary schools or specialized primary schools. Such programmes result in a final exam and typically have a strong element of school-based practical training.
- Similar but also specific IVET programmes are offered to special needs students in the vocational stream of the special schools system.

The 2015 VET Law introduced the option to gain a new qualification on the basis of ‘a **shortened study**’ (*skrátene štúdium*) in which the student takes only vocational subjects. This can take the form of a one year programme earning an ISCED 3C qualification based on a final exam.

Post-secondary non-tertiary VET programmes offered by secondary vocational schools and conservatories comprise:

- Two-year ISCED 3A follow-up study programmes intended for ISCED 3C graduates ending with a maturita school-leaving certificate;
- Minimum six-month ISCED 4A programmes intended for ISCED 3A graduates ending with a post-maturita exam;
- Minimum two-year ISCED 4A qualifying programmes intended for ISCED 3A graduates, ending with a maturita school-leaving certificate (second maturita with a specific vocational component);
- Minimum two-year ISCED 5B special programmes ending with an absolutorium diploma;
- Three-year ISCED 5B higher professional programmes ending with an absolutorium diploma;
- A specific IVET option is offered in conservatories which offer six-year and eight-year ISCED 5B studies.

Figure 1.1. Structure of the Slovak Republic's education system



Source: Vantuch, J. and D. Jelínková. (2013b), *VET in Europe Country Report: the Slovak Republic*, Refernet the Slovak Republic, CEDEFOP: p. 16.

About two thirds of upper secondary students are enrolled in VET (Table 1.1). A great majority of VET students (84%) graduate from ISCED 3A programmes with school-leaving (maturita) examination (Jakubík, 2014). The importance of VET is reflected in the large share of the employed population with upper secondary VET qualifications (Table 1.2). Post-secondary vocational education plays only a small role. However, a third of VET graduates pursue university studies.

Table 1.1. Number of students in general and in vocational upper secondary education, in thousands

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
General	100 057	99 738	99 758	99 931	99 915	99 821	94 019	89 336	85 071	80 346	76 711
VET*	226 459	225 796	218 052	212 594	203 477	196 080	191 540	182 102	171 833	160 941	151 688
VET(%)	69%	69%	69%	68%	67%	66%	67%	67%	67%	67%	66%

Source: Herich, J. (2014), Prognóza vývoja ukazovateľov stredných odborných škôl do roku 2025 (A prognosis of development of secondary vocational schools indicators until 2025), Centrum vedecko-technických informácií (CVTI) SR, Bratislava. www.uips.sk/sub/uips.sk/images/JH/proгноza_so_14.pdf

Note: * - includes conservatories.

Table 1.2. Employed by educational attainment, in thousands or percentage

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total	2 165	2 170	2 216	2 301	2 357	2 434	2 366	2 318	2 315	2 329	2 329
Upper secondary VET	1642	1636	1650	1704	1764	1813	1745	1662	1632	1644	1622
Upper secondary general	97	95.9	97.8	100.8	101.7	103.6	100.8	98.6	99.9	98.5	100.1
Post-secondary VET	17.5	16.9	21.1	22.7	18.4	19.5	20.1	16	33.5	33.8	25.8
% VET	76%	75%	74%	74%	75%	75%	74%	72%	70%	71%	70%
% General	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
% Post-secondary VET	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%

Source: Own calculations based on the Statistical Office of the Slovak Republic (2014), Slovstat database, Pracujuci podľa vzdelania a pohľavia v tis. osobách (1994 – 2013) (Working population by education and gender in thousands (1994-2013)).
www.statistics.sk/pls/eisw/objekt.send?uic=960&m_sso=2&m_so=15&ic=39

In the Slovak Republic, there are over 400 VET schools, most of which are public with around one quarter being in private or church management (Table 1.3).

Table 1.3. Number of secondary vocational schools by school type (October 2015)

Public Schools	346
Private schools	93
Church schools	19
Total	458

Source: UIPS/CVTI (2015). *Štatistická ročenka školstva*, Stredné odborné školy, Ústav informácií a prognóz školstva/Centrum vedecko-technických informácií SR, Bratislava. www.uips.sk/prehlady-skol/statisticka-rocenka---stredne-odborne-skoly

Currently, there are over 1 400 occupational profiles in the Slovak VET system organised into 25 main fields of study. The largest sectors in 2012/2013 in terms of the number of graduates were economics and organization, retail and services (43%) followed by electrical engineering (11%) (Vantuch and Jelínková, 2013b).

Governance and social partner engagement

Since 2009, the Slovak VET system has been decentralised with eight regional VET councils. These bodies are responsible for the key elements of governance such as determining the mix of provision or recommending the closure or opening of VET schools (CEDEFOP, 2013). The Ministry of Education, Science, Research and Sport of the Slovak Republic (MŠVVaŠ, Ministerstvo školstva, vedy, výskumu a športu SR) remains the key institution responsible for setting policy priorities and the framework for VET delivery. A National VET council is the key advisory institution where VET-related policy and legislative proposals are negotiated. VET councils at all levels are based on four-partite cooperation between the Ministry of Education, Science, Research and Sports and other sectoral ministries; employer associations; unions and self-governing regions.

Social partners are formally incorporated into VET governance through national, sectoral and regional VET councils. In particular, employer associations and professional chambers perform a range of tasks: first, contributing to decisions on the mix of provision in order to improve labour market matching; second, designing course curricula in order to keep them up-to-date with labour market developments; third, directly participating in the award of vocational qualifications through employer representatives

ischool-leaving examinations; fourth, assisting in the process of training in-company trainers (CEDEFOP, 2013).

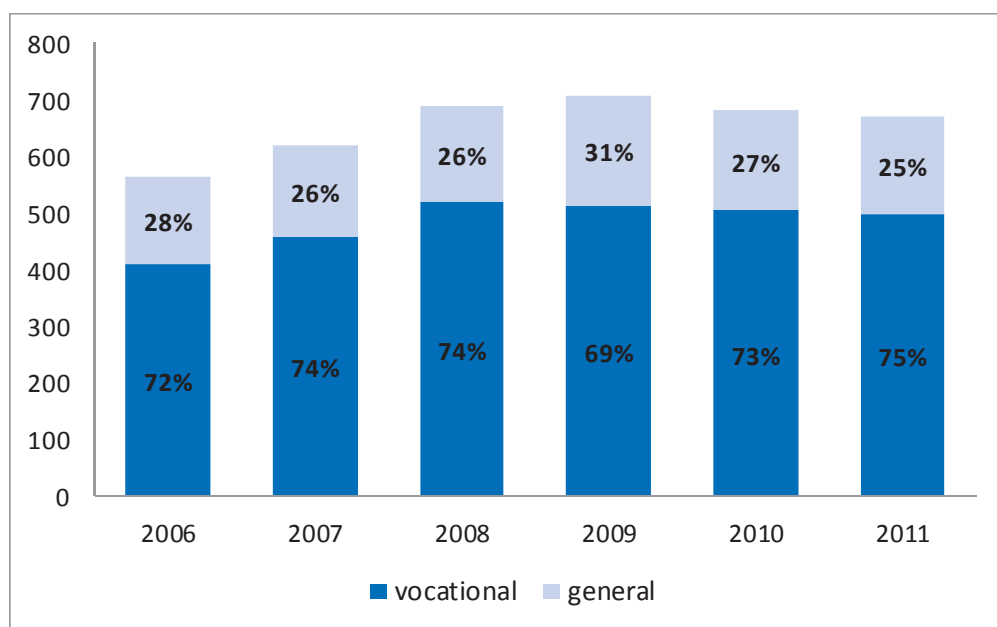
Funding

Public funding for VET schools is distributed using a per capita funding formula determined by the Ministry (Santiago, Halász, Levačić and Shewbridge, forthcoming). Starting from the 2015/2016 school year, labour market demand will be reflected in the funding allocation whereby schools will receive higher per student allocation (110%) in the fields of study where there is an undersupply of graduates and lower allocation (90%) in the fields of study where there is an oversupply of graduates.

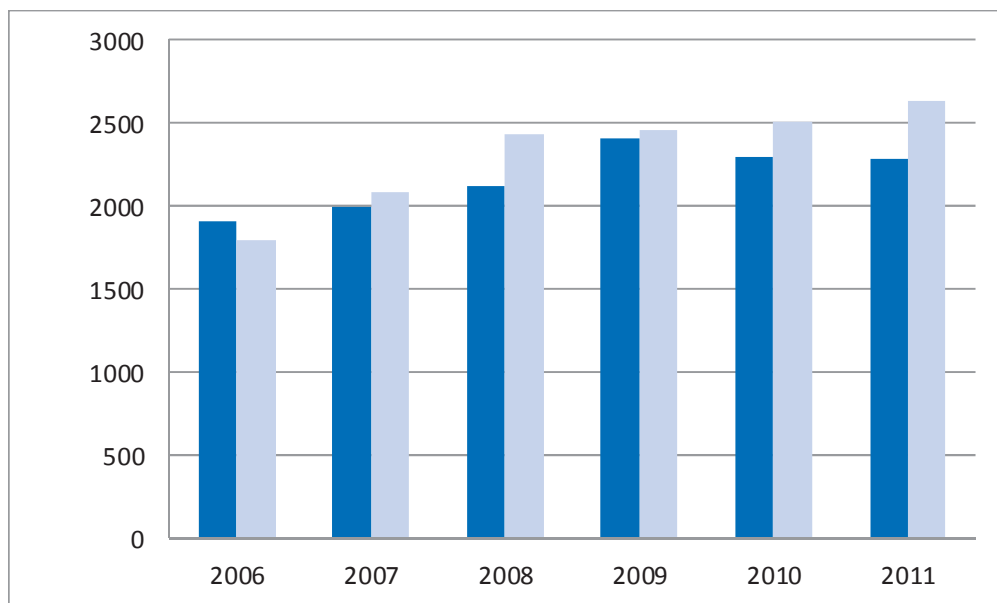
The overwhelming majority of school funding comes from the state budget even in the case of the private and church schools (Vantuch and Jelínková, 2013b). In selected cases with dual apprenticeships employers cover the training costs at a workplace. While education spending per student has increased in the late 2000s (Figure 1.2), it remains low in international comparisons (Šiškovič and Toman, 2015).

Figure 1.2: Expenditure on general and vocational education, milion euro (A) and thousands (B)

A. Total expenditure



B- Expenditure per student



Source: Šiškovič, M. and J. Toman (2015), *OECD Review of Policies to Improve the Effectiveness of Resource Use in Schools*. Country Background Report for the Slovak Republic. Educational Policy Institute, Ministry of Education, Science, Research and Sports, Bratislava.

Strengths of the Slovak VET system

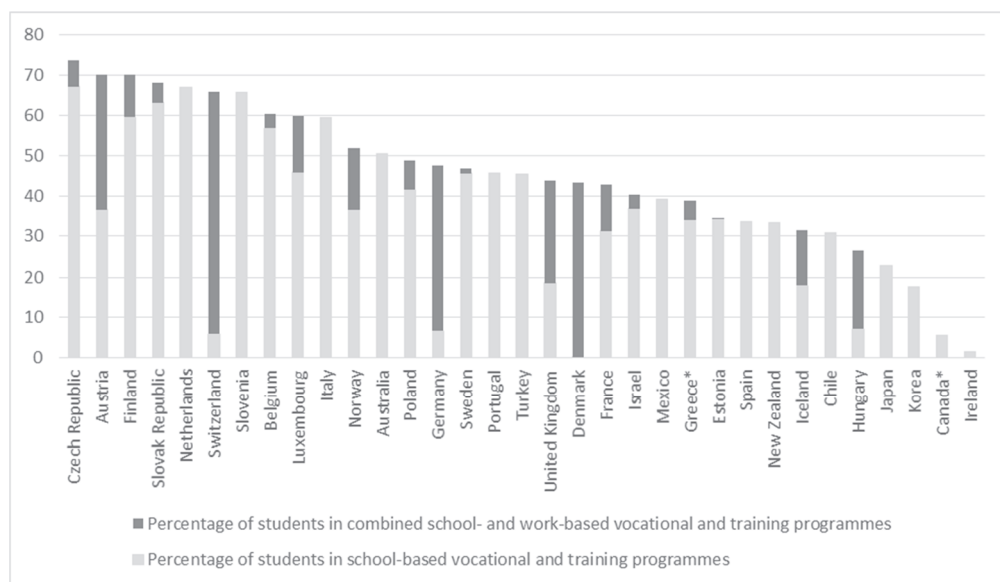
The system has several strengths.

First, VET constitutes a large part of the Slovak education system and builds on a long and positive tradition of practice-focused education. Second, key stakeholders share a consensus about the need for VET reform. Third, a number of promising initiatives at national and local level offer impetus for reform. Fourth, the active engagement of some key stakeholders supports policy delivery as well as reform. Fifth, the Slovak VET system is relatively flexible and comprehensible. Sixth, high secondary education completion rates provide opportunities for developing relevant skills in nearly all young people. Seventh, favourable economic growth prospects provide a solid background for further development of VET.

VET constitutes a large part of Slovak education system and has a strong tradition

At the upper secondary level (ISCED 3), Slovak VET educates a large majority of each youth cohort. The VET share in upper secondary education is among the highest in OECD countries (Figure 1.3). In the 2012/2013 school year, nearly three quarters (72%) of secondary school students graduated from VET (Vantuch and Jelínková, 2013b). This level is rivalled only by the Czech Republic and it exceeds other countries in the region with similar economic structures (Poland, Hungary) and compares to the strongholds of dual education systems such as Austria and the Netherlands. Although VET faces status challenges in the Slovak system, parents also see that VET may support the employability of their children, in particular with respect to the upper secondary streams finishing with *maturita* (ŠIOV, 2014).

Figure 1.3 Vocational education and training as a share in upper secondary sector (ISCED 3), 2013



Source: OECD (2015), *Education at a Glance 2015: OECD Indicators*, Table C1.2, OECD Publishing, Paris, [dx.doi.org/10.1787/eag-2015-en](https://doi.org/10.1787/eag-2015-en)

Note: *=due to missing data for 2013, 2008 data was used.

The Slovak VET system builds on a tradition that dates back to the Czechoslovak system established in the 1970s, and in a strong link between VET schools and state-owned enterprises. As an outcome of economic transition and major restructuring, the system experienced important changes in 1990s which shifted it to a school-based system. In 2009 governance was reformed, bringing secondary education closer to the labour market. The VET tradition and past experiences of reform are assets in designing further reform that can improve responsiveness to the labour market.

Key stakeholders share a consensus about the need to reform VET

Realizing the limitations of the existing VET system, the State of Education Report (2013) identified various areas for improvement. First, the quality of VET should be improved so that graduates are able to get good jobs after finishing their studies. Second, the role of employers should be strengthened by enhancing both responsibilities as well as rights in the VET system. Third, measures should be taken to increase the interest of pupils in VET. By and large, both key governmental policy makers and non-governmental stakeholders agree that VET needs fundamental reform, including more substantial work-based learning and improved responsiveness to labour market needs.

New initiatives both at the national and local levels set directions for policy change

A new Law on Vocational Education and Training passed in 2015 aims to improve the institutional framework by implementing elements of a dual VET system following the examples of Germany, Austria and Switzerland. It has established a clearer division of rights and responsibilities for stakeholders, employers and employer associations in particular and has introduced a clear legal basis for the contractual relationships between schools, students/apprentices and firms in the dual system. Employers engaged in dual VET are expected to cover the costs of the work-based element of learning and training. In order to adjust education system to labour market needs, the Law strengthens the role of self-governing regions in determining the number of students per study programme that should be guided by labour market forecasts and school performance indicators.

In parallel to these reforms, a range of pilot projects implementing some form of dual system are underway. For example, Volkswagen Slovak Republic has invested in its own workshop and training programme in order to meet its own skills needs. The programme, while registered as further vocational education in the Slovak Republic, follows the lines of upper

secondary apprenticeships in Germany and directly ties into the production processes in enterprises. A multi-firm engagement example is the “Young Stars” dual education pilot project in Secondary Technical School *Zlaté Moravce*. It is based on cooperation with a range of local foreign-owned and domestic firms which will provide premises for and supervise practical firm-based training. A third example is a three-year long post-secondary programme in information systems (ISCED 5B) based on the dual model of education launched through the cooperation of the secondary electro-technical school in Košice with T-Systems in the 2013/2014 school year.

Active engagement of some key stakeholders supports policy delivery as well as reform

Many large employers, national employers’ associations as well as foreign chambers of commerce are actively engaged and keen to build a better VET system. Large employers in particular are sometimes keen supporters of more extensive work-based learning in VET. While a fragmented structure and voluntary membership of employers’ associations and unions puts limits on broader representativeness of interests, the 2009 VET law supports a framework which allows for regular exchange and coordination of the system. The 2015 VET Act builds on this and seeks to simplify the coordination framework while making employer rights and responsibilities more explicit, in particular in the provision of elements of the dual VET system.

The Slovak VET system is relatively comprehensible and flexible

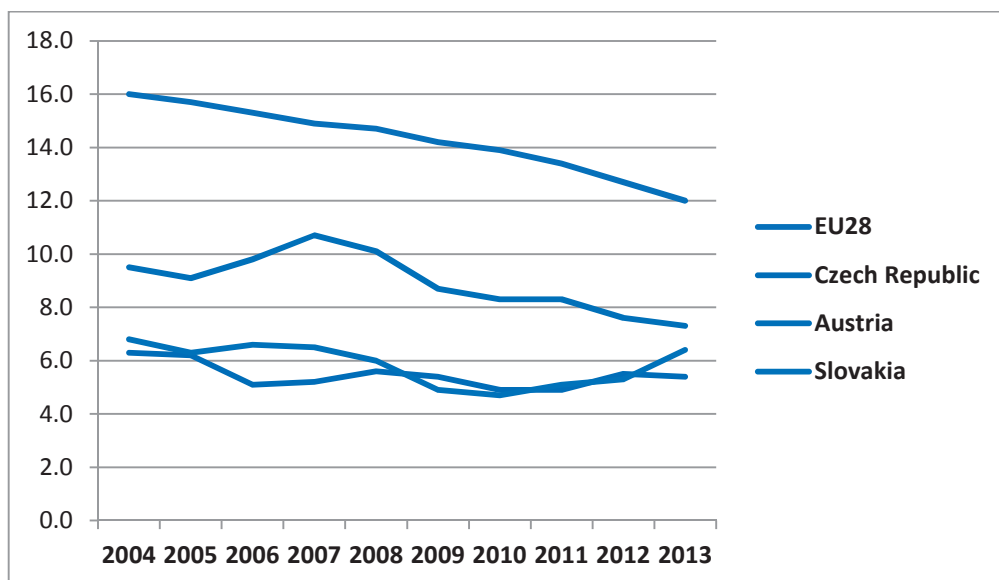
The VET system in the Slovak Republic is relatively comprehensible with a small set of vocational pathways (with and without *maturita*)¹ while the number of alternative pathways is modest in international comparison. This compares, for example with the Netherlands which hosts seven vocational pathways on four levels with three pathways having a separate school-based and work-based track (Fazekas and Litjens, 2014)

Slovak upper secondary education is fairly flexible and able to accommodate different models of division of learning between theory and practice. Such flexibility is achieved through the autonomous capacity of schools to develop school-level curricula and in the VET streams of upper secondary education to adjust the mix of theory and practice. There are examples of upper secondary technical schools that have linked their study fields to local employers and their education provision approach approximates full apprenticeship models. Flexibility in the VET system is provided by vertical and horizontal permeability allowing high levels of study or transfer between types of schools (CEDEFOP, 2013).

