



OECD Skills Strategy Slovak Republic

ASSESSMENT AND RECOMMENDATIONS

REPORT SUMMARY



OECD Skills Studies

OECD Skills Strategy Slovak Republic

ASSESSMENT AND RECOMMENDATIONS

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, as well as any data and 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.

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.

Please cite this publication as:

OECD (2020), *OECD Skills Strategy Slovak Republic: Assessment and Recommendations*, OECD Skills Studies, OECD Publishing, Paris, <https://doi.org/10.1787/bb688e68-en>.

ISBN 978-92-64-71683-4 (print)

ISBN 978-92-64-36420-2 (pdf)

OECD Skills Studies

ISSN 2307-8723 (print)

ISSN 2307-8731 (online)

Photo credits: Cover © Studio Foltzer - Augustin Lazaroiu/Shutterstock.com.

Corrigenda to publications may be found on line at: www.oecd.org/about/publishing/corrigenda.htm.

© OECD 2020

The use of this work, whether digital or print, is governed by the Terms and Conditions to be found at <http://www.oecd.org/termsandconditions>.

Foreword

Developing and using people's skills effectively is crucial for Slovakia's ability to thrive in an increasingly interconnected and rapidly changing world.

Slovakia is particularly exposed to the effects of globalisation, digitalisation and demographic change, and should build on its current strengths and use them as a foundation to introduce new policies that better equip society to respond to a constantly changing environment. All members of society will need a stronger and more well-rounded set of skills, including cognitive, social and emotional, and job-specific skills that are aligned with labour market needs and effectively used in individual workplaces.

Slovakia has already achieved relatively strong skills performance in various areas. In terms of developing people's skills, the tertiary attainment rate has improved substantially and the foundational skills of adults are comparatively strong. With respect to using people's skills, the unemployment rate in Slovakia is at record low levels and wages are on the rise.

However, Slovakia still faces a number of complex skills challenges. The skills of youth are lagging behind the OECD average in reading and science, and declining. Skills imbalances are high, with skills shortages particularly prevalent in knowledge and technology-intensive sectors. Adult learning culture is underdeveloped, participation in adult learning is low, and those most in need of continuous education participate the least. In the workplace, skills are not currently used to their full potential.

In recent years, Slovakia has enacted wide-ranging skills policy reforms spanning all levels of education and training, as well as many areas of labour market policy. In this respect, continued stakeholder engagement and impact monitoring will remain essential for implementing Slovakia's skills reforms.

Slovakia has developed the National Programme for the Development of Education (NPRVaV 2018-2027) to set the country's priorities for skills development and activation. To provide input on the implementation of this programme, and to further support Slovakia in its reform agenda, the OECD has conducted a collaborative and tailored National Skills Strategy project. This has involved detailed analysis and widespread engagement with stakeholders, leading to several tailored recommendations outlined in this report.

The OECD stands ready to support the Slovak Republic as it seeks to implement effective skills policies and continue its transition to a knowledge-based economy and society.

Executive summary

OECD-Slovak Republic collaboration on the OECD National Skills Strategy project

This National Skills Strategy project provides Slovakia with tailored findings and recommendations on its skills performance from an international perspective. It was launched at the Skills Strategy Seminar in Bratislava in January 2019, with senior representatives from the Ministry of Education, Science, Research and Sport; the Ministry of Labour, Social Affairs and Family; the Ministry of Finance, the Ministry of Economy; and the Office of the Deputy Prime Minister of the Slovak Republic for Investments and Informatization. Also present were representatives of the European Commission. During two further missions to the Slovak Republic in April and June 2019, the OECD engaged with a range of ministries and government agencies and over 100 stakeholders in interactive workshops, group discussions and bilateral meetings. This process provided invaluable input that shaped the findings and recommendations in this report.