High school completion rates are high

In 2013, early leaving from education and training² stood at just over 6%, half the EU28 average (Figure 1.4) (Eurostat, 2014). While the Slovak Republic therefore outperforms many OECD countries, high unemployment rates for graduates suggest quality problems. However, drop-out figures do not cover young Roma who tend to suffer from early school leaving and often have weak employability skills (Vantuch and Jelinková, 2013a).

Figure 1.4: Early school leavers: International comparison



Source: Eurostat (2014), *Eurostat database, Early leavers from education and training by sex and labour status [edat_lfse_14]*. Eurostat, Luxembourg.

Relatively strong economy with good prospects

The Slovak Republic has an impressive economic convergence story: the income gap relative to the upper half of OECD countries narrowed from over 60% in the early 2000s to close to 40% by 2013 (OECD, 2013). Between 2001 and 2011, growth in GDP per capita was the highest in the OECD and the country recovered relatively well from the global economic crisis. The country has become strongly integrated into global value chains through manufacturing and its growth continues to be mainly export driven, it has one of the highest shares of manufacturing in GDP in the EU. In 2013, GDP grew by 0.9% - faster than key export partners and regional neighbours (Eurostat, 2014), reaching 75% of EU28 GDP per capita level (PPS).

However, the Slovak labour market has been hit particularly hard by the global recession that began in 2008: but aggregate, youth and long-term unemployment continue at high levels. Positive growth prospects provide a solid foundation for developing the Slovak VET system and improving school to work transition.

Notes

1. Pathways represent distinct combinations of study levels and modes coupled with the type of final examination and degree conferred. They are different from study field as the same pathway can have multiple fields of study.
2. Early leavers from education and training refers to persons aged 18 to 24 fulfilling the following two conditions: first, the highest level of education or training attained is ISCED 0, 1, 2 or 3c short, second, respondents declared not having received any education or training in the four weeks preceding the survey (numerator). The denominator consists of the total population of the same age group, excluding no answers to the questions "highest level of education or training attained" and "participation to education and training". Both the numerators and the denominators come from the EU Labour Force Survey.

References

- CEDEFOP (2013), *Spotlight on VET Slovakia*, European Centre for the Development of Educational Training, Thessaloniki, www.cedefop.europa.eu/EN/Files/8071_en.pdf.
- Eurostat (2014), *Eurostat database, Early leavers from education and training by sex and labour status* [edat_lfse_14], Eurostat, Luxembourg. (accessed december 2014).
- Fazekas, M. and I. Litjens (2014), *A Skills beyond School Review of the Netherlands*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264221840-en>.
- Herich, J. (2014), *Prognóza vývoja ukazovateľov stredných odborných škôl do roku 2025 (A prognosis of development of secondary vocational schools' indicators until 2025)*, Centrum vedecko-technických informácií (CVTI) SR Bratislava, www.uips.sk/sub/uips.sk/images/JH/prognoza_so_14.pdf.
- Jakubík, K. (2014), *OECD Guidance to Slovakia Background material on VET*. Ministry of Education, Science and Sports of the Slovak Republic. Mimeo.
- OECD (2015), *Education at a Glance 2015: OECD Indicators*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/eag-2015-en>.
- OECD (2014), *Skills beyond School: Synthesis Report*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264214682-en>.
- OECD (2013), *Slovak Republic: Fostering inclusive job-rich recovery*, Better Policies Series, Paris, OECD Publishing., Paris, <http://dx.doi.org/10.1787/9789264201637-en>.
- OECD (2010), *Learning for Jobs*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris., <http://dx.doi.org/10.1787/9789264087460-en>.
- OECD (2011), *Education at a Glance 2011: OECD Indicators*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/eag-2011-en>.

- OECD (2008), *Education at a Glance 2008: OECD Indicators*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/eag-2008-en>.
- Santiago, P., G. Halász, R. Levačić and C. Shewbridge (Forthcoming), *OECD Reviews of School Resources. Slovak Republic*. OECD Publishing, Paris.
- ŠIOV (2014). The Ministry of Education, Science, Research and Sport of the Slovak Republic, December., www.minedu.sk/data/att/4759.pdf.
- Statistical Office of the Slovak Republic (2014), *Slovstat database, Pracujúci podľa vzdelania a pohlavia v tis. osobách (1994 – 2014) (Working population by education and gender in thousands (1994-2013))*. www.statistics.sk/pls/elisw/objekt.send?uic=960&m_sso=2&m_so=15&ic=39.
- UIPS/CVTI (2015). *Štatistická ročenka školstva, Stredné odborné školy (Statistical yearbook of education system, Secondary vocational schools)*, Ústav informácií a prognóz školstva/Centrum vedeckotechnických informácií SR, Bratislava.
- Vantuch, J. and D. Jelínková (2013a), *Early leaving from vocational education and training in the Slovak Republic*. Bratislava, ŠIOV/SNO, Refernet Slovakia, CEDEFOP, www.refernet.sk/images/news/files/Early%20leaving%20from%20VET%20in%20the%20Slovak%20Republic.pdf.
- Vantuch, J. and D. Jelínková (2013b), *VET in Europe Country Report: the Slovak Republic*. Bratislava, Refernet Slovakia, CEDEFOP. www.cedefop.europa.eu/fr/publications-and-resources/country-reports/the-Slovak-Republic-vet-europe-country-report-2013.
- Vantuch, J. and D. Jelínková (2014) *Apprenticeship-Type Schemes and Structured Work-Based Learning Programmes. The Slovak Republic*, Refernet Slovakia, CEDEFOP.

Chapter 2

Apprenticeship and work-based learning

The Slovak Republic vocational and education training (VET) system is marked by a relative lack of work-based learning and weak labour market outcomes among school-based VET programmes. Moreover, demographic decline and strong competition from academic education are putting pressure on the Slovak Republic VET system. Recent legislation has sought to tackle these challenges by introducing a dual style apprenticeship system.

The chapter argues that there is a need to further promote work-based learning by introducing mandatory work-based learning in all programmes; establishing a full apprenticeship system through the new legislation, while taking account of international evidence on the requirements of such a system.

Challenges: Lack of work-based learning

The Slovak VET system faces challenges linked to work-based learning. First, demographic decline and strong competition from academic education put pressure on the VET system. Second, there is a relative lack of workbased learning in the Slovak Republic. Third, labour market outcomes from school-based VET programmes are weak.

Box 2.1 What is work-based learning

Work-based learning encompasses a diversity of arrangements including apprenticeships, informal learning on the job, work placements that form part of formal vocational qualifications, and internships of various types. In each of these cases, it takes place in a real-life work environment rather than a school workshop or any other simulated context.

OECD definition of work-based learning which is used in this report is narrower than the definition used by the European Commission which considers also school-based practical training as work-based learning (European Commission, 2013).

Source: OECD (2014), *Skills Beyond School: Synthesis Report*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264214682-en>.

Demographic decline and competition from academic education

Fewer students entering primary and secondary education intensifies competition

The number of births in the Slovak Republic fell from 80 000 in 1990 to 55 000 in 2012 resulting in a gradual decline of student numbers (Šiškovič and Toman, 2015). The number of graduates of ISCED 3 programmes dropped by 23% between 2011 and 1999 from about 90 000 to about 70 000 graduates (Table 2.1). VET has been disproportionately affected: in 2011, every fourth upper secondary student was enrolled in general programmes compared to every fifth in 1999. Among upper secondary VET programmes, demand for 4-year ISCED 3A VET programmes leading to the school-leaving certificate (maturita) has grown while it has declined for 3-year ISCED 3C VET programmes completed with a certificate of ‘apprenticeship’ only (výučný list).

Table 2.1: Changes in the structure of upper secondary education: 1999 – 2011, in thousands and percentage

	1999		2011	
Total	90738	100%	69780	100%
ISCED 3A General (maturita)	15648	17%	19219	28%
ISCED 3A VET (maturita)	48220	53%	38542	55%
ISCED 3C VET (výučný list)	26870	30%	12019	17%

Source: Vantuch, J. and D.Jelínková (2013), *VET in Europe Country Report: the Slovak Republic*, Refernet the Slovak Republic, CEDEFOP.

Relatively few students may opt for VET due to its weak reputation

The reputation of vocational programmes in the Slovak Republic, especially those not leading to maturita, is currently low in the eyes of parents and pupils as well as employers (CEDEFOP 2013). One contributing factor to poor perceived quality are weak labour market outcomes of graduates of VET programmes. A further factor is historical experience with industrial restructuring, which discourages parents from pursuing vocational education for their children. There is also an increasing demand for higher education with easier access from general upper secondary education streams.

Challenges in the Slovak Republic are shared with other countries

Several other countries face demographic decline accompanied by a falling popularity of upper secondary VET (OECD, 2010). For example, in the Czech Republic, improving the attractiveness and performance of ISCED 3C programmes is a challenge (Kuczera, 2010). But some countries with well-developed VET systems such as Switzerland anchored in work-based learning continue to be able to secure an inflow of interested pupils as well as achieving favourable labour market outcomes (Fazekas and Field, 2013).

Lack of work-based learning in the Slovak Republic

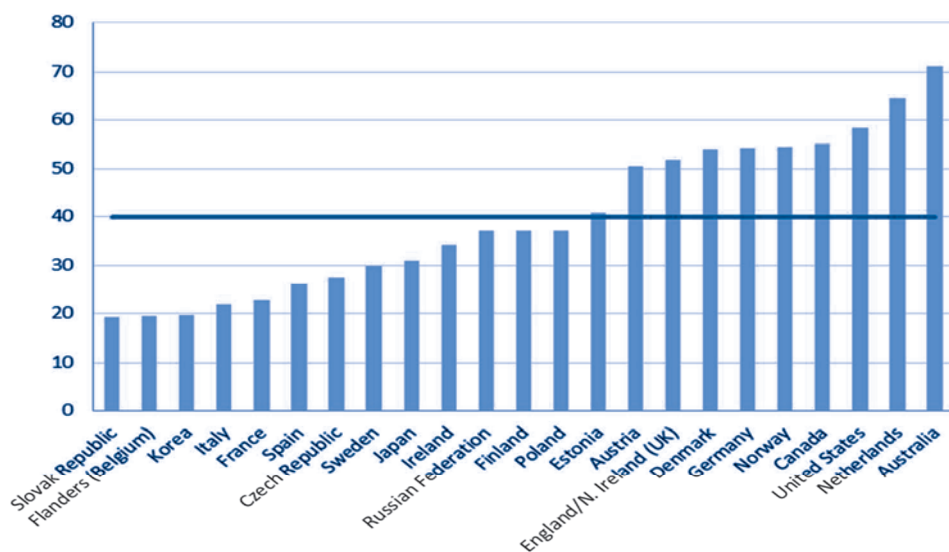
Work-based learning is less common than in comparable countries

Despite an extensive VET system, work-based learning in VET is relatively rare. Most training is currently provided in school workshops, often with outdated equipment, and weak links to local firms (CEDEFOP, 2013; Vantuch and Jelínková, 2014). The 1990 transition and economic

restructuring uprooted long-established links between schools and firms. According to estimates based on official data, in the 2011/2012 school year, only about 17% of students in secondary VET programmes were offered practical training in work-type environments (Vantuch and Jelínková, 2014). The share of upper secondary students who work, including apprenticeships, work placements and other working students, is the lowest among OECD countries (Figure 2.1).

Figure 2.1. In the Slovak Republic, few upper secondary students are getting work experience

Percentage of students who work, including apprenticeships, work placements and other working students



Source: Quintini, G. (2015), “Working and learning: A diversity of patterns”, *OECD Social, Employment and Migration Working Papers*, No. 169, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5jrw4bz6hl43-en>

It has proven difficult to upscale existing good practice

In spite of the generally limited role of work-based learning, there are a number of positive examples where work-based learning is a substantial part of the educational programme and cooperation with companies is strong.

For example, the *Železiarne Podbrezová* metallurgy school builds on a long tradition and students participate in the production process of the linked metallurgy company and receive payment in exchange. The school guarantees employment in the company to its graduates and offers scholarships to pursue university education to interested candidates. A more recent example is Volkswagen Slovak Republic which invested in its own workshop and training programme in order to meet the company's skills needs. The programme, while in effect at the level of post-secondary VET in the Slovak Republic, follows the lines of upper secondary apprenticeships in Germany and directly ties into enterprise production processes.

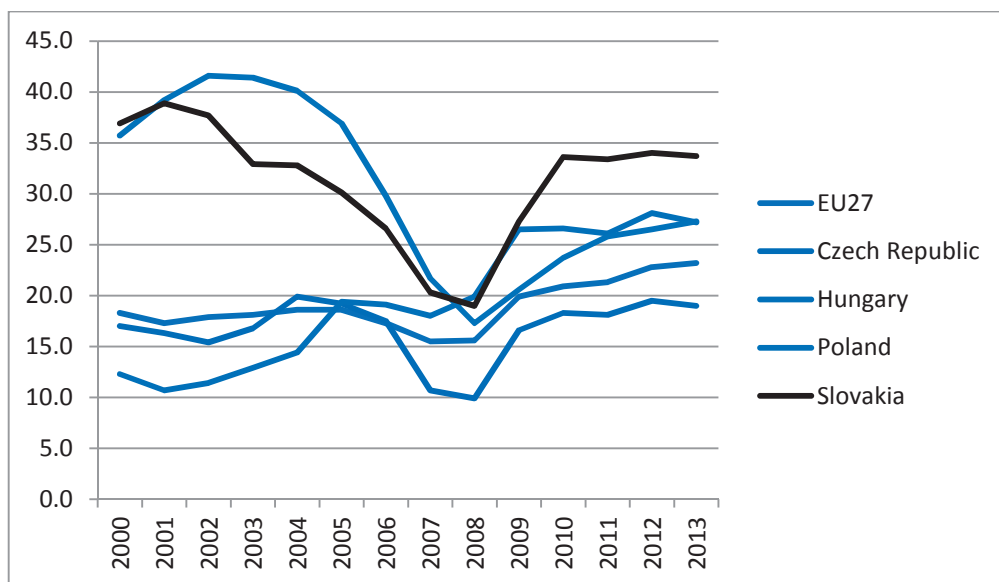
In spite of these examples, policy makers, companies, and schools agree that without a more supportive policy framework, they cannot be scaled up to the whole country. The 2015 VET Law therefore develops an institutional framework for dual apprenticeships following German, Austrian and Swiss examples.

Weak labour market outcomes of VET

Youth and VET graduate unemployment rates are high

The youth unemployment rate in the Slovak Republic has been high relative to other EU countries (Figure 2.2) and is negatively correlated with education level. Compared to a 14% average unemployment rate in the last quarter of 2013, the unemployment rate for those aged 15-19 was over 63% and 30% for those aged 20-24 years (Slovak Statistical Office). In 2012, the NEET rate of those under 29 was 19%, compared to an average 15% in EU-28 (Machlica, Žúdel and Hidas, 2014).

Figure 2.2: Youth unemployment rate (15 – 24 years): A European comparison, 2000-2013



Source: Eurostat (2014), *Eurostat database, Unemployment rates by sex, age and nationality (%)* [lfsa_organ], Eurostat, Luxembourg.

While the absence of a school-leavers' survey makes a robust assessment of the labour market outcomes from VET difficult, unemployment statistics still provide an overview (Table 1.4). Graduates of academic upper secondary education (gymnasias) achieved an unemployment rate below 7%, which is only partially due to that most of them pursue university education. For upper secondary VET 20-25% were unemployed after graduating.

Table 2.2: Graduate unemployment rate by study stream: 2012/2013

	Gymnasia (ISCED 3A General)	Study fields with less than 25% of practical training (ISCED 3A VET)	Study fields with more than 25% practical training (ISCED 3A VET)	Vocational fields (ISCED 3C)	Upper secondary schools in total	Universities	Total graduate unemployment rate
06/2012	6.7%	17.3%	19.1%	19.9%	15.0%	9.7%	12.9%
12/2012	4.7%	19.8%	26.9%	23.6%	17.5%	3.8%	12.1%
05/2013	4.9%	13.1%	16.1%	15.0%	11.6%	6.4%	9.6%
Average (06/12- 05/13)	6.6%	19.2%	25.1%	23.6%	17.1%	5.3%	12.1%

Source: Own calculations based on Herich, J. (2013), Uplatnenie absolventov stredných škôl v praxi (Employability of secondary school graduates). UIPŠ, Bratislava.

www.uips.sk/sub/uips.sk/images/JH/uplatnenie_a13_.pdf

International evidence reveals that weak labour market outcomes are often linked to skills mismatch and lack of work-based learning

While high youth unemployment in large part reflects structural features of the economy and a lack of job creation (Herich, 2013; Goliáš, 2014; Machlica, Žúdel and Hidas, 2014), a mismatch between education output and labour market needs is often an additional obstacle to school-to-work transition. Poor labour market outcomes can be linked to a lack of work-based learning (OECD, 2014).

Qualifications frameworks are badly understood by employers, potentially hindering labour market matching

In spite of high unemployment, employers in some sectors report recruitment difficulties: low quality of graduates and a lack of experience have been identified as key recruitment barriers for youth (Kureková, 2010). A widely recognised qualification framework and a register of professions are also currently lacking in the Slovak Republic. In contexts such as the Slovak Republic where formal qualifications in some study fields are poorly understood in the labour market, work experience may be used by employers as a screening tool for a set of skills and characteristics (Kureková et al., 2016). The Ministry is in the process of developing a qualification framework in cooperation with stakeholders, and this may contribute to correcting the existing information asymmetries and improve labour market matching.

Recommendation: Developing work-based learning

Point 1: Promote work-based learning throughout the whole Slovak VET system by introducing mandatory work-based learning in all programmes.

Point 2: Establish a full apprenticeship system, while taking account of international evidence on the requirements of such a system.

Supporting arguments for point 1: General arguments for work-based learning

This recommendation is supported by three arguments. First, more substantial work-based learning throughout the Slovak VET system would improve school to work transition. Second, it represents a more cost effective way to spend public money on providing high-quality vocational skills. Third, there is adequate national and international experience as well as support from key stakeholders for policy implementation.

Improving school to work transition

Work-based learning, in different forms, could be mandatory in all programmes

A minimum amount of work-based learning could be made mandatory in all VET programmes throughout the Slovak Republic. At a minimum, a few weeks long internship in a company could become a mandatory element of any recognised upper and post-secondary VET programme while encouraging programmes to require longer work placements. Public funding for programmes should then be linked to a minimum length of work placement.

Box 2.2: Types of work-based learning

- Job shadowing: Very short periods of time – typically days – in which students “shadow” a worker to learn about their job. It often involves younger students and serves the purpose of career exploration.
- Service learning: Voluntary work by students, typically in non-profit organisations, designed to provide a service and at the same time to provide a learning opportunity to students. In Belgium-Flanders, for example, some students in part-time VET participate in such learning.
- Internships: Short periods of time – typically weeks or months – in which students attend workplaces and undertake work there, typically for zero or nominal wages. They may be governed by a special contract. Such arrangements are provided for students in school-based upper secondary VET in various OECD countries such as Austria, Belgium (Flanders), Chile, Hungary and Mexico.
- Apprenticeships: More structured long-term workplace learning, typically over a period of years, leading to a qualification. Many OECD countries have well-developed apprenticeship systems such as Austria, Germany, the Netherlands, or Switzerland.

Source: OECD (2010), *Learning for Jobs*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris., <http://dx.doi.org/10.1787/9789264087460-en>, (page 106)

Work-based learning helps to ensure that the mix of provision matches labour market needs

Currently, the mix of VET provision – the number of places in different fields of study created by schools- is mainly driven by student demand, and incentivized through a school financing formula which attaches funding to the number of enrolled students. Stakeholders believe that a fundamental reconfiguration of the formula and the funding framework would be very difficult. In this context, a market in workplace training could help to balance employer needs and student preferences without such a fundamental reform (OECD, 2010). In systems where the offer of places in VET is tied to the availability of workplace training places, employers can influence the number and mix of places in VET through their willingness to offer such workplace training (see for example Fazekas and Field (2013) on Germany). Students still have a choice between a range of programmes, but are limited to those in which workplace training is available. Such an arrangement works well even in the absence of reliable data on labour market needs.

Work-based learning ensures relevant skills are acquired

If learning goals at the workplace are aligned with school curricula and a strong quality assurance framework is in place, work-based learning contributes to the acquisition of those skills most relevant for employers. Real-world experience in the workplace allows for the acquisition of soft skills highly valued by employers such as conflict management skills, entrepreneurship, and team-working. Furthermore, learning from trainers working in enterprises using the most up-to-date equipment and organisational structures allows skills not always available at VET schools to be acquired. Analysis of Slovak vacancy data shows that work experience is the characteristic most valued by employers for many low-skilled jobs (Kureková et al., 2016) suggesting that there would be a high pay-off from work-based learning.

Work-based learning underpins partnerships with employers

Requiring VET schools to include work placements in their programmes would also motivate them to co-operate with employers and learn about their needs, potentially contributing both to the quality of school curricula and encouraging skills updating for teachers and trainers (see Chapter 5). In the Slovak Republic where weak motivation on the part of schools to collaborate with companies is a major barrier to the updating of curricula (Goliáš, 2011), the potential benefits are large.

Contribution to a higher reputation of VET

High quality apprenticeships and work-based learning may also improve the reputation of the vocational track hence its attractiveness, especially when weak labour markets put a premium on smooth school to work transition. In countries with strong apprenticeship systems such as Switzerland, some apprenticeship programmes are in very high demand even among the best graduates from academic education (Fazekas and Field, 2013).

More cost-effective spending on training

Typically companies already have state of the art equipment

It is very expensive to keep VET schools' training equipment up-to-date because of the constant investment required to follow rapid workplace developments. Securing adequate funding for VET schools is a challenge even in rich countries with well-funded VET systems such as the Netherlands (Fazekas and Litjens, 2014). If employers are willing and able to offer work placements, VET programmes can become more cost-effective

than comparable quality school-based training as the most up-to-date equipment and organisational structures are typically available in enterprises (OECD, 2010). Public expenditure per student in the Netherlands has therefore been consistently about one third higher in school-based VET than in apprenticeship (Fazekas and Litjens, 2014).

Companies and apprentices contribute to the financing of training

Work-based learning also makes efficient use of private funding as enterprises contribute in kind as well as financially to training while potentially earning a net benefit in the short or long term (Mohrenweiser and Zwick, 2009). If work-based learning is sufficiently long, as in apprenticeships, the productive contribution of students to economic output can offset the costs of training.

Adequate support for policy implementation

A supportive environment exists in the Slovak Republic

As explained in Chapter one, a range of new policy initiatives aims to promote work-based learning, including apprenticeships. First, the new 2015 VET law aims to increase support for and building institutional basis for work-based learning, and seeks to introduce framework for dual training. Second, key stakeholders have actively contributed to drafting the new legislation and they are ready to step up the provision of training places. Third, a range of pilot projects are underway such as “*Young Stars*” dual education pilot project in Secondary Technical School Zlaté Moravce. It is based on cooperation between the school and firms which provide and supervise practical firm-based element of training. Starting from the first year of education, the curriculum will be composed of five days of theory and five days practical training with one day in a school workshop and the remaining time in a company. Students will have to sign an apprenticeship contract with the employer before starting the training and will get scholarships. Practical training instructors are to be certified by the Austrian Chamber of Commerce.

There is a rich knowledge base across the OECD

There is ample evidence on the introduction of a mandatory work-based learning element in OECD VET systems. It often meets resistance as it is feared that employers will not offer placements and that it is only possible where it is already part of the working culture. But the international evidence overwhelmingly supports its feasibility (OECD, 2014; European Commission, 2013). For example, all Spanish VET programmes include a

compulsory 10-20 week module of workplace training. During the work placement students receive guidance and support from a teacher at the VET institution they attend and from a person who supervises their work at the company. When this requirement was introduced in Spain, it ended the isolation of vocational institutions, improved school-company relationships, helped vocational teachers to be in contact with companies and facilitated school to work transition (Homs, 2007; Spanish Ministry of Education and Science, 2007; Spanish Ministry of Education, Culture and Sport, 2011).

Work-based learning needs supportive measures, particularly for SMEs.

Employer willingness to offer training can be facilitated in a range of well-documented and evaluated ways. For example, providing targeted support to SMEs both in terms of the administrative burden (administrative costs may be relatively more burdensome for smaller companies) and allowing them to provide training jointly (SBB, 2012b). In Switzerland vocational training associations (*Lehrbetriebsverbände*) can be established by groups of firms that share apprentices in order to allow those companies which do not have the capacity and resources to provide full apprenticeship training to become engaged and to decrease the financial and administrative burden on each individual firm (OPET, 2008).

Supporting arguments for point 2: Establishing a full apprenticeship system

No single apprenticeship system should be copied without reflection

Introducing an apprenticeship system is not easy. Big changes are often needed to accommodate an apprenticeship training system in the educational, economic, fiscal and legal framework. Without the necessary structural reforms, companies are likely to be reluctant to offer apprenticeship training posts, the selection of students may be sub-optimal and the programmes may be of insufficient quality. There is no single apprenticeship training system that can or should be copied without careful prior analysis. Many features are country-specific and the Slovak Republic would have to decide how to adapt them to achieve a coherent system. In this section we look at the issues involved in developing and implementing an apprenticeship system. It draws on a range of OECD work, but particularly on Kuczera et al. (2008).

Apprenticeship systems depend on a number of supporting factors

A study comparing apprenticeship systems in five European countries (Austria, Denmark, Germany, Ireland and the United Kingdom) concludes that a VET system requires a strong institutional component to guarantee the quality of training in firms, to prevent employers from free-riding on the training efforts of others and offering little training because of apprentices' high payroll costs (Ryan, 2003). The same study lists elements of the apprenticeship system that have an impact on quality, such as the legal framework of apprenticeship, the existence of a national body to advise the responsible authority (e.g. Ireland's National Apprenticeship Advisory Committee), and mid-level committees that determine many aspects of VET, with mandatory representation of social partners.

Apprenticeship systems are associated with a number of positive outcomes

Positive outcomes from the dual apprenticeship system include: low rates of youth unemployment, a highly skilled workforce and support for industrial competitiveness (Busemeyer, 2012; Sager, 2008; Lehmann, 2005; Juul and Jorgensen, 2011). Germany's dual system of vocational education is often discussed as a successful model where employers have a relatively high level of commitment to apprenticeship training, unions are involved at all levels, and a national network of career counselling and employment centres provides relevant linkages into the labour market (Lehmann, 2005:108; Thelen, 2007). According to Jull and Jorgensen (2011) the Danish apprenticeship stream is of better value and quality than that of school-based programmes with better employment outcomes.¹

Apprenticeship systems usually involve 50-80% of study time at the workplace

Across countries, one may distinguish between different forms of apprenticeship, in which most time is spent in on-the-job training with employers – often for example in the classical “dual” system countries like Germany around four days a week, with one day a week in the vocational school. But apprenticeships in different countries have varying arrangements for alternating school and work-based learning – in Norway for example, two years of school are typically followed by two years on-the-job training. Such apprenticeships may be distinguished from school or college based vocational training, where most of the time is spent in school or college, but including a minority proportion of work-based learning. Sometimes, as in the Netherlands, the two systems sit side by side (see Box 3.2).

Box 2.3. Workplace learning in Dutch school-based VET and apprenticeships

In The Netherlands, the upper secondary vocational system (MBO) consists of two parallel structures: an apprenticeship track (*Beroepsbegeleidende Leerweg* or *BBL*) and a school-based track (*Beroepsopleidende Leerweg* or *BOL*). Both tracks combine learning and working. In the apprenticeship track at least 60% of the learning takes place in the workplace. In practice, most apprenticeship programmes have one day of formal schooling and four days of workplace training. The school-based track includes at least 20% of workplace training although in practice this is typically around 30%.

The Netherlands greatly benefits from its well-developed work-based learning system. As learning goals at the workplace are aligned with school curricula and a strong quality assurance framework is in place, work-based learning contributes substantially to training quality. High quality work-based learning allows for the acquisition of soft skills highly valued by employers such as conflict management skills, entrepreneurship, or team working. Furthermore, learning from trainers working in enterprises using the most up-to-date equipment and organisational structures allows for skills not always available at VET schools to be acquired.

Source: Fazekas, M. and I. Litjens (2014), *A Skills beyond School Review of the Netherlands*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264221840-en>

A decision is needed on who takes responsibility for apprentices

In Germany, Austria and Switzerland employers hire their apprentices, so there should be no mismatch between employers' needs and apprenticeship training posts in the short run. Also in Denmark it is the employer who hires trainees. VET schools (VET colleges) help students to find a company through their network, and through various activities such as visits to companies. But it is then the responsibility of the trainee to find an employer and to sign a contract. Responsibility for apprenticeship training systems may be shared (schools and companies or many companies together sharing the same apprentices). In some countries a third partner is created. Training companies, e.g. in Switzerland, train apprentices on behalf of a pool of companies by selecting apprentices and paying their salary. Their profit comes from lending the apprentices to member companies, which pay the training company an annual fee for the number of apprentices they wish to employ during the training phase.²

The question of responsibility is important for at least three other reasons

These are:

- If companies are responsible for apprentices, they also act as the intermediary between the parents and the apprentices, because apprentices are generally under the age at which they can legally sign a labour and training contract. This means that parents are legally bound to fulfil certain obligations *vis-à-vis* the employer on behalf of their children and generally assume greater responsibility for their child's training and work obligations.
- An employer who chooses and recruits the apprentices also has more responsibility and interest in a successful apprenticeship.
- Given that apprentices undertake work akin to that of regular employees, it is logical for them to receive a salary, and this can improve motivation. In some countries, labour laws are too restrictive to make hiring an apprentice interesting for a company. Whether or not it is advisable to pay apprentices a salary therefore depends very much on how well labour laws fit the needs of apprenticeship contracts.

Given that the Slovak Republic today has an almost exclusively school-based system and most employers have no experience with apprenticeship training, a variant of the Swiss arrangement of professional training companies would be easier to introduce than the Germanic apprenticeship training systems in which firms are entirely responsible for apprentices.

There need to be adequate incentives for employers to offer apprenticeships

The willingness of companies to provide training opportunities depends on the expected economic benefits. Research shows that – depending on the framework of the apprenticeship training system and on labour market regulations – a company providing training may sometimes expect benefits that exceed the cost of their expenses (for an overview of the literature and empirical results, see Wolter et al., 2006). The benefits to firms are of two types:

- The productive contribution of the apprentice. This depends on the time the apprentice spends in the company, on the training obligations and regulations, and on the apprentice's ability. The benefits also depend very much on how the company organises its work processes. Research shows

that in Switzerland in two-thirds of cases the in-work benefits are already sufficient to pay all training expenses and the apprentices' salaries (Wolter and Schweri, 2002), but in Germany this is not the case (Beicht et al., 2004). One reason is that Swiss apprentices tend to undertake more productive work than in Germany.

- Apprenticeship represents a “low-cost” opportunity to train future workers in job-specific skills while learning about their ability to perform well in the company (Autor, 2001). The productivity of good workers may not be obvious to other employers, so an employer taking on apprentices may obtain their services cheaply (Acemoglu and Pischke, 1998, 1999; Bassanini and Brunello, 2008; Leuven, 2005). These benefits depend on labour market regulations and transparency.

Financial incentives for companies may initially be necessary

Not all of these benefits will be immediately evident to employers. Financial incentives for companies willing to engage in apprenticeship training in the Slovak Republic might initially be necessary but this should eventually be economically sustainable without subsidies.

On and off-the-job components may be pursued in parallel or sequentially

Classic continuous dual apprenticeship training involves one or two days of schooling in the vocational school and three or four days of training and working in the company throughout the three or four years of apprenticeship training. Some professions require substantial theoretical and practical training before an apprentice is able to do meaningful work. Many different models have therefore emerged, with apprentices spending months or even up to two years in school or in specialised training centres before working in a company. The more the apprentice has to acquire prior knowledge before being able to perform productive work, the costlier the training is for the company (see Wolter and Schweri (2004), for simulations), unless this part of the training takes place prior to the actual apprenticeship.

International experience can be summarised in three points

First, there does not seem to be a “one-size-fits-all” solution to the organisation of the learning and training sequences during apprenticeship training. This means that the most effective systems offer professions and firms the flexibility to choose the system best adapted to their needs. Second, flexibility regarding the duration of apprenticeship training is

important for both employers and apprentices. The typical duration of training is in the range two to four years. Third, when prior theoretical knowledge has to be acquired, the government may organise this in vocational schools at public expense. However it is important to consider whether company-organised and company-paid ways of doing this would be more effective and efficient.

Clear learning goals for apprentices have to be set and monitored

The government has to decide who is in charge, first of defining the overall vocational profile and standards, second, of monitoring and evaluating apprentices' progress, and third of grading and granting credits and diplomas. A successful apprenticeship system requires the involvement of social partners in all aspects of the process, particularly through sectoral, professional and employers' organisations. This entails reducing the power of vocational schools to define content, as this would partly be delegated to companies and professional associations. Potential problems arise when the vocational content is too narrowly defined (too profession- and firm-specific), as this would reduce apprentices' future intra- and inter-professional mobility. As indicated above, the Slovak Republic needs stronger partnership bodies to address this issue.

Apprenticeships need to be attractive initially to employers, but allow for evolution

In the first instance, apprenticeships need to serve the short-term economic interests of companies since this will ensure a sufficient supply of training posts and allow apprentices a smooth transition to the labour market without lengthy additional profession-specific learning. In the long run, however, it is in the interest of former apprentices and the government, and to a lesser extent in that of individual companies, for the acquired knowledge to allow mobility throughout an entire working life. Balancing short and long-term interests and adjusting content to developments in professions and on the labour market requires constant adaptation of training regulations. In many countries, experience shows that keeping an apprenticeship system up to date is one of the most difficult tasks.

Company supervisors and trainers need preparation

In an apprenticeship system, more of the teaching and training activity becomes the responsibility of trainers and tutors in companies. Although formal training requirements for tutors in companies are costly, they improve quality, underpin the common standards which support apprentices' mobility after training and raise the status of tutors and trainers in

companies. It would be wise to introduce formal training for in-company tutors gradually as schools may resent the competition created by the introduction of apprenticeship training. This could help to limit the resistance of “formal” vocational school teachers to competition from professionally trained tutors in companies. Teacher training institutions, with their tradition of training school teachers, may not be able to create the appropriate programmes and it might be preferable to create a specific institution, as was done in Switzerland with the creation of the Federal Institute for Vocational Education and Training. This institute trains VET teachers and VET company trainers, while teachers for general and academic schools are trained in teacher training universities.

Diversity in workplace training needs to be managed within a common framework

Although apprenticeship systems have many advantages, learning opportunities are not the same for all apprentices, since companies, even in the same sector, differ in terms of products, markets, clients and technology. If all vocational subjects were exclusively taught in companies, the outcomes for apprentices would often be too heterogeneous to ensure inter-company mobility after training. Therefore, where apprenticeship training exists, vocational subjects are not exclusively taught in companies and not everything the apprentice needs to know is learned “on the job”. The question is where the additional learning should best take place. It has traditionally been the school, where vocational subjects as well as general subjects providing strong general skills are taught in parallel with the learning that takes place in companies.

Teaching in schools may be preferable in three circumstances

First, learning in school helps to prepare apprentices for new tasks in companies, where they can apply their more theoretical knowledge. Second, some types of group teaching may be more effective than individual tutoring and therefore better carried out in schools. Third, some VET teaching in schools is evaluative and assesses whether the company-based learning has led to the desired outcomes. This also helps to check whether the distribution of learning outcomes is unevenly distributed because of different learning opportunities in companies. If this is the case, schools can provide extra assistance to apprentices whose learning opportunities have been less favourable.

“Third party” training organisations have some advantages

All these functions of vocational schools could, in principle, be transferred elsewhere. In many cases, industries or professional associations have taken over some of these functions and offer extra courses or tutoring for all apprentices in their profession or sector. In many countries this is widespread and thus considered as the “third”³ place of learning. Compared to courses in schools, inter-industry courses have the advantage of relying on the most up-to-date technologies and equipment available to companies and the personnel able to handle them. Although the Slovak Republic has a well-established infrastructure of upper secondary schools in vocational education, it would also be advisable to promote the “third” learning place in collaboration with the social partners.

Notes

1. The same authors found that finding a training place in a company entails a social selection of students in Denmark: the group of students who end up in a school-based programme have parents with a weaker connection to the labour market and a lower average income than parents of students in apprenticeships (Juul and Jorgensen, 2011: 297).
2. First empirical results on this type of apprenticeship training (see Walther et al., 2005) show that these companies achieve high-quality training owing to their professional knowledge. However, although economies of scale are possible (owing to the large number of apprentices), the training comes at a rather high price. The participating companies profit not only from the work apprentices do when they are at the worksite, but also by the opportunity to select the best future employees. Results also show that the number of apprentices, who remain with the company they work for during the apprenticeship training is rather high, even compared with the traditional form of dual apprenticeship training.
3. Apprenticeship training is also called dual education because there are two learning sites (school and company). In the past years some experts speak of “triad” education because three learning sites have emerged (school, company and inter-industry courses).