Key findings and opportunities for improving the Slovak Republic's skills performance

Three important themes emerged from the National Skills Strategy project for Slovakia:

- **Equipping younger and older generations with the right skills for the future:** In the context of low (and declining) performance in the Programme for International Student Assessment (PISA), as well as the fact that many adults do not have the skills needed to succeed in an interconnected and digital world, Slovakia should invest in the skills of its people by raising the performance of schools, improving teacher quality and remuneration, strengthening the responsiveness of the education system, promoting adult learning, and developing entrepreneurial skills.
- **Ensuring inclusiveness in the development of skills:** There are significant equity concerns in the Slovak education and training system, including the strong impact of socio-economic background on skills performance. Slovak Roma students in particular face difficulties in progressing through the Slovak education system, and low-skilled adults insufficiently participate in adult learning.
- **Strengthening the governance of skills policies:** For Slovakia, many of today's skills challenges are rooted in inefficient governance arrangements, with ample room to improve collaboration between ministries and levels of government, and opportunities to strengthen the implementation of policies and reforms.

The OECD and the Government of Slovakia identified four priority areas for improving Slovakia's skills performance, which are the focus of this report. The key findings and opportunities for improvement in each of the areas are summarised below and elaborated in the chapters in the full report, which also have detailed policy recommendations.

Priority 1: Strengthening the skills of youth (Chapter 2)

Ensuring that youth leave school with strong skills is key to ensuring that Slovakia has the skills it needs to achieve its economic and social ambitions.

In Slovakia, the skills of 15-year-olds (as measured by PISA) lag behind their peers in other OECD countries in reading and science, and are declining over time. Performance in school is uneven across different groups of youth, especially between Roma and non-Roma students.

Slovakia has opportunities to strengthen the skills of its youth by:

- Increasing enrolment in pre-primary education, especially among vulnerable groups.
- Supporting schools and teachers in their work with vulnerable students.
- Building a strong teaching workforce.

Priority 2: Reducing skills imbalances (Chapter 3)

Skills imbalances are costly for individuals, firms and the economy as a whole as they lead to lower investment and lower overall productivity.

Slovakia experiences shortages both among higher- and lower-skilled occupations. There are also strong skills mismatches among younger workers and tertiary educated workers. The low responsiveness of the secondary vocational education and training (VET) and tertiary education system have contributed to skills shortages and skills mismatches, whereas emigration and brain drain have been major drivers behind shortages.

Slovakia has opportunities to reduce skills imbalances by:

- Improving the dissemination of information on labour market and skills needs.
- Strengthening the responsiveness of students and their families to labour market needs.
- Strengthening the responsiveness of secondary VET and tertiary education institutions to labour market needs.
- Moving from “brain drain” to “brain gain”.

Priority 3: Fostering greater participation in adult learning (Chapter 4)

Adult learning is particularly important for Slovakia. The Slovak economy is strong and catching up with higher-income countries. Employment and wages are growing and the unemployment rate is historically low. Nonetheless, Slovak production and exports are concentrated in a small number of manufacturing industries and the risk of job automation is particularly high.

In this context, adult learning is, and will continue being, essential for boosting the skills of adults, and can generate a range of personal, economic and social benefits. More effective adult education and training will be needed to maintain or increase the level of skills to keep pace with these rapidly changing conditions.

Slovakia has opportunities to foster greater participation in adult learning by:

- Improving the governance of adult learning.
- Increasing participation among adults out of work.
- Supporting the capacity of employees and firms to engage in adult learning.

Priority 4: Strengthening the use of skills in the workplace (Chapter 5)

There has recently been growing awareness that how well employers use skills in the workplace may be just as important as the skills their workers possess.

The skills of adults are not used to their full potential in Slovakia, and the use of most types of employees' information processing, job-specific and generic skills could be intensified. The use of reading skills at work in Slovakia is below the OECD average, while the average literacy proficiency of adults is above average, and the use of ICT (Information and Communication Technology) skills could be strengthened. Despite the strong link found between the intensive use of skills and the adoption of high performance workplace practices (HPWP), such as flexibility in the workplace or teamwork, Slovak firms are adopting HPWP at a lower rate than their counterparts in most other countries.

Slovakia has opportunities to strengthen the use of skills in the workplace by:

- Creating the conditions to facilitate the adoption of HPWP in Slovak firms.
- Providing incentives and support to Slovak firms for the adoption of HPWP.
- Enhancing the governance of policies and strategies that affect skills use.

1 Key insights and recommendations

This section applies the OECD Skills Strategy Framework to examine the characteristics and performance of the Slovak skills system. The findings are the basis for identifying, in consultation with the National Project Team, the four priority areas for action on skills use in Slovakia. This section introduces the priority areas and summarises the key findings and recommendations. It provides an overview of the policy context of the Slovak skills system, including descriptions of strategies and recent and new reforms related to skills and education. Chapters in the full report provide an in-depth analysis of opportunities, present good practices and make policy recommendations in each priority area.