References

- CEDEFOP (2013), Spotlight on VET Slovakia , European Centre for the Development of Educational Training, Thessaloniki, www.cedefop.europa.eu/EN/Files/8071_en.pdf.
- European Commission (2013), *Work-Based Learning in Europe. Practices and Policy Pointers*, European Commission, Brussels. http://ec.europa.eu/education/opportunities/vocational/documents/work-based-learning-in-europe_en.pdf.
- Eurostat (2014), *Eurostat database, Unemployment rates by sex, age and nationality (%)* [lfsa_organ], Eurostat, Luxembourg.
- Fazekas, M. and S. Field (2013), *A Skills beyond School Review of Germany*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264202146-en>.
- Fazekas, M. and S. Field (2013), *A Skills beyond School Review of Switzerland*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264062665-en>.
- Fazekas, M. and I. Litjens (2014), *A Skills beyond School Review of the Netherlands*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264221840-en>.
- Goliáš, P. (2011), *Trh práce, školstvo, sledovanie potrieb trhu práce*. INEKO, Bratislava. Sledovanie potrieb trhu práce.pdf.
- Herich, J. (2013), *Uplatnenie absolventov stredných škôl v praxi (Employability of secondary school graduates)*. UIPŠ, Bratislava, www.uips.sk/sub/uips.sk/images/JH/uplatnenie_a13_.pdf
- Homs, O. (2007), “La Formación Profesional en España, Hacia la Sociedad del Conocimiento”, *Colección Estudios Sociales*, No. 25, Obra Social, Fundación Caixa.
- Kuczera, M. (2010), *OECD Reviews of Vocational Education and Training: A Learning for Jobs Review of the Czech Republic 2010*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264113756-en>.
- Kureková, L. (2010). *Správa o stave podnikateľského prostredia 2010: Časť: Ľudský kapitál: Zamestnanosť a pracovná sila; Ľudský kapitál: Školstvo (State of business environment report 2010: Human capital:*

Employment and workforce; Human capital: Education system), Podnikateľská aliancia Slovenska, Bratislava, <http://alianciapas.sk/sprava-o-stave-podnikatelskeho-prostredia-2010/>.

Kureková, L., M. Beblavý, C. Haita (2016) "The surprisingly exclusive nature of medium- and low-skilled jobs: Evidence from a Slovak job portal ". *Personnel Review* 45 (3).

Machlica, G., B. Žúdel and S. Hidas (2014), *Unemployment in the Slovak Republic*, Institute of Financial Policy, Ministry of Finance of the Slovak Republic, Bratislava, www.finance.gov.sk/Default.aspx?CatID=9888 .

Mohrenweiser, J. & T. Zwick, (2009), Why do firms train apprentices? The net cost puzzle reconsidered, *Labour Economics*, 16(6), pages 631-637.

OECD (2014), *Skills beyond School: Synthesis Report*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264214682-en>.

OECD (2010), *Learning for Jobs*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264087460-en>.

OPET (2008), Resultate Evaluation Lehrbetriebsverbände, OPET, Bern.

Spanish Ministry of Education, Culture and Sport (2011), *El portal de la formación profesional*, www.todofp.es, (accessed December 2011).

Spanish Ministry of Education and Science (2007), *Real Decreto 1538/2006*, Boletín Oficial del Estado.

Quintini, G. (2015), "Working and learning: A diversity of patterns", *OECD Social, Employment and Migration Working Papers*, No. 169, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5jrw4bz6hl43-en>.

Šiškovič, M. and J. Toman (2015), *OECD Review of Policies to Improve the Effectiveness of Resource Use in Schools. Country Background Report for Slovakia*. Educational Policy Institute, Ministry of Education, Science, Research and Sports, Bratislava.

Vantuch, J. and D.Jelínková (2013), *VET in Europe Country Report: the Slovak Republic*. Refernet the Slovak Republic, CEDEFOP.

Vantuch, J and D.Jelínková (2014), *Apprenticeship-Type Schemes and Structured Work-Based Learning Programmes*, Slovakia. Refernet the Slovak Republic, CEDEFOP.

Chapter 3

Developing post-secondary vocational pathways

There are three challenges in respect of post-secondary vocational education and training (VET) provision. First, there are relatively few post-secondary VET graduates. Second, this limited provision is potentially insufficient to meet future demand for higher level vocational skills. Third, the relatively little upskilling taking place beyond upper secondary VET may deter students, particularly more able students, from entering the vocational track. This chapter argues that in order to fill a gap in provision, the growth of post-secondary VET should be encouraged by developing attractive higher level vocational programmes to which VET graduates may aspire.

Challenges: Limited provision and increasing demand

There are three challenges in respect of post-secondary VET provision. First, there are relatively few post-secondary VET graduates. Second, this limited provision is potentially insufficient to meet future demand for higher level vocational skills. Third, the relatively little upskilling taking place beyond upper secondary VET may deter students, particularly more able students, from entering the vocational track.

Post-secondary VET provision is limited relative to other countries

Post-secondary VET is widespread across the OECD

Many professional and technical jobs require no more than one or two years of career preparation beyond upper secondary level. Short-cycle post-secondary programmes are widely spread across OECD countries and in some countries as much as one-quarter of the adult workforce have this type of qualification (OECD 2014). Post-secondary VET programmes tend to be most prevalent in the engineering, manufacturing and construction fields, but are also relatively wide-spread in social science, business and law, and health and welfare (OECD 2014).

Box 3.1 What is post-secondary VET?

Post-secondary vocational education and training includes the programmes and qualifications that prepare students for particular occupations or careers that are beyond upper secondary level, and are defined in a recent OECD report as those that would normally require at least six months full-time preparation. Higher level vocational qualifications, including professional bachelor degrees, are included in this definition. These programmes provide higher-level, job-specific training for young school leavers; upskilling for working adults in mid-career; second chances for working adults who dropped out of earlier education; and opportunities for career shifts or to support a return to the labour market.

Source: OECD (2014), *Skills Beyond School: Synthesis Report*, OECD Reviews of Vocational Education and Training, OECD Publishing., Paris. <http://dx.doi.org/10.1787/9789264214682-en>.

While post-secondary VET currently attracts few students, there are some positive examples

While upper secondary VET in the Slovak Republic educates one of the largest shares of youth cohorts in the OECD and the EU, and there are a number of postsecondary vocational pathways, they are not apparently attractive to VET graduates. A third of VET graduates pursue university studies, often in fields unrelated to their secondary vocational programme..

There are no universities of applied science and traditional universities rarely offer vocationally oriented programmes. At the same time there are some recent positive initiatives. For example, T-Systems’ post-secondary VET programme launched in 2013 in cooperation with Secondary Electro-technical School in Košice is a three-year post-secondary programme in information systems (ISCED 5B) based on a dual model. The objective is to train graduates in both general and specific subjects combined with practical experience in the firm.

Few students enter VET programmes beyond the secondary level in the Slovak Republic.

The scale of postsecondary VET in the Slovak Republic is quite small, with a few thousand entrants per year. The ratio of all entrants to vocational programmes beyond the secondary level (ISCED 4 and 5B) – adults and recent secondary graduates – to the number of upper secondary graduates (ISCED 3) fluctuated between 6% and 9% in the period 2000-2012 (Table 3.1). There are approximately 10 to 15 academic entrants in university-level (ISCED 5A) programmes for each entrant to VET programmes beyond the secondary level.

Table 3.1: Graduates in upper secondary education and entry rates into VET and academic fields, in thousands and percentage

	2000	2005	2006	2007	2008	2009	2010	2011	2012
Upper secondary graduates ISCED 3	64 523	62 573	62 307	61 681	58 441	58 021	59 669	57 761	56 995
New VET entrants (ISCED 4 and 5B)	6234	5357	4348	3710	3842	3560	4074	4922	4566
Share on ISCED 3 graduates	10%	9%	7%	6%	7%	6%	7%	9%	8%
New academic entrants (ISCED 5A)	33 360	52 005	58 926	62 750	60 675	57 039	53 449	49 478	47 775
Share on ISCED 3 graduates	52%	83%	95%	102%	104%	98%	90%	86%	84%

Source: Eurostat (2014), *Eurostat database, Graduates in ISCED 3 and 4 by age and sex [educ_grad2]* and *New entrants to ISCED 3 to 6 by age and sex [educ_entr2tl]*, Eurostat, Luxembourg.

Note: New entrants include all forms: part-time and full-time.

Growing demand for higher level vocational skills

Signs of labour market imbalance suggest that demand is unmet

In the Slovak Republic, entry rates into academic higher education, typically universities, have been very high (Table 3.1). These institutions typically concentrate on academic skills, hence their graduates often enter the labour market without relevant work experience, also in fields where it is essential and desired by employers. This is likely to contribute to the fact that in the Slovak Republic university graduates are often hired for jobs not requiring graduate-level skills (Hardy et al., 2011; Beblavý et al., 2012).

Demand for technicians and associate professionals is growing

Although forecasts are fallible, nearly two-thirds of overall employment growth in the European Union is expected to be in the “technicians and associate professionals” category - the category most closely linked to post-secondary VET education (CEDEFOP, 2012). Future labour market demand for a better educated workforce is likely to continue also in the Slovak Republic due to technological development and increasing pressures for higher labour productivity supported by comparatively good growth prospects. The CEDEFOP forecast of job opportunities in the Slovak Republic by 2025 predicts high expansion and replacement demand in high and medium qualified occupations. Highly qualified professionals (ISCO 2) and technicians and associate professionals (ISCO3) will produce roughly a fourth of total job opportunities by 2025 (Table 3.2.). To meet demand, more upper-secondary VET graduates will need to upgrade their skills to fill high skilled positions. Given demographic decline, it will be crucial for the whole Slovak economy to be able to meet at least some of this future demand by upskilling those coming through the vocational track (CEDEFOP, 2013b).

Table 3.2: Predictions of labour market demand between 2013 and 2025 by occupational group and qualifications level in the Slovak Republic

Measures	Expansion Demand thousands	Replacement Demand thousands	Total Job Opportunities thousands
Qualifications			
Low	-10462,18	22068,30	11606,11
Medium	3575,85	42920,18	46496,03
High	14364,90	31818,28	46183,19
Total	7478,57	96806,76	104285,33
Measures	Expansion Demand thousands	Replacement Demand thousands	Total Job Opportunities thousands
Major occupation group			
Qualifications			
1 Managers	2193,15	8170,02	10363,17
Low	303,67	1053,34	1357,00
Medium	273,75	2851,89	3125,64
High	1615,73	4264,79	5880,53
2 Professionals	3083,94	18505,70	21589,64
Low	77,12	486,59	563,71
Medium	2061,81	3140,12	5201,93
High	945,00	14879,00	15824,00
3 Technicians and associate professionals	5276,71	14224,91	19501,62
Low	-88,81	1319,39	1230,58
Medium	351,50	7017,15	7368,65
High	5014,02	5888,37	10902,39
4 Clerical support workers	-1961,92	8706,31	6744,39
Low	-852,59	1408,18	555,58
Medium	-2210,93	5084,34	2873,41
High	1101,61	2213,79	3315,40

Table 3.2: Predictions of labour market demand between 2013 and 2025 by occupational group and qualifications level in the Slovak Republic (continued)

5 Service and sales workers	162,71	13640,51	13803,22
Measures	Expansion	Replacement	Total Job
Qualifications	Demand thousands	Demand thousands	Opportunities
			thousands
Low	-2744,78	3562,31	817,53
Medium	343,86	7965,09	8308,95
High	2563,63	2113,11	4676,74
6 Skilled agricultural, forestry and fishery workers	-1205,17	7595,45	6390,28
Low	-1632,31	4108,24	2475,93
Medium	95,96	2908,77	3004,73
High	331,17	578,44	909,62
7 Craft and related trades workers	-2023,50	9012,00	6988,50
Low	-1618,30	2852,47	1234,17
Medium	-1125,44	5555,23	4429,79
High	720,25	604,30	1324,55
8 Plant and machine operators, and assemblers	-417,67	6206,50	5788,84
Low	-1276,05	2098,52	822,47
Medium	329,62	3695,52	4025,14
High	528,76	412,47	941,23
9 Elementary occupations	2490,18	10561,54	13051,72
Low	-2572,81	5151,83	2579,02
Medium	3535,95	4603,19	8139,14
High	1527,04	806,52	2333,56
Total	7478,57	96806,76	104285,33

Source: Own calculations using data from CEDEFOP (2014), *EU Skills Panorama*. Useful Resources-Quantitative forecasts. http://euskillspanorama.cedefop.europa.eu/en/countries/the_Slovak_Republic (accessed 19/11/2014).

Recommendation: Developing post-secondary vocational programmes

Encourage the growth of post-secondary VET, filling a gap in provision, and developing attractive higher level vocational programmes to which VET graduates may aspire.

Supporting arguments: improved labour market outcomes and rich international evidence

This recommendation is supported by three arguments. First, international examples suggest that in the Slovak Republic there would be demand for expanded post-secondary VET. Second, a more substantial post-secondary VET system could contribute to better labour market outcomes. Third, international examples provide options for implementation.

Box 3.2. The Swedish system of higher vocational education (HVE)

Higher vocational education (previously called advanced vocational education and training) was established in 2001 with enrolment increasing rapidly to reach 31 000 (compared with 140 000 enrolments in professional bachelors and masters programmes). Most programmes require between six months and two years of full-time study with 70% of programmes lasting two years. There appears to be demand from students, support by employers, and interest among bodies wishing to run courses. Eighty-ninety percent of graduates report being in work one year after graduation. Many different bodies can provide HVE if they comply with the established requirements. In 2011, out of 242 institutions providing HVE, roughly half were private while the rest belonged to local and regional authorities. All HVE programmes are publicly funded, with no tuition fees.

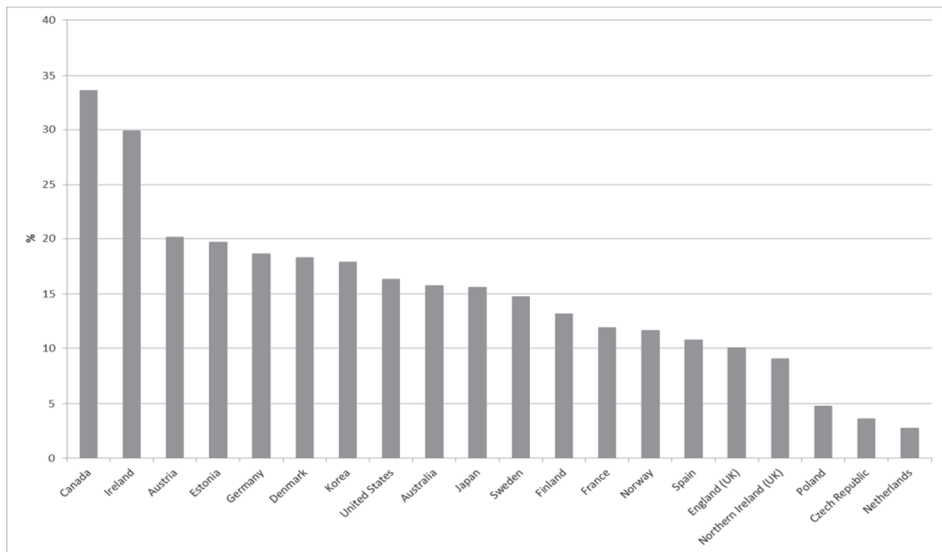
The model fosters a bottom-up and entrepreneurial approach within a publicly funded framework. Workplace training is obligatory in two-year HVE programmes and represents one-quarter of the programme duration. This structure builds partnership with employers into the design of the system, since it is only possible to seek funding for an HVE programme when a partnership with employers willing to offer the workplace training is already in place. Each HVE programme in every institution has a steering group including employers; employers provide training to students and also advise on provision and programme content. To launch a programme an education provider has to show that there is labour market demand for the skills provided by the programme, and that it has a framework to engage employers. The National Agency for Higher VET is responsible for the sector, and the social partners are part of a council that advises the Agency on the future demand for skills and on how this might be met.

Source: Kuczera, M (2013), *A Skills beyond School Commentary on Sweden*, OECD Reviews of Vocational Education and Training, www.oecd.org/edu/skills-beyond-school/ASkillsBeyondSchoolCommentaryOnSweden.pdf; Ministry of Education and Research Sweden (2013), *Skills beyond School. OECD Review of Vocational Education and Training. Background Report from Sweden*, www.oecd.org/edu/skills-beyond-school/SkillsBeyondSchoolSwedishBackgroundReport.pdf

International evidence suggests large room for expansion

In a range of European countries with similarly extensive upper-secondary VET systems and comparable labour market challenges, post-secondary VET is much more substantial than in the Slovak Republic. Estonia has developed a substantial short-cycle post-secondary VET system which indicates that with adequate regulatory framework and sufficient investment the Slovak Republic could build up a more extensive post-secondary VET provision (Figure 3.1). Countries such as Portugal Italy and Sweden have launched reforms to develop short cycle postsecondary vocational programmes.

Figure 3.1. In many other OECD countries postsecondary professional qualifications play a big role



Notes:

1. Percentage of adults aged 20-45 who have short-cycle professional vocational education and training as their highest qualification. the Slovak Republic is not included because there were too few sampled individuals to register.
2. These data identify vocational post-secondary programmes by excluding clearly general academic qualifications (according to field of study) in ISCED 4 and 5B.

Source: OECD (2014), *Skills beyond School: Synthesis Report*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264214682-en>

Post-secondary VET can improve labour market outcomes

Individual returns are high

Post-secondary professional education and training gives favourable labour market returns. Analysis of PIACC the Survey of Adult Skills- Programme for the International Assessment of Adult Competencies- data for a number of OECD countries found that short-cycle professional programme graduates earn on average 10-20% more than upper secondary VET graduates, while there is variation across fields of study (OECD, 2014).

Post-secondary VET can serve as a pathway for adult learning

Given declining numbers of young people in OECD countries and increasing demand for higher level skills stemming from technological change, the importance of workforce skills development through adult learning is increasing. There is currently rather weak support for adult learning in the Slovak Republic (CEDEFOP, 2013a). Further training supported by firms is on average less common than in other Central and Eastern European countries (Kureková, 2010).

Post-secondary VET programmes also provide better learning opportunities for adults, where the needs are different from those of young students and programmes might need to be shorter, more flexible and with a stronger focus on competence-based approaches. These can naturally be provided through post-secondary education pathways (OECD, 2014).

The reputation of Slovak VET could improve if post-secondary VET options were expanded

Upper secondary vocational tracks in some countries can be dead ends, with few opportunities for further upskilling – both a waste of potential for those held back and a threat to the status of the entire vocational track, since able students will not choose a vocational track that locks them out of further education opportunities. When students choose among different vocational and academic tracks future upskilling opportunities influence their decision (Ordovensky, 1995; Dunkel and Le Mouillour, 2009). So, a clear route of upward mobility is essential to a high status vocational track.

Post-secondary VET can support the permeability of the education system

In different countries, graduates of upper secondary vocational programmes often pursue two sorts of upskilling – first higher level or more

specialised professional training, such as the master craftsman qualifications typically offered to qualified apprentices in German-speaking countries and linked to the ability to run a small business and manage staff; second, more academic-oriented qualifications at bachelors or master level that may open up different or wider career opportunities.

Implementation options

There are two major forms of post-secondary VET offered across OECD countries: professional examinations systems and short-cycle professional courses.

Box 3.3. Professional examinations in Switzerland

In Switzerland, an industry-led, but federally regulated system of professional education and training (PET) examinations provides a means of upskilling, in most cases for adults who have graduated from the apprenticeship system and are already practicing their chosen profession. In 2011, there were around 240 examinations leading to a Federal PET Diploma, and 160 leading to an Advanced Federal PET Diploma. The Advanced Diploma reflects the classical progression from apprenticeship to Meister level, enabling the examinees to show their capacity to carry out their profession independently, run their own business, and train apprentices.

The number and content of examinations change regularly as labour market organisations adjust the examinations to changing needs; typically 60-100 examination rules are under revision at any point in time. Students typically take part in a preparatory course for a national PET examination even though participation is in principle not mandatory and degrees are awarded exclusively on the basis of exam performance. Preparatory courses can take from a few months to two to three years. Course format reflects student demand, it often means weekend or evening classes and distance learning.

The scope of this examination type has now widened to include non-technical professions in the commercial, manufacturing, agricultural, and service-related sectors. The examinations fulfil the need to certify specific professional competencies needed in legally regulated areas, to act as an entry point to the service sector and can also be used as a human resources development tool.

Source: Fazekas, M. and S. Field (2013), *A Skills beyond School Review of Switzerland*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264062665-en>.

A professional examinations system

Professional examinations (sometimes also described as industry certifications) are often free of requirements for fixed programmes of study. Examples include examinations for accountants, for master builders and

proprietary software certifications. Found in many different countries, they typically involve a test, organised by the relevant profession or industry linked to a particular occupation or competence within the profession. In some countries such as Austria or Germany, examinations can also be linked to “licensed” professions – where the qualification is a legal requirement (OECD, 2014). One such system of high quality is the professional examinations in Switzerland demonstrating not only how minimal regulatory intervention can be organised, but also the benefits of such arrangements (Box 3.2). Elements of such system could inform policy implementation in the Slovak Republic.

Some industry certifications are already used in the Slovak Republic

There are various industry certifications and examinations already used in the Slovak Republic, particularly where there are international certifications, as for example in ICT. The value of such arrangements can be enhanced by offering a national standard which signals, first, that the examination has recognition by the relevant industry; second, that it provides a qualification recognised by both employers and training providers; and third, that it meets some wider standards, including international standards. In addition, linking industry certification to the final exams allows for effective recognition of prior learning, improving labour market efficiency by making skills more transparent.

Short-cycle professional courses

Many post-secondary qualifications are substantial but less time-consuming than a university degree, typically requiring more than six months and less than three years of full-time study (or the part-time equivalent) – one example is the qualifications arising from professional academy programmes in Denmark. Such “short-cycle” post-secondary vocational programmes are typically classified at ISCED level 5 (under ISCED 2011), and at EQF level 5 (OECD, 2014). International experience suggests that these short-cycle postsecondary programmes tend to be more successful in countries where a set of institutions other than university institutions delivers them. For example, community colleges in the United States and Canada, TAFEs (Technical and Further Education Institutions) in Australia, IUTs (Instituts universitaires de technologies, University Institutes of Technology) in France, or HVE in Sweden (OECD, 2014). The Slovak Republic could take into account such international experience if it decides to proceed with further development of short-cycle postsecondary VET programmes.

References

- Beblavý, M. et al (2012), “Linking labour regimes and technological innovation in Central and Eastern Europe: The case of automotive and software industries” *NEUJOBS Working Paper no. 6.2*.
www.neujobs.eu/sites/default/files/publication/2012/09/NEUJOBS%20Working%20Paper%20Del.6.2_edited%20-%20FINAL%20-%202023.11.2012.pdf .
- CEDEFOP (2012), “Future skills supply and demand in Europe: Forecast 2012”, Research Paper No. 26, *Publications Office of the European Union*, Luxembourg.
- CEDEFOP (2013a), *Spotlight on VET Slovakia*. CEDEFOP, Thessaloniki, http://www.cedefop.europa.eu/EN/Files/8071_en.pdf .
- CEDEFOP (2013b), *The Skill Mismatch Challenge in Europe*. Council of the European Union, Brussels, <http://register.consilium.europa.eu/pdf/en/13/st05/st05571-ad09.en13.pdf> (accessed: 30/7/2013).
- CEDEFOP (2014), “EU Skills Panorama. Useful Resources-Quantitative forecasts”, CEDEFOP, Thessaloniki, [http://euskillspanorama.cedefop.europa.eu/en/countries/the Slovak Republic](http://euskillspanorama.cedefop.europa.eu/en/countries/the_Slovak_Republic) (accessed November 2014).
- Dunkel, T. and I. Le Mouillour (2009), “Through the looking-glass: diversification and differentiation in vocational education and training and higher education”, in CEDEFOP, *Modernising Vocational Education and Training. Fourth Report on Vocational Training Research in Europe: Background Report*, Volume 2, CEDEFOP, Luxembourg.
- Eurostat (2014), *Eurostat database, Graduates in ISCED 3 and 4 by age and sex [educ_grad2] and New entrants to ISCED 3 to 6 by age and sex [educ_entr2tl]*, Eurostat, Luxembourg.
- Fazekas, M. and S. Field (2013), *A Skills beyond School Review of Switzerland*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264062665-en>.
- Hardy, J. et al. (2011). "Impacts of horizontal and vertical foreign investment in business services: The experience of Hungary, Slovakia and the Czech Republic." *European Urban and Regional Studies* 18, no. 4: 427–443.

- Kureková, L. (2010). *Správa o stave podnikateľského prostredia 2010: Časť: Ľudský kapitál: Zamestnanosť a pracovná sila; Ľudský kapitál: Školstvo (State of business environment report 2010: Human capital: Employment and workforce; Human capital: Education system)*, Podnikateľská aliancia Slovenska, Bratislava, <http://alianciapas.sk/sprava-o-stave-podnikatelskeho-prostredia-2010/>.
- OECD (2010), *Learning for Jobs*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264087460-en>.
- OECD (2014), *Skills beyond School: Synthesis Report*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264214682-en>.
- Ordovensky, J.F. (1995), “Effects of Institutional Attributes on Enrolment Choice: Implications for Post-Secondary Vocational Education”, *Economics of Education Review*, Vol. 14, No. 4, pp. 335–350.
- Vantuch, J., and D. Jelínková (2013), *VET in Europe Country Report: the Slovak Republic*. Refernet Slovakia, CEDEFOP.

Chapter 4

Better data

While the data on vocational education and training (VET) currently available for policy makers, employers, students, and parents are valuable, they are limited in many respects and crucial dimensions of labour market outcomes are not adequately monitored (such as matching between the field of studies and occupation). Such gaps in data collection limit the capacity of policy makers, students and other stakeholders to make informed decisions. To tackle this gap, this chapter argues that a nation-wide VET school leaver survey should be established to measure labour market outcomes and the transition to further education. It should be used regularly to support policy making and career guidance.

Challenges: Lack of data on key labour market outcomes

While the data on VET currently available for policy makers, employers, students, and parents are valuable, they are limited in many respects and crucial dimensions of labour market outcomes are not adequately monitored (such as matching between the field of studies and occupation). Such gaps in data collection limit the capacity of policy makers, students and other stakeholders to make informed decisions.

Current data on VET graduates does not tell the full picture

Diverse data are currently used in the Slovak Republic

A wide variety of data sources are currently available for stakeholders in VET related to labour market outcomes of VET graduates. The most widely used are unemployment statistics generated by local labour offices. These record crucial background information on job seekers such as occupation, school completed, and year of graduation.

Forecasting is used patchily

A number of macro-level labour market forecasting results are currently available in the Slovak Republic (CEDEFOP, 2014; Radvanský et al., 2010). To inform decisions about the mix of provision in self-governing regions, since 2009 a system of multi-actor co-ordination has been in place. This relies on the capacity of chambers of commerce to map and predict future labour market demand. The system yielded mixed results due to the limited capacity of employers' associations in most sectors to estimate their needs reliably, and in a representative way, as membership in associations is not mandatory. To remedy the problem, a national project was recently launched that seeks to develop a national macro-level labour market forecasting model to inform policy decisions regionally and nationally.¹ The 2015 VET Law strengthens the capacity of self-governing regions to determine the size of first grade in study programmes based on information from macro-level labour market forecasting. Starting from 2015/2016 school year, a funding mechanism in VET schools will assess demand for graduates determined partly on the basis of forecasting model.²

Across countries, while forecasting approaches vary in quality, methodology, forecasting period, and readiness, their use in the policy process appears to be limited. This may come as no surprise as, across OECD countries, labour market forecasting typically only informs policy-making with respect to general trends, but offers less on specific occupations and local labour markets (OECD, 2010). A number of private initiatives

deliver further valuable evidence on the labour market outcomes of VET graduates and school performance. For example, there are attempts to use vacancy and applicant data from the country's largest jobs portal³ to identify current and short term labour market needs and to map the labour market trajectories of university graduates. Another useful initiative is a project comparing school performance nationally based on a wide range of indicators including data on student performance (national grade 9 testing results) and the unemployment rates of graduates.⁴

Ongoing data development initiatives address only part of the problems

While considerable efforts go into macroeconomic forecasts, the added value of more advanced models is an open question in a small and open economy such as the Slovak Republic which is highly exposed to global fluctuations of demand in a narrow set of key industries (such as vehicle manufacturing). In addition, labour market forecasting data are typically at too high a level to guide local policy decisions regarding the mix of vocational provision.

While regional unemployment statistics and macroeconomic labour market forecasts are of great use for stakeholders, they offer less on key aspects of VET quality and outcomes (OECD, 2010). For example data are lacking on:

- Employment outcomes such as wages, level of skills used, the correspondence between the fields of study and job, and job satisfaction;
- Study trajectories such as transition rates between different VET programmes and higher education or sideways moves into different fields of studies;

Without more complete data a range of policy issues cannot be addressed

Gaps in data prevent informed policy decisions

Policy makers charged with evaluating the quality of VET schools and programmes cannot see the full picture in terms of the destinations of VET graduates in employment or further education. Without a full picture of where graduates go and what results they achieve, expanding or downscaling vocational programmes cannot be well-informed. Designing school reform and evaluating what works are hard to achieve without a thorough statistical picture of transitions to other education institutions as well as the labour market.

Gaps in data undermine informed student choice

Ideally, students and parents would base school and programme choice on a range of factors such as job prospects after graduation, the atmosphere in the school and the difficulty of the programme. But, in the absence of detailed information on graduates' earnings, types of positions taken up, or skills used student choice has to be based on incomplete information (Cabrera and La Nasa, 2002). Career guidance may be pointless without such information (OECD, 2010).

Recommendation: Improving data on labour market outcomes

Establish a nation-wide VET school leaver survey measuring labour market outcomes and transition to further education. Make sure that it is regularly used in policy making and career guidance.

Supporting arguments: Underpinning informed decisions and relatively easy implementation

This recommendation is supported by two arguments. First, the data from a school leavers' survey underpins informed policy decisions and student choices. Second, experience of working with school leaver surveys across the OECD provides guidance on implementation options and how survey results can be incorporated into day-to-day policy making and stakeholder decision making.

Data on school leavers support informed decisions

A leaver survey tracks outcomes.

A school leaver survey or a graduate destinations survey is typically administered to those leaving secondary schools around one year after completion. It typically covers topics such as whether graduates are working and in what occupation for what wages, whether they are pursuing further study, and if they are unemployed or otherwise not in the labour market. A survey can also ask graduates about what they thought of their vocational programme – whether it was well taught and provided them with relevant skills (OECD, 2010).

Outcomes data are critical for policy development

Such rich data would make it possible to evaluate the success or failure of different vocational programmes as well as individual VET schools on an annual basis. It supports the planning of VET provision as well as policy

reform with key data for national and local policy makers as well as VET schools. It is also likely to provide more accurate information about labour market matching than macroeconomic forecasts or unemployment statistics alone.

Information on the outcomes of course may also guide the choices of students

Informed student choice crucially depends on the quality and availability of clear data on labour market outcomes. Such data need to be detailed to be useful, down to the level of individual vocations and schools as these are the main parameters students decide on. Effective career guidance needs more than simply high quality data. A crucial aspect of the use of school leaver survey results is how they are made available. Web-based career information sites allowing for easy searching for vocations and VET schools are considered as good practice across the OECD (OECD, 2010). One good example is the Czech Republic’s career guidance website (Box 4.1).

Box 4.1. Career guidance website in the Czech Republic

In the Czech Republic, a website provides information on educational options and their labour market outcomes. Website users can learn about the range of programmes provided by secondary and tertiary institutions, their entry requirements, and the qualifications and jobs these programmes lead to. Information is presented about employment conditions and employee satisfaction in different occupations. This is supported by data on employment/unemployment rates and salaries by educational attainment and field. Web users can also learn about various occupations by watching video material available on the web site, and read about employer needs and their expectations in terms of the skills and competences sought in potential recruits.

Source: Národní ústav odborného vzdělávání (2010), Informační systém o uplatnění absolventu škol na trhu práce (Information system about employability of graduates), www.infoabsolvent.cz/ , (accessed June 2010).

Implementation options

School leaver's surveys are regularly conducted across the OECD

There is much international experience with leavers' surveys, typically in higher education (e.g. Australia and the United Kingdom) but also increasingly at secondary school level (e.g. Belgium, Flanders; Northern Ireland; the Netherlands; Scotland; and Ireland) (see Box 4.2).

Box 4.2 Destinations surveys

In Australia, the Student Outcomes Survey is conducted annually among students who completed some vocational training. Conducted by the National Centre for Vocational Education and Research since 1997, it is funded by the Australian government and provides information on the employment and further study outcomes, the relevance and benefits of training, and student satisfaction. The information collected supports the administration, planning and evaluation of the VET system (NCVER, 2014).

In Ireland, the School Leavers Survey is based on a national sample of school leavers, contacted 12 to 18 months after leaving school. Face-to-face interviews, used in this survey since its beginning in 1980, have become more difficult as a result of declining response rates and high costs (McCoy, Kelly, and Watson, 2007). Therefore the 2007 School Leavers Survey used a mix of approaches. The selected individuals were asked to complete an online questionnaire and could also ask for a paper copy. Participants were offered an incentive to complete the questionnaire, with their names being entered in a draw for prizes. Those who were particularly difficult to reach (e.g. early school leavers) were followed up by telephone initially and then face-to-face (personal communication from the Irish Economic and Social Research Institute, 11 April 2008).

In many OECD countries, school leaver or destination surveys offer a relatively cheap data collection tool. Online data collection also fits the reality of graduates' lives which is typically highly mobile. Good practice systems often rely on VET schools to supply contact information and support to gain access to graduates, but the survey design, data collection, and analysis is done centrally by a specialised statistical office. Independent data collection and analysis prevents information provision being biased by local actors.

Survey results can be incorporated in day to day activities

The results of any school leaver survey are valuable as long as they are regularly used in policy making as well as student choice. One of the advantages of such surveys is that the methods they use and the indicators generated are relatively easily understandable, hence easily picked up by potential users – unlike complex labour market forecasts. Data can be also

provided to wider expert audience and researchers who with the use of statistical methods can study trends and causal relations and evaluate effectiveness of policies at different levels.

But, dissemination of results is also crucial. As discussed above, a web portal making the information easily searchable supports informed student choice. Policy makers typically have different data needs. This can be supplied by regular short reports on labour market outcomes and transition rates as for example in the Netherlands (ROA, 2012).

Notes

1. www.upsvar.sk/europsky-socialny-fond/narodne-projekty-v-programovom-obdobi-2007-2013/narodny-projekt-xiv-2-system-zistovania-vzniknutych-a-zaniknutych-pracovnych-miest-a-prognozovanie-potrieb-trhu-prace.html?page_id=13249
2. Ministerial Guideline no.8/2015: www.minedu.sk/smernica-c-82015-ktorou-sa-upravuje-postup-pri-tvorbe-zoznamu-studijnych-odborov-a-ucebnych-odborov-ktore-su-nad-rozsah-potrieb-trhu-prace-a-zoznamu-studijnych-odborov-a-ucebnych-odborov-s-nedostatocnym-poctom-absolventov-pre-potreby-trhu-prace/
3. www.profesia.sk/
4. <http://skoly.ineko.sk/>

References

- Cabrera, Alberto F. and Steven M. La Nasa, (2002),” Understanding the College-Choice Process”, *New Directions for Institutional Research*, No. 107, pp. 5.
- CEDEFOP (2014), “EU Skills Panorama. Useful Resources-Quantitative forecasts”, CEDEFOP, <http://euskillspanorama.cedefop.europa.eu/UsefulResources/?lookupid=1005&> (accessed November 2014).
- McCoy, S., E. Kelly and D. Watson (2007), “School Leavers' Survey Report 2006”, *ESRI and Department of Education and Science*, Dublin.
- Národní ústav odborného vzdělávání (2010), Informační systém o uplatnění absolventu škol na trhu práce (Information system about employability of graduates), www.infoabsolvent.cz/. (accessed June 2010).
- NCVER (National Centre for Vocational Education Research) (2014), Australian Vocational Education and Training (VET) statistics-Student Outcomes Survey, www.data.sa.gov.au/dataset/aus-vocational-education-and-training-vet-statistics (accessed June 2014).
- OECD (2010), *Learning for Jobs*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264087460-en>.
- Radvanský, M. et al. (2010), Makroekonomická prognóza vývoja slovenskej ekonomiky so zameraním na vývoj dopytu po práci. Ekonomický ústav SAV, Bratislava: Slovenská akadémia vied, www.ekonom.sav.sk/uploads/journals/ES07.pdf.
- ROA (2012), *School-leavers Between Education and the Labour Market 2011: Facts and Figures*, Research Centre for Education and the Labour Market, Maastricht University, Maastricht.

Chapter 5

Vocational teachers and trainers

Teachers and trainers of vocational subjects in the Slovak Republic face multiple challenges. The world of work is changing rapidly and often fundamentally, requiring teachers and trainers to continuously update their skills and knowledge. Many teachers and trainers have relatively little industry experience when entering the teaching profession, and have limited opportunities to keep their practical knowledge of industry up-to-date. The teaching workforce has also been aging and schools face difficulties in attracting younger people, not least due to uncompetitive wages in the education sector. In response to these challenges, this chapter argues that there is a need to facilitate the entry of industry practitioners into the teaching workforce and promote familiarity with industry among existing teaching staff through regular industry placements.

Challenges: Little industry experience, ongoing skills updating, and aging teaching staff

Teachers and trainers of vocational subjects in the Slovak Republic face multiple challenges. First, the world of work is changing rapidly and often fundamentally, requiring teachers and trainers to continuously update their skills and knowledge. Second, many teachers and trainers have relatively little industry experience when entering the teaching profession. Third, options for updating skills are relatively weak. Fourth, the vocational education and training (VET) teaching workforce has been aging and schools face difficulties in attracting younger people, not least due to uncompetitive wages in the education sector.

Rapid workplace change requires teachers and trainers to update their skills

The world of work is changing rapidly

Both production technologies and workplace organisation are rapidly changing across the globe (Parsons et al., 2009). These changes involve, for example, the use of new machines and software which may work differently from previous technologies. While some skills and knowledge can be relevant for multiple technologies, disruptive change implies the need for re-learning familiar tasks.

Teaching in VET schools need to adapt to these changes

High quality vocational programmes require teachers and trainers of vocational subjects to possess, alongside pedagogical skills, good technical vocational skills (OECD, 2010). Such skills are less important for teachers of general subjects such as mathematics. With rapid and sometimes disruptive technological change, keeping technical vocational skills up-to-date is central to the quality of VET instruction.

Teachers and trainers have little industry experience

Few VET teacher and trainers have substantial industry experience when they enter teaching

In the Slovak Republic, most VET teachers and trainers come through the traditional higher education route. This implies them completing a tertiary master's degree in their field with a two-year pedagogical supplement. These degrees typically require little to no work experience in the study field. Masters of vocational education/school trainers are required

to have completed at least upper secondary education and have an apprenticeship certificate supplemented by pedagogical training.

As a result, VET teachers and trainers entering VET schools typically have very limited work experience in their respective fields.¹ They also lack the opportunities to update their skills in workplaces while in teaching positions.

Entry from industry into teaching is possible, but rare

It is possible to enter the vocational teaching workforce from industry outside the traditional higher education route if the teacher or trainer teaches less than seven hours a week. If one wants to teach more the only available option is the completion of the full tertiary programme. Given the length of such a higher education course, very few industry practitioners follow this route.

In addition to regulatory barriers to entry, the low salaries of VET teachers make the profession less attractive than similar industry jobs. The average salary of teaching staff was EUR 849 in 2012, much less than typical salaries in the private sector, especially for starting teachers who start with basic salaries (Šiškovič and Toman, 2015). The salaries of VET teachers and trainers are currently well below the average salary of the tertiary-educated workforce.

Relatively few options for updating skills on an ongoing basis

Classroom-based continuous education and training

There are many continuing education opportunities for teachers in the Slovak Republic with 982 accredited programmes in 2013. VET teachers and trainers are motivated to take part in these programmes as they yield credits required for promotion into senior teaching positions. These continuing education programmes focus on classroom-based instruction rather than practical skills making them of limited use for improving the practical, industry-relevant skills of the teaching workforce. Firms are not among the institutions that can provide the accredited training needed by teachers and trainers to achieve salary progression.

Challenge shared with many other OECD countries

The challenge of updating industry knowledge and experience of VET teachers and trainers is shared by many countries. For example, an Australian study (Harris et al., 2001) found that only 28% of full-time and

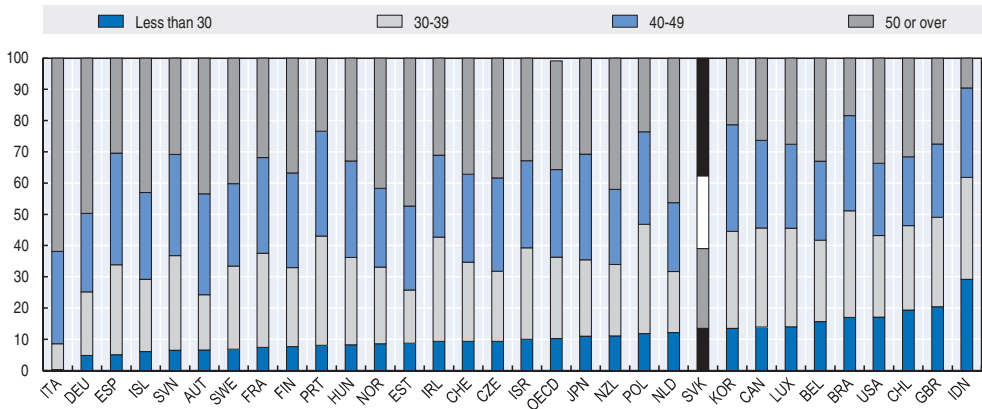
55% of part-time trainers rated their technical knowledge as being up-to-date.

Teaching workforce age profile

Many VET teachers and trainers are close to retirement

While an aging teaching workforce is common to the whole primary and secondary education system in the Slovak Republic, secondary vocational schools have the oldest teaching staff. A third of teachers at secondary VET schools are aged 50-59 years old and an additional 8% are over 60 (Šiškovič and Toman 2015). Attracting younger entrants to the profession has been difficult due to uncompetitive wages. Ageing secondary school workforce, including vocational schools, is of course a challenge shared with many other OECD countries (Figure 5.1).

Figure 5.1 Age distribution of teachers in secondary education, OECD, 2011



Source: OECD (2014), *Factbook 2014: Economic, Environmental and Social Statistics*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933026354>.

Recommendation: Developing the vocational teaching workforce

Facilitate the entry of industry practitioners into the teaching workforce and promote familiarity with industry among existing teaching staff through regular industry placements.

Supporting arguments: Industry practitioners’ practical skills and skills updating through work placements

These recommendations are supported by two main arguments. First, the entry of industry practitioners into vocational teaching can bring up-to-date practical skills into VET schools. Second, short work placements for teaching staff can effectively contribute to skills updating.

Facilitating entry from industry

Part-time teachers from industry bring with them up-to-date skills and help to address shortages of teachers

Part-time teachers and trainers who also work in industry can bring high quality practical experience into the learning environment, helping both students and fellow teachers and trainers, and contributing to skills-updating more broadly. Employers have been found to attach more value to those VET courses where trainers are required to have workplace experience (Spark, 1999 in Dalton and Smith, 2004).

Easier entry from industry would also allow VET schools to adjust provision more flexibly. The shortage of teaching staff is acute in some VET schools already, so more flexibility in staffing arrangements would help to alleviate skills shortages. For example, in Norway, VET institutions and local enterprises co-operate to address shortages in teachers and trainers through the use of part-time practitioners drawn from industry (OECD, 2010).

There are effective tools to facilitate entry from industry into teaching

In some OECD countries, skilled professionals may teach a limited number of hours per week often after the completion of a short teaching course designed for part-timers (OECD, 2010). Such a course can be organised to meet the specific needs of part-timers and industry practitioners (e.g. distance learning, weekend workshops). For example, the South Carolina DIRECT programme is designed to prepare prospective VET trainers coming from business and industry through block seminars of a few

days over the summer and a couple of weekend workshops (Rex et al., 2008).

For those industry practitioners who have worked as part-time teachers or trainers and wish to teach more than seven hours a week, a staged entry process could be applied. This process could recognise the pedagogical skills gained through part-time teaching as well as technical vocational skills brought from industry. A full-time higher education degree for such entrants is typically not attractive and may not even be necessary.

Work placements and work-based learning support skills updating

Regular placement of VET teaching staff in industry helps to update skills

While a number of mechanisms already exist in the Slovak Republic to update the skills of full-time teachers and trainers, sufficient hands-on experience of workplace developments is sometimes lacking. Internships or part-time work in an enterprise would be desirable for teachers and trainers (OECD, 2010).

Opportunities for teaching staff to engage with industry are not always taken up; Dalton and Smith (2004) observe of Australian vocational teachers that they often consider themselves to be too busy to update their skills and knowledge unless training is formally integrated into their job and recognised as part of their workload. So there is a need for an effective framework, recognising teachers' and trainers' efforts as well as motivating them and the receiving enterprises. Current efforts to support teachers' professional development could incorporate such goals, building on well-established international examples (see Box 3.1).

Box 5.1. Teacher-worker pairing: Co-operation between VET institutions and industry in Finland

The Telkkä programme in Finland was based on close co-operation between teachers and workplace trainers. It aimed to improve the ability of VET to respond to the needs of working life. The programme included a two-month on-the-job period for teachers, during which teacher-worker pairs were formed. This offered an opportunity for teachers to update their professional skills and for workers who also work as workplace trainers to improve their pedagogical skills. The training period was preceded by a seminar and planning (to clarify goals and expectations) and followed by feedback from teachers and workers and dissemination to the broader community.

Teachers reported a wide range of benefits, such as: increased familiarity with recent work practices and requirements and the equipment used; easy access to firms for study visits; the contacts necessary to invite people from industry to give lectures at their VET institution; increased confidence; respect from students; and motivation. The training period also allowed teachers and workers to discuss issues related to work-based learning for students and improve training plans and assessment methods. Participants improved their skills and self-esteem, and disseminated knowledge to other colleagues. This exercise was evaluated by the Economic Information Office in Finland as one of the best ways of developing teachers' professionalism.

Source: Cort, P., A. Härkönen and K. Volmari (2004), *PROFF – Professionalization of VET Teachers for the Future*, CEDEFOP, Thessaloniki.

Work-based learning can be used to support skills updating of VET teachers and trainers

In many OECD countries with extensive apprenticeship and work-based learning programmes, such programmes serve as a vehicle for teachers to learn from industry. For example, in Germany, teachers closely follow the tasks carried out by students in enterprises and discuss practical training developments with trainers in enterprises which help them stay informed of latest developments in the world of work (Fazekas and Field, 2013).

Note

1. This might be partly remedied by recent changes to legislation according to which since 2014 also non-pedagogical faculties can provide minimum teaching qualifications (Šiškovič and Toman 2015, p.62).

References

- Cort, P., A. Härkönen and K. Volmari, (2004), *PROFF – Professionalization of VET Teachers for the Future*, CEDEFOP, Thessaloniki.
- Dalton, J. and P. Smith (2004), “Vocational Education and Training in Secondary Schools: Challenging Teachers Work and Identity”, *Journal of Vocational Education and Training*, Vol. 56, No. 4, Taylor & Francis, www.tandfonline.com/doi/abs/10.1080/13636820400200267.
- Fazekas, M. and S. Field (2013), *A Skills beyond School Review of Germany*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264202146-en>.
- Harris, R. M., et al. (2001), “The Changing Role of Staff Development for Teachers and Trainers in Vocational Education and Training”, NCVET, Adelaide. www.ncver.edu.au/publications/595.html.
- OECD (2010), *Learning for Jobs*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264087460-en>.
- OECD (2014), *OECD Factbook 2014: Economic, Environmental and Social Statistics*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/factbook-2014-en>.
- Parsons, D. J. et al. (2009), “The Training and Development of VET Teachers and Trainers in Europe”, CEDEFOP, *Modernising Vocational Education and Training. Fourth Report on Vocational Training Research in Europe: Background Report, Volume 2*, Publications Office of the European Union, Luxembourg.
- Rex J. et al, (2008), “South Carolina Five-year Plan, July 1, 2008-June 30, 2013 for the Carl D. Perkins Career and Technical Education Act of 2006”, South Carolina Department of Education.
- Šiškovič, M. and J. Toman (2015), *OECD Review of Policies to Improve the Effectiveness of Resource Use in Schools. Country Background Report for Slovakia*. Educational Policy Institute, Ministry of Education, Science, Research and Sports, Bratislava.
- Spark, C. (1999), *Vocational Education and Training in Senior Secondary Schools*, Vocational Education and Assessment Center, Canberra.

Chapter 6

Integrating groups at risk

Young people from disadvantaged backgrounds face particular challenges. Primary schools struggle to teach basic skills, especially to disadvantaged students. Disadvantaged youth often fail to acquire skills and therefore face a danger of labour market exclusion. This disadvantage is accentuated by low permeability of the educational system for those with limited education. Lower secondary vocational programmes concentrate at risk groups without offering good labour market prospects. Recognition of prior learning and second-chance education opportunities are very limited. This chapter argues that the Slovak government should use vocational education and training (VET) in general, and work-based learning and recognition of informal learning in particular, to integrate groups at risk, including the Roma, into the labour market. Second-chance education opportunities based on provision of formal certification and on-the-job-learning need to be developed and expanded.

Challenges: Disadvantaged groups and youth at risk

Young people from disadvantaged backgrounds face particular risks. First, primary schools often struggle to teach basic skills to disadvantaged students. Disadvantaged youth often fail to acquire skills and therefore face a danger of labour market exclusion. Second, this disadvantage is accentuated by low permeability of the educational system for those with little education. Third, lower secondary vocational ISCED 2C programmes concentrate disadvantaged groups without offering good labour market prospects. Fourth, recognition of prior learning and second-chance education opportunities are very limited.

The low skills trap

The basic literacy and numeracy skills of 15-year-olds in the Slovak Republic have been falling during the last decade as reflected in PISA results (OECD, 2014a). This has been accompanied by growth in the share of low achievers (ECORYS, 2014, see Chapter 7). Every fourth 15-year-old pupil in the Slovak Republic has difficulties in conducting routine calculations and reading for content, hampering their capacity to carry out day-to-day tasks and to learn effectively.

The link between educational outcomes and socioeconomic background is stronger in the Slovak Republic than in other OECD countries. Different components of socio-economic status explain 32% of the total variation in performance of students compared to 21% on average in the OECD. Ethno-linguistic factors also play a role: pupils speaking Romani language performed on average 30% worse in PISA 2009 (Cahu, 2011).

This evidence points to the danger of a low-skills trap for children and young adults from socially disadvantaged households. Growing educational inequality transmits parental socio-economic differences to the labour market. Due to regional inequalities and a concentration of poverty among Roma effective policy intervention has been difficult.

Roma children and youth are particularly vulnerable to a low skills trap

There are over 400 000 Roma living in the Slovak Republic, representing about 7.5% of the total population (REF, 2014). According to the 2011 census, 41% of Roma are children below the age of 14 (Šprocha, 2014). Roma children and youth today face barriers in access to education. Pre-school enrolment rate is very low and Roma children suffer from poor transition to upper-secondary education (Table 6.1). A large share of Roma children are diagnosed as having learning difficulties and sent to special

primary schools or classrooms (PRD, 2013). It is estimated that 60% of pupils in special school and 86% in special classrooms are Roma (Friedman et al., 2009).

Although the enrolment rate of Roma children in compulsory education (up to age 16) is very similar to the majority population living close to Roma (82% vs. 87%), there are large differences for upper secondary school enrolment (35% vs. 74%) (Table 6.1). While drop-out rates in general are very low in the Slovak Republic, early school leaving rate reaches 80% for Roma (Vantuch and Jelínková, 2013). Roma pupils often reach the age of 16 without completion of lower-secondary education, and cannot continue with their studies at upper secondary level. This is detrimental to their success in the labour market.

Table 6.1. Education statistics of Roma and non-Roma living in their proximity, 2011

	Male		Female		Total	
	Roma	Non-Roma	Roma	Non-Roma	Roma	Non-Roma
Literacy rate (16-24)	98%	100%	98%	100%	98%	100%
Pre-school enrolment rate (3-6)	26%	59%	25%	53%	25%	56%
Gross enrolment rate in compulsory education (7-15)	83%	84%	82%	90%	82%	87%
Gross enrolment rate in upper-secondary education (16-19)	30%	75%	42%	74%	35%	74%
Average years of education (25-64)	9.05	11.96	8.78	11.90	8.92	11.93
Average years of education (16-24)	9.15	11.24	9.10	11.47	9.12	11.36

Source: UNDP/WB/EC Roma Regional survey 2011 and FRA Pilot survey 2011 data set, UNDP, www.eurasia.undp.org/content/rbec/en/home/ourwork/sustainable-development/development-planning-and-inclusive-sustainable-growth/roma-in-central-and-southeast-europe/roma-data.html

(Accessed January 2015).

Low formal education among adult Roma creates key labour market barrier

The difference between the average years of education of Roma youth (16-24) and the Roma adult population (25-64) is small (Table 6.1.). This indicates the persistence of systemic barriers to upward educational mobility of this ethnic group. Only one in five adult Roma hold upper secondary qualifications, compared to 75% among the majority population living in the same locality (UNDP/WB/EC Regional Survey, 2011). This presents inclusion barriers as in the Slovak labour market upper secondary education is considered a necessary minimum for access to formal employment and a

decent wage (Kureková, Beblavý and Haita, 2013; Brožovičová et al., 2013).

Low permeability of the system for school dropouts and special school pupils

While the vertical as well as the horizontal permeability of the Slovak education system is generally strong, this does not apply to pupils who fail to complete lower secondary education and finish primary schools at less than the ninth grade. Such students can only be accepted in lower secondary vocational ISCED 2C programmes, which are effectively two or three year training programmes ending with a final exam that does not offer an occupational qualification with a value in the labour market. These specialized fields of study are mainly attended by pupils from socially disadvantaged backgrounds, including the Roma, where positive effects of peer learning are likely to be limited.

Both the quality of ISCED 2C programmes and their link to the labour market are weak as they typically focus on training for simple and auxiliary tasks and are unlikely to contribute to the genuine development of skills of real value to employers (Vantuch and Jelínková, 2013). While progression into upper secondary education programmes is formally possible, it is often financially not affordable for youth from poor families and opportunity costs also rise. Motivation to enter standard programmes might be low also due to low chances to succeed without targeted support.

In the past, only elementary schools were able to offer ISCED 2C programmes, but since January 2013 they can also be provided by secondary VET schools (Jakubík, 2014). This opens up opportunities for integrating work-based learning into ISCED 2C programmes and bringing them closer to the labour market.

Further limitations exist for pupils who are tracked in special schools or placed in special classrooms within primary schools. Placement in special schools and classrooms often has detrimental effects on further education pathways as children educated in special schools cannot pursue upper secondary education in IVET or to enrol in further studies provided in the framework of continuing vocational education and training (CVET) (PDR, 2013; Friedman et al., 2009; Vantuch and Jelínková, 2013). They also face formal barriers in accessing education and training programmes offered through active labour market policies for the unemployed (Duell and Kureková, 2013).

Concentration of at risk groups in VET

Given the structural features of Slovak secondary education, the VET stream tends to collect at risk groups. Early tracking to eight-year gymnasias at the high-end and to special schools/classroom at the low-end of the school system contribute to educational inequality. Although differences are relatively small, students in vocational and pre-vocational programmes have lower science scores in PISA at the beginning of their tracked study programmes (Figure 7.1).

Given selection criteria for upper secondary institutions linked to completion of, and performance in basic school, low achievers and students with weak general skills tend to be channelled into VET schools. This contributes to a mixed image of vocational education in the country.

Re-integration pathways through training and education are underdeveloped

Recognition of prior learning could be developed

The Slovak Republic has developed legislative framework to support flexibility in learning and acquiring qualifications through the CVET system (Vantuch and Jelínková, 2013). However, due to delays in the development of the National Qualifications Framework, implementation of CVET and access to non-formal education is still pending. It is currently practically impossible to recognize prior (non-formal or informal) learning, which could, at least in principle, represent an important integration pathway for groups at risk.

While opportunities for further education are provided by a range of accredited educational institutions, these offer programmes that need to be paid for privately and therefore are hardly available to socially disadvantaged groups. Another way to recognize prior informal learning and to gain a partial or full qualification is through verification of at least 5-year-long work experience by an employer. But this route is unavailable to those who have gained work experience in short spells of informal or semi-legal employment, as is often the case for low-educated.

Recognition needs to be extended to skills acquired informally

About 21% of adult Roma who work are employed informally. Among Roma young males, the share is as much as 30% (UNDP Regional Survey Data, 2011). Many Roma have also worked abroad (Kahanec and Kureková, 2014; Grill, 2012). This suggests that many Roma with few formal qualifications in fact have work experience and have gained on-the-job skills

and competences. Field research has also shown that adult Roma often want to upgrade their skills formally, but face financial barriers (Kureková and Kontseková, 2013; Kureková, Bulková and Borovanová, 2013). If the skills gained informally could be recognised, their chances of formal employment under less precarious conditions would grow.

Further education and training opportunities through labour market programmes are not sufficiently developed

Opportunities for further education and training, including second-chance education, are not well developed. Measures which overwhelmingly target Roma and low-skilled, such as small municipal works, do not entail any training or upskilling (Kureková, Salner and Farenzenová, 2013; Vantuch and Jelínková, 2013). While spending targeted on youth has grown and additional policies both on the demand and the supply sides of the labour market related to the youth unemployment have been recently launched (National Reform Programme of the Slovak Republic, 2014), high-risk youth such as Roma or high school drop-outs do not represent a target group.

Recommendation: Using VET to achieve more social inclusion

Use VET in general, and work-based learning and recognition of informal learning in particular, to integrate groups at risk, including the Roma, into the labour market. Expand second-chance education opportunities based on provision of formal certification and on-the-job-learning.

Supporting arguments: VET as an inclusion mechanism, recognition of informal learning and second chance education pathways as opportunities for low-skilled youth

This recommendation is supported by two main arguments. First, VET education provides a strong learning environment for low-performing students and can improve labour market outcomes if it is strongly linked to practical experience and workplace learning. Second, unemployed youth at risk can be reintegrated into the labour market at lower public and private costs by means of recognition of prior informal learning and second chance education.

Using VET as an inclusion mechanism

VET can help to include groups at risk

Educating students from disadvantaged backgrounds is often more difficult in a traditional classroom context, particularly if students have become disenchanted by academic schooling. Well-developed VET systems with strong apprenticeship training and links to employers have been better able to secure school-to-work transition in particular for young people with low skills (OECD, 2010; Quintini and Martin, 2014). Academically weak students themselves often prefer practical training.

Mandatory work-based learning would help

Introducing mandatory work-based learning into all levels and streams of VET, including ISCED 2C programmes, would respond to this preference of students while providing them with skills better matched to local and national needs. This could improve their labour market outcomes. It could also help to overcome existing resistance among employers in the Slovak Republic to employing Roma (Machlica, Žúdel and Hidas, 2014). Legislative change which has enabled secondary VET schools to offer ISCED 2C programmes opens up opportunities to improve the quality of these programmes.

Developing mechanisms for recognition of prior learning (RPL)

Recognition of prior learning (RPL) can be an effective and efficient integration pathway

Recognition of prior learning is the process of certifying pre-existing skills and knowledge, often gained informally or on-the-job, in order to make the skills of prospective students visible to both employers and training institutions (OECD, 2014b). It has particular relevance for groups in the labour market that might have acquired their skills in other systems (e.g. migrants) (Field et al., 2012) or have difficulties integrating into formal and open labour markets but have informal work experience.

Recognition of prior learning can reduce both the direct and opportunity costs of formal learning and contribute to better labour market integration by giving clearer signals to employers about actual skills of a potential employee. It can also serve as an effective means of combating drop outs (Box 6.1.). In the Slovak context, RPL can be an effective and efficient integration pathway for Roma and other low-educated groups that have gained informal work experience, but might face formal, financial or motivational barriers to re-enrolling in formal education or to accessing

CVET. This recommendation holds merits also more generally, as improved system of recognition of prior learning can assist also older workers in recognizing formally their skills gained on-the-job and make job transitions smoother.

Box 6.1 Recognition of Prior Learning (RPL) in Iceland

In **Iceland**, recent legislation contains provisions on individual entitlement to RPL at upper secondary level. It is seen as a means of combating dropout. RPL is aimed at people with poor formal education, allowing those who wish to return to upper secondary school to shorten the length of the required programme. The 12 lifelong learning centres around the country and the 2 centres for certified trades co-operate in pursuing RPL projects. On average a participant going through a validation process within the certified trades ends up with 28 units of credit recognised through RPL (the carpentry programme for example involves 100 units in total). Over the period 2007-2009, 492 individuals had their competences recognised in this way, the majority within the certified trades.

Source: Musset P. and R. Castañeda (2013), *A Skills Beyond School Commentary of Iceland*, OECD Reviews of Vocational Education and Training, www.oecd.org/edu/skills-beyond-school/ASkillsBeyondSchoolCommentaryOnIceland.pdf

Second-chance education opportunities for low-skilled youth

Providing access to upper secondary education

While education policies can address the problem of youth unemployment and labour market exclusion at its root, labour market policies provide scope for re-integrating unemployed youth and adults. The key aim is to keep at risk youth in education and training until they gain formal qualifications or develop competences that can provide them access to labour market, rather than using other forms of activation (World Bank, 2012). The “train-first strategy” in labour market policies should prevail over work-first strategies, in particular with respect to unemployed youth without upper secondary education. Given returns to education in the Slovak labour market, the objective should be to provide opportunities to attain upper secondary education or other qualifications recognised in the labour market.

In order to achieve this, good programme targeting combined with outreach, early intervention and profiling are important. It is for example important to distinguish between teenagers and young adults and to give special attention to school drop-outs and to Roma youth.

Integrating on-the-job learning into second-chance education brings good results

Good practice examples and characteristics of successful programmes for integrating unemployed young adults or teenagers can be identified internationally (OECD, 2010; Quintini and Martin, 2014; Duell and Kureková, 2013). Young unemployed people with a low or inadequate education level should be offered opportunities to receive more education in second-chance-programmes, combined with the chance to acquire work experience in a firm (Box 6.2). As action is needed on multiple fronts, several OECD countries set-up comprehensive programmes which include classroom instruction, on-the-job learning and adult mentoring, at times with a residential component (e.g. Job Corps programme in the United States).

Box 6.2. Second-chance education examples

In Ireland, Youthreach offers a programme including general education, vocational training and work experience to unemployed early school leavers aged 15-20. Those over 21-years-old can benefit from the Vocational Training Opportunities Scheme to acquire general or vocational certificates, or attend part-time education through the Back to Education Initiative. It offers young people the opportunity to identify options within adult life, and provides them with opportunities to acquire certification. It operates on a full-time, year-round basis and practices a continuous intake policy.

Source: OECD (2010), *Learning for Jobs*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264087460-en>, (page 38).

Countries with well-established dual training systems, including **Austria, Germany and Switzerland**, have implemented PES financed pre-vocational measures for low-skilled young people. In Germany, for example, they consist mainly of different elements including: vocational guidance and orientation, providing basic skills and key competencies, offering workplace related experience, and some basic vocational skills. Evaluation results indicate that the preparatory measures lead to some success in better integrating young people in training.

Source: Duell, N and L. Kureková (2013), “Activating Benefit in Material Need Recipients in the Slovak Republic”, *Central European Labour Studies Institute Research Report No. 3*, CELSI, Bratislava, May 2013.

References

- Brožovičová, K. et al. (2013), *Overview of the Labour Market Situation of Low-Educated and Roma Population and Regulations Affecting Their Employment*. CELSI Research Report 4, CELSI, Bratislava, <http://ideas.repec.org/p/cel/report/4.html>.
- Cahu, Paul.(2011), *Education quality and equity in the Slovak Republic. Analysis of the PISA 2009 data*. World Bank. Mimeo.
- Duell, N and Kureková, L. (2013). “Activating Benefit in Material Need Recipients in the Slovak Republic”, *Central European Labour Studies Institute*, Research Report No. 3, May 2013.
- Field, S., et al. (2012), *A Skills beyond School Review of Denmark*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris,doi: [dx.doi.org/10.1787/9789264173668-en](https://doi.org/10.1787/9789264173668-en).
- Friedman, E. et al. (2009), *Škola ako geto. (School as a ghetto)*, Budapešť, Rómsky vzdelávací fond. www.romaeducationfund.hu/sites/default/files/publications/skola_ako_geto_-_complete_slovak.pdf.
- Grill, J. (2012), “Going up to England’: Exploring Mobilities among Roma from Eastern Slovakia ” *Journal of Ethnic and Migration Studies* 38 (8): 1269–87.
- Jakubík, K. (2014), *OECD Guidance to Slovakia. Background material on VET*. Ministry of Education, Science and Sports of the Slovak Republic. Mimeo.
- Kahanec, M. and L. M. Kureková (2014), “Did Post-Enlargement Labor Mobility Help the EU to Adjust during the Great Recession? The Case of the Slovakia.” In *EU Enlargement and the Labor Markets*, edited by Martin Kahanec and K.F. Zimmermann. Springer.
- Kureková, L., M. Bulková a M. Borovanová (2012), *E-zručnosti pre zamestnateľnosť žien. Záverečná práva z implementácie výskumného a terénneho projektu (E-skills for employability of women. Final report from implementation of research and field work)*. Inštitút pre dobre spravovanú spoločnosť, Bratislava.

- Kureková, L.M., M. Farenzenová, and A. Salner (2013), *Implementation of Activation Works in Slovakia. Evaluation and Recommendations for Policy Change. Final Report*. Slovak Governance Institute, Bratislava.
- Kureková, Lucia, Haita, C. and M. Beblavý (2013), “Conceptualizing Low-Skillness: A New Approach,” *Sociológia-Slovak Sociological Review* (3): 247–66.
- Kureková, L., and J. Kontseková (2013), Slovakia. In: Messing, V. (2013). „From Benefits to Brooms“. Case Studies Report on the Implementation of Active Labour Market Policies for Roma at Local Level. *NEUJOBS Working Paper No.19.3*, CEPS, Brussels.
- Machlica, G., B. Žúdel and S. Hidas (2014), Unemployment in Slovakia. Ministry of Finance of the Slovak Republic, Institute of Financial Policy, Bratislava. www.finance.gov.sk/Default.aspx?CatID=9888 .
- Musset P. and R. Castañeda (2013), *A Skills Beyond School Commentary of Iceland*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, www.oecd.org/edu/skills-beyond-school/ASkillsBeyondSchoolCommentaryOnIceland.pdf.
- OECD (2014a), *PISA 2012 Results: What Students Know and Can Do. Student Performance in Mathematics, Reading and Science. (Volume I)*, OECD Publishing, Paris.
- OECD (2014b), *Skills beyond School: Synthesis Report*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, doi: dx.doi.org/10.1787/9789264214682-en.
- OECD (2013), *PISA 2012 results: Excellence through equity: giving every student the chance to succeed (Volume II)*. OECD Publishing, Paris, www.oecd.org/pisa/keyfindings/pisa-2012-results-volume-ii.htm .
- OECD (2012), *OECD Economic Surveys: Slovak Republic 2012*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eco_surveys-svk-2012-en.
- OECD (2010), *Learning for Jobs*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264087460-en>.
- REF (2014), *Advancing the Education of Roma in Slovakia*. REF Country Assessment - 2014. RomaEducation Fund. www.romaeducationfund.hu/sites/default/files/publications/country_assessment_sk_2014_en.pdf.

PDR/Public Defender of Rights (2013), Správa verejnej ochrankyne práv o uplatňovaní práva na vzdelanie detí/žiakov príslušníkov rómskej národnostnej menšiny so špeciálnymi výchovno-vzdelávacími potrebami (Report of Public Defender of Rights about the exercise of the right to education of children / pupils of the Roma national minority with special educational needs), Kancelaria verejnej ochrankyne prav, Bratislava.
www.vop.gov.sk/files/Sprava%20VOP-Vzdelavanie%20Romov.pdf.

Quintini, G. and S. Martin (2014), "Same Same but Different: School-to-work Transitions in Emerging and Advanced Economies", *OECD Social, Employment and Migration Working Papers*, No. 154, OECD Publishing, Paris, <http://10.1787/5jzbb2t1rcwc-en>.

Šprocha, B. (2014), Reprodukcia rómskeho obyvateľstva na Slovensku a prognóza jeho populačného vývoja (Reproduction of Roma population in the Slovak Republic and prognosis of demographic development), Prognostický ústav SAV a Infostat, Bratislava,
www.infostat.sk/vdc/pdf/Romovia.pdf .

UNDP/WB/EC “Roma Regional survey 2011 and FRA Pilot survey 2011 data set”, UNDP,
<http://www.eurasia.undp.org/content/rbec/en/home/ourwork/sustainable-development/development-planning-and-inclusive-sustainable-growth/roma-in-central-and-southeast-europe/roma-data.html> (accessed January 2015).

Vantuch, J. and D. Jelínková (2013), *VET in Europe Country Report: Slovakia* . Refernet the Slovak Republic, CEDEFOP.

World Bank (2012), *Protecting the Poor and Promoting Employability. An Assessment of the Social Assistance System in the Slovak Republic. Social Safety Net and Poverty Mapping*, World Bank, Washigton DC.

Chapter 7

Preserving and improving general skills

Solid numeracy, and problem-solving skills lay the foundation for healthy labour markets, but the Slovak Republic faces multiple challenges in this area. With globalisation and rapid technological change, the need for adequate general skills is increasing. Many students enter the vocational education and training (VET) system with weak general skills and fail to catch up later. Vocational programmes are not always adequately geared towards general skills development.

This chapter argues that the Slovak government should ensure effective provision of basic skills of literacy, numeracy, and problem solving in vocational programmes, including apprenticeship programmes with substantial work-based learning element, and provide targeted help for weak performers.

Challenges: Increasing need for general skills, but insufficient provision

The provision of literacy, numeracy, and problem-solving skills in the Slovak Republic faces multiple challenges. First, with globalisation and rapid technological change, the need for adequate general skills is increasing. Second, many students enter the VET system with weak general skills and fail to catch up later. Third, vocational programmes are not always adequately geared towards supporting general skills development.

Increasing need for general skills

Globalisation and technological change increase the need for sound numeracy and literacy skills

Technological change has altered the skills mix necessary for many professions, particularly in high-tech and highly skilled professions, but increasingly also in low- and medium-skilled occupations (Maxwell, 2006; Kureková, Beblavý and Haita, 2012). The importance of higher level problem solving and communication skills has increased (Autor, Levy, and Murnane, 2003) and the development of these higher level skills needs to be underpinned by ‘foundation’ literacy and numeracy skills. Industrial restructuring requires many workers to acquire new skills during their careers and sometimes change profession. Career adjustment necessitates the ability to learn which, in turn, largely relies on strong basic skills (OECD, 2010). This phenomenon has been well documented in a number of countries including transition economies (e.g. Kézdi, 2006).

These labour market developments mean that any underlying weaknesses in the numeracy and literacy of VET graduates will pose a growing problem. Unfortunately, empirical evidence in the Slovak Republic is scarce and covers only some aspects of the labour market outcomes of VET graduates such as unemployment – for example there is no evidence on employers’ satisfaction with VET graduates’ skills.¹ Content analysis of job advertisements from a major Slovak job portal, www.profesia.sk, showed that even for ostensibly low-skilled jobs, the ideal worker should possess a fair amount of general skills (Kureková, Beblavý and Haita, 2016). The attribute most sought in recruits was previous experience (52%), followed by language knowledge (38%), responsibility (29%), communication skills (28%) and flexibility (24%). Surveys of employer needs corroborate these findings. For example, poor foreign language skills were marked by close to 60% of employers as a frequently-faced recruitment barrier in 2010 (Kureková, 2010).

Although the general skills of VET graduates may allow them to adjust to changing labour market needs only partially, their specific skills still allow for a great degree of flexibility. Research done using German Labour Force Survey data revealed that profession-specific skills allow for a great degree of mobility across professions requiring similar skills profiles, even though they belong to different sectors and require the performance of rather different tasks (Backes-Gellner and Geel, 2011). Mobility between professions belonging to the same skills “cluster” tends to be associated with wage gains whereas mobility across skills clusters is associated with wage loss.

Weaknesses of general skills in VET programmes

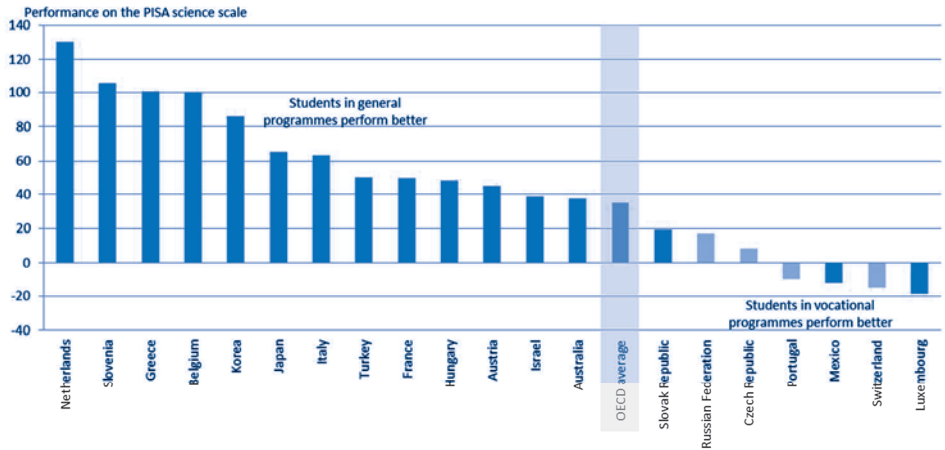
General skills for those entering vocational programmes are sometimes weak.

In the Slovak Republic 15-year-olds have fallen behind the OECD average in terms of general skills according to the latest PISA assessment (OECD, 2014a). In the last ten years Slovak Republic’s performance in mathematics and science has declined, while performance in reading has stagnated. A quality concern about the ability of teachers to develop pupils’ higher-order thinking skills has been voiced by the Slovak State School Inspectorate and supported by PISA evidence about the usage of different cognitive processes in solving mathematical problems (Shewbridge et al., 2014).

The Slovak Republic has also experienced growth in the share of low achievers (ECORYS, 2014). PISA 2012 assessment revealed that 28.2%, 27.5% and 26.9% of pupils performed below level 2 (low achievers) in reading, mathematics and science respectively. This reflects more general problem of growing inequality within the education system and a strong effect of socio-economic background on pupil performance (see Chapter 6). Due to the selection criteria in upper secondary institutions linked to performance in basic school, low achievers and students with weak general skills tend to be placed in VET schools.

While differences are among the smallest, students in vocational and pre-vocational programmes achieve lower science scores in the Slovak Republic even at the beginning of their tracked study programmes (Figure 7.1).

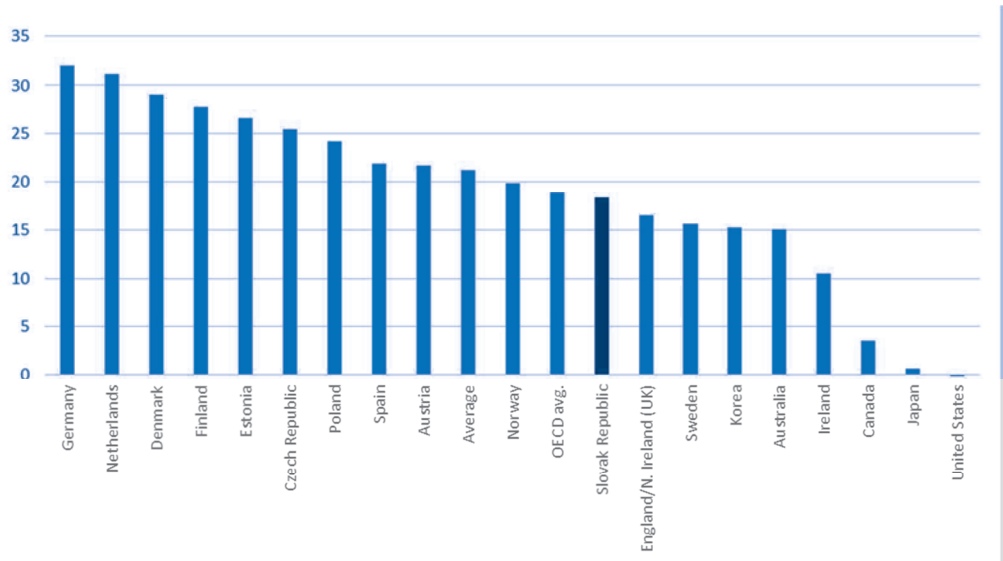
Figure 7.1 Differences in science performances between general programme students and pre-vocational and vocational programme students, 2006



Weaknesses of general skills throughout VET training

The differences observed between the literacy and numeracy performance of students in general education and those in VET persist throughout the early labour market career of graduates (Figure 7.2). This suggests that VET schools are not able to address the basic skills weaknesses of their students already present at the outset of studies. Without targeted efforts, the relative under-performance of VET students is unlikely to change.

Figure 7.2 Difference in average literacy proficiency among young adults aged 16 to 29 whose highest level of education is upper secondary, vocational and pre-vocational programmes compared to general programmes, 2012



Source: OECD (2013), *OECD Skills Outlook 2013. First Results from the Survey of Adult Skills*, OECD Publishing, Paris, [http:// 10.1787/9789264204256-en](http://10.1787/9789264204256-en)

Note: Positive values indicate that students in general programmes perform better than students in vocational and pre-vocational programmes.

VET schools can address the challenge of general skills only to a limited extent

Vocational school quality is a challenge

The Slovak Republic lacks a comprehensive system for evaluating school quality and value-added focused on improvement of student learning outcomes (Shewbridge et al., 2014). However, a project called INEKO which is an external evaluation of secondary schools based on a range of criteria (e.g. national testing results, teacher quality, pupil competition performance, university acceptance rate and graduate unemployment) suggests that a large variation exists in school performance: while gymnasia generally score better, some vocational schools across the country are able to perform *on par*.² Quality problems in VET schools have also been identified in the Czech Republic which shares many common features with the Slovak Republic (Kuczera, 2010).

VET programmes with substantial work-based learning may have insufficient instruction time for general skills

While currently only few vocational programmes have substantial work-based elements, ongoing reform efforts are likely to change that. In light of these developments work-based learning should be balanced with sufficient instruction time for general skills acquisition, especially for students who come with weak basic skills to apprenticeships and other VET programmes.

Apprenticeship systems such as in Switzerland or Germany sometimes struggle to deliver high-level general skills (Fazekas and Field, 2013) as a lot of time spent at the workplace implies less instruction time for general academic skills. Most students in the upper secondary VET system of Switzerland, for example, follow practical training usually more than half of the total instructional time (OECD, 2010). In countries with extensive apprenticeship programmes, apprentices typically spend one day per week at the vocational school and four days at the host company or at industry courses where they receive on-the-job training (Hoeckel, Field and Grubb, 2009). One day per week on average does not allow for extensive numeracy and literacy development, even though there is no automatic correlation between instruction time and skills learned. In addition, this one day is typically shared between competing theoretical topics, including theoretical subjects related to their vocational skills and competences. Literacy and numeracy can be developed in practical contexts – for example when mathematics is used in technical occupations. But, making such “contextual learning” successful is challenging, as it requires careful planning and team-working among teachers to integrate practical training and the acquisition of general skills (OECD, 2010).

Recommendation: Tackling basic skills weaknesses

Ensure effective provision of basic skills of literacy, numeracy, and problem solving in vocational programmes, including apprenticeship programmes with a substantial work-based learning element, and provide targeted help for weak performers.

Supporting arguments: Lifelong learning, labour market success, and implementation options

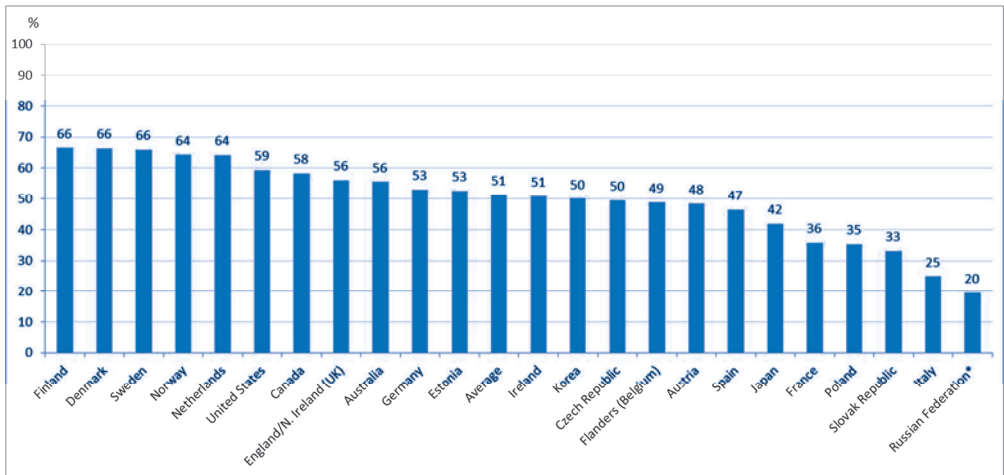
The importance of supporting general skills throughout the Slovak VET system is underpinned by two key arguments. First, sound general skills contribute to lifelong learning and career development and they also support labour market success. Second, there are numerous international examples which can inform policy reform and implementation in the Slovak Republic.

Sound general skills contribute to lifelong learning and labour market success

Sound numeracy and literacy supports lifelong learning and career development

Among adults, sound general skills underpin most kinds of further formal and informal learning, including basic literacy and numeracy skills as well as problem solving and communication skills (OECD, 2010). In the Slovak Republic, adult participation in life-long learning is weak by international standards indicating that improving the conditions for lifelong learning is likely to deliver substantial benefits (Figure 7.3).

Figure 7.3. Participation in formal and/or non-formal education (2012)



* See note on data for the Russian Federation in the *Methodology* section. Countries are ranked in descending order of the percentage of 25-64 year-olds participating in formal and/or non-formal education.

Source: OECD (2014b), *Education at a Glance 2014: OECD Indicators*, OECD Publishing.. Table C6.4. <http://dx.doi.org/10.1787/888933119169>

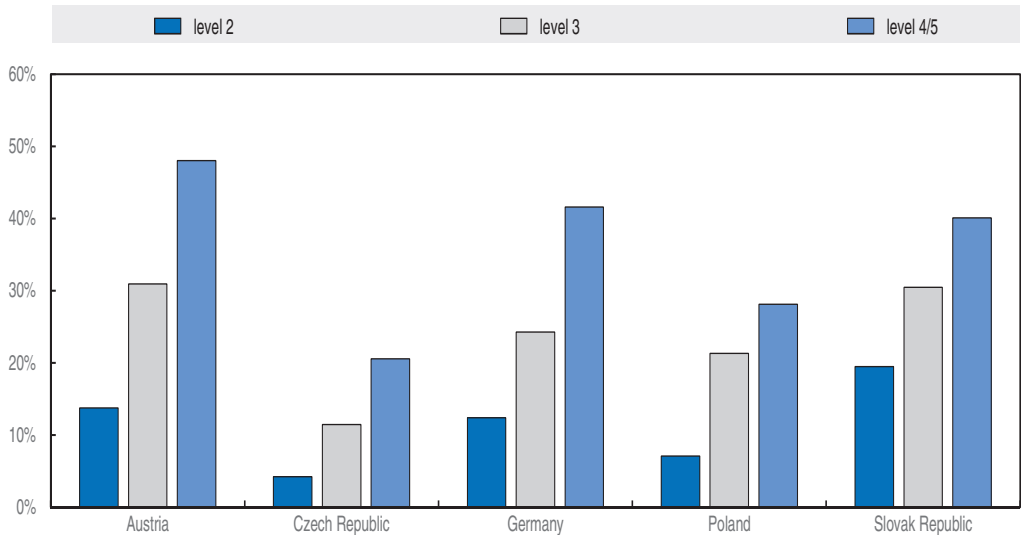
In many countries participation in adult continuing education is heavily dependent on prior attainment, (e.g. Backes-Gellner, 2011), and highest for those with academic tertiary degrees.

Strong general skills contribute to good labour market outcomes

Much research suggests that improving general skills such as literacy and numeracy decreases the probability of unemployment and increases earnings (Thorn, 2009; Green and Riddell, 2001; OECD and Statistics Canada, 2000). This argues for stronger general skills training to increase the adaptability of the labour force. In the Slovak Republic, general skills such as literacy are at a high premium in comparison to other Central European countries (Figure 7.4). Workers with literacy skills at level 4/5 earn on average 40% more than workers with proficiency level 0/1. These suggest that improving general skills in the Slovak Republic could potentially contribute to improved labour market outcomes such as lower unemployment and higher earnings.

Figure 7.4. Wage premium of higher level skills compared to PIAAC literacy proficiency scores 0/1 (2012).

Percentage increase in mean monthly earnings of workers, with highest educational attainment of upper secondary or post-secondary non-tertiary education, 25-64 year-olds with income from employment working full time (i.e. 30 or more hours per week), using equivalent USD converted using PPPs for private consumption



Source: Own calculations using data from OECD (2014b), *Education at a Glance 2014: OECD Indicators*, OECD Publishing. Table A6.6a. <http://dx.doi.org/10.1787/888933116186>

International examples can inform policy reform

Focusing on low achievers can deliver substantial improvements

Although literacy and numeracy deficiencies among VET students are rooted in weaknesses in basic education, the evidence shows that later interventions to tackle these problems can improve learning outcomes in vocational programmes. The most widespread improvement can be achieved if the quality of teachers improves across the whole school system, including VET (e.g. Rivkin et al., 2001; Hanushek et al., 2005). Nevertheless, targeted interventions can be powerful too, with one study in the United Kingdom showing dramatic impact (OECD, 2010). The intervention designed by the Basic Skills Agency in the UK showed:

- Basic skills support was available through workshops offering drop-in and timetabled support for individuals and groups.
- Some colleges developed partnership-teaching, in which basic skills specialists and course tutors worked together to offer support as part of a course. This approach had two advantages: it made it possible to support those who were reluctant to attend targeted workshops, and it related basic skills development to the student’s course.

International examples also show that even non-cognitive skills that are rising in importance can be successfully developed by targeted training in schools (Kautz, T. et al., 2014).

Across the globe, many VET institutions experiment with contextual learning where literacy and numeracy are developed in practical contexts – for example when mathematics is used in technical occupations. But, making such “contextual learning” successful is challenging, as it requires careful planning and team-working among teachers to integrate practical training and the acquisition of general skills (OECD, 2010).

Notes

1. Such studies are standard practice among OECD countries. See for example, UKCES (2010) for the United Kingdom or Fazekas and Hajdú (2011) for Hungary.
2. In the 2014 ranking of gymnasias and secondary vocational schools, the Business academy in Trnava ranked 1st, Bilingual gymnasium in Sučany ranked 2nd, Gymnázium Poštová in Košice ranked 3rd and Technical-electronical lyceum in Prešov ranked 4th. Ranking does not measure value added and does not consider socio-economic factors and student selection in the rankings. For more information see: <http://skoly.sme.sk/>

References

- Autor, D H, F Levy, and R J Murnane, (2003), “The Skill Content of Recent Technological Change: An Empirical Exploration”. *Quarterly Journal of Economics*, Vol. 116, No. 4, pp. 1279 -1333.
- Backes-Gellner, U., (2011), Eine Analyse der Wirksamkeit ausgewählter Instrumente zur Förderung der Weiterbildungsbeteiligung. Gutachten zuhanden der Expertenkommission Weiterbildungsgesetz (Art. 64a BV). Universität Zürich. ISU – Institut für Strategie und Unternehmensökonomik, Zürich.
- Backes-Gellner, U. and R. Geel, (2011), “Occupational Mobility Within and Between Skill Clusters: An Empirical Analysis Based on the Skill-Weights Approach.” *Empirical Research in Vocational Education and Training*, Vol. 3 (2011) No. 1, pp. 21-38.
- ECORYS (2014), “Study to prepare the Commission Report on policies tackling low achievement in basic skills. Final Report for DG EAC and the European Commission,” *Publications Office of the European Union*, Luxembourg.
- Fazekas, M. and S. Field (2013), *A Skills beyond School Review of Switzerland*, OECD Reviews of Vocational Education and Training, OECD Publishing., Paris, doi: [dx.doi.org/10.1787/9789264062665-en](https://doi.org/10.1787/9789264062665-en).
- Fazekas, M. and M. Hajdú (2011), A szakképző iskolát végzettek iránti kereslet várható alakulása. A dokumentum a „Szakiskolai férőhelyek meghatározása – 2011, a regionális fejlesztési és képzési bizottságok (RFKB-k) részére” kutatási program keretében készült. MKIK GVI, Budapest.
- Green, D. A. and W. C. Riddell, (2001), “Literacy, Numeracy and Labour Market. Outcomes in Canada”. *University of British Columbia Discussion Paper No.: 01-05*.
- Hanushek, E. et al. (2005), “The Market for Teacher Quality”, NBER, Working Paper 11154, Cambridge MA.
- Hoeckel, K., S. Field and W. N-. Grubb, (2009), *Learning for Jobs: OECD Reviews of Vocational Education and Training. Switzerland*. OECD, Paris.

- Kautz, T., et al., (2014), "Fostering and Measuring Skills: Improving Cognitive and Non-cognitive Skills to Promote Lifetime Success", *OECD Education Working Papers*, No. 110, OECD Publishing. DOI: [10.1787/5jxsr7vr78f7-en](https://doi.org/10.1787/5jxsr7vr78f7-en).
- Kézdi, G. (2006), *Not Only Transition. The Reasons For Declining Returns To Vocational Education*. CERGE-EI, Prague.
- Kureková, L. (2010). *Správa o stave podnikateľského prostredia 2010: Časť: Ľudský kapitál: Zamestnanosť a pracovná sila; Ľudský kapitál: Školstvo (State of business environment report 2010: Human capital: Employment and workforce; Human capital: Education system)*, Podnikateľská aliancia Slovenska, Bratislava.
<http://alianciapas.sk/sprava-o-stave-podnikatelskeho-prostredia-2010/>
- Kureková, L., M. Beblavý, and C. Haita (2016), "The surprisingly exclusive nature of medium- and low-skilled jobs: Evidence from a Slovak job portal ". *Personnel Review* 45 (3).
- Kuczera, M. (2010), *OECD Reviews of Vocational Education and Training: A Learning for Jobs Review of the Czech Republic 2010*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264113756-en>.
- Maxwell, N. L. (2006), *The working life: The labor market for workers in low-skilled jobs*. WE Upjohn Institute.
- OECD (2010), *Learning for Jobs*, OECD Reviews of Vocational Education and Training, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264087460-en>.
- OECD (2013), *OECD Skills Outlook 2013. First Results from the Survey of Adult Skills*, OECD Publishing, Paris, [http:// 10.1787/9789264204256-en](http://dx.doi.org/10.1787/9789264204256-en)
- OECD (2014a), *PISA 2012 Results: What Students Know and Can Do. Student Performance in Mathematics, Reading and Science. Volume I*. OECD Publishing, Paris.
- OECD (2014b), *Education at a Glance 2014: OECD Indicators*, OECD Publishing. OECD and Statistics Canada, (2000), *Literacy in the Information Age. Final Report of the International Adult Literacy Survey*. OECD, Paris.
- Rivkin, S. et al. (2001), "Teachers, Schools, and Academic Achievement", Working Paper 6691 (revised), National Bureau of Economic Research, Massachusetts.

Shewbridge, C., et al. (2014), *OECD Reviews of Evaluation and Assessment in Education: Slovak Republic 2014*, OECD Reviews of Evaluation and Assessment in Education, OECD Publishing, Paris, <http://10.1787/9789264117044-en>.

Thorn, W. (2009), “International Adult Literacy and Basic Skills Surveys in the OECD Region. OECD” *EDU Working Paper* No. 26. OECD, Paris.

UKCES (2010), *National Employer Skills Survey for England 2009: Key findings Report*. UK Commission for Employment and Skills - UKCES, London.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The OECD is a unique forum where governments work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

The OECD member countries are: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The European Union takes part in the work of the OECD.

OECD Publishing disseminates widely the results of the Organisation's statistics gathering and research on economic, social and environmental issues, as well as the conventions, guidelines and standards agreed by its members.

OECD Reviews of Vocational Education and Training

A Skills beyond School Review of the Slovak Republic

Vocational education and training (VET) programmes are facing rapid change and intensifying challenges. How can employers and unions be engaged? How can work-based learning be used? How can teachers and trainers be effectively prepared? How should postsecondary programmes be structured? The country reports in this series look at these and other questions. They form part of *Skills beyond School*, OECD policy reviews of vocational education and training.

Contents

Summary: Strengths, challenges and recommendations

Chapter 1. Introduction

Chapter 2. Apprenticeship and work-based learning

Chapter 3. Developing post-secondary vocational pathways

Chapter 4. Better data

Chapter 5. Vocational teachers and trainers

Chapter 6. Integrating groups at risk

Chapter 7. Preserving and improving general skills

Further reading

OECD (2014), *Skills beyond School: Synthesis Report, OECD Reviews of Vocational Education and Training*, OECD Publishing, Paris.

<http://dx.doi.org/10.1787/9789264214682-en>.

OECD (2010), *Learning for Jobs, OECD Reviews of Vocational Education and Training*, OECD Publishing, Paris.

<http://dx.doi.org/10.1787/9789264087460-en>.

See also: www.oecd.org/education/vet.

For more information about OECD work on skills, see <http://skills.oecd.org>.

Consult this publication on line at <http://dx.doi.org/10.1787/9789264233348-en>.

This work is published on the OECD iLibrary, which gathers all OECD books, periodicals and statistical databases. Visit www.oecd-ilibrary.org for more information.