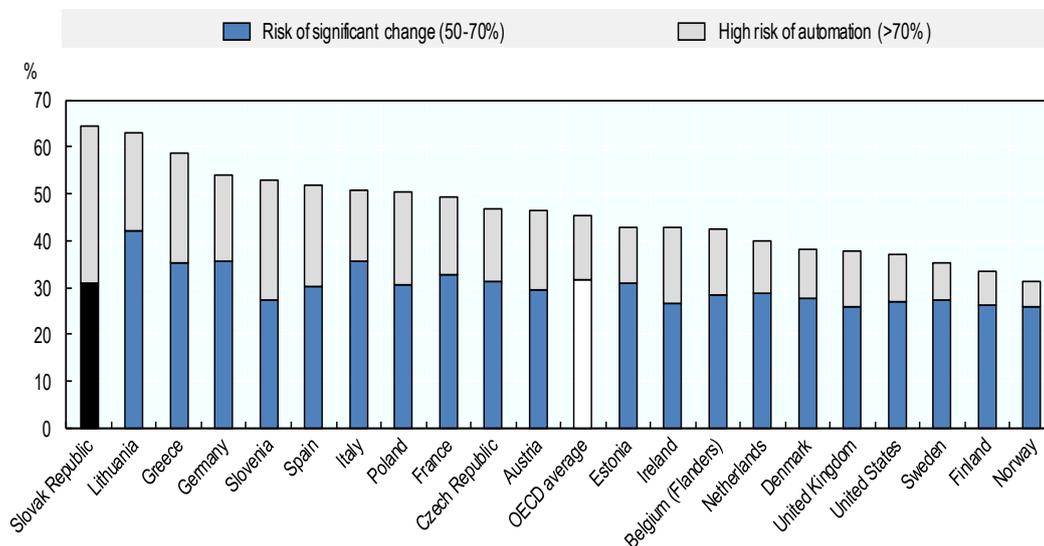
Skills are key to responding to the challenges and opportunities associated with demographic change, digitalisation, and globalisation

In recent years, economic growth in Slovakia has been solid, and international competitiveness has been strong. The economy is supported by a strong manufacturing sector – machinery, transport equipment and manufactured goods account for over 76% of total merchandise exports, and these sectors also provide work to a quarter of all Slovak employees (OECD, 2019^[1]). However, in a constantly changing world, several developments could undermine this positive trajectory. Slovakia is particularly exposed to the effects of various megatrends, such as technological change, globalisation and demographic change, resulting in great challenges for the country and its policy makers. To ensure continued success, Slovakia should build on its current strengths and use them as a foundation to introduce new policies and practices that will benefit the environment, economy and society.

The possible automation of jobs is a serious challenge for the Slovak Republic

Digital innovations such as machine learning, big data and artificial intelligence (AI) will change the nature of many jobs and reshape how certain tasks are performed. OECD work building on the Survey of Adult Skills, a product of the Programme for the International Assessment of Adult Competencies (PIAAC), suggests that in the Slovak Republic, about 34% of workers face a high risk of seeing their jobs automated, and another 31% face significant changes in their job tasks due to automation (Nedelkoska and Quintini, 2018^[2]). Driven by the large manufacturing sector in Slovakia, the share of jobs at risk of being automated is the highest among OECD-PIAAC countries (see Figure 1.1).

Figure 1.1. Cross-country variation in job automatability and percentage of jobs at risk of significant change



Source: Nedelkoska, L. and G. Quintini (2018^[2]), "Automation, skills use and training", *OECD Social, Employment and Migration Working Papers*, No. 202 <http://dx.doi.org/10.1787/2e2f4eea-en>.

StatLink  <https://doi.org/10.1787/888934075070>

Demographic change and globalisation deepen the challenges

Another challenge facing Slovakia is the shrinking share of the working-age population (OECD, 2018^[3]). For every ten adults of working age in Slovakia, there are currently approximately two adults aged 65 and over. This ratio is low compared to most OECD countries, but will increase drastically and surpass the European Union (EU) average in 2050. In 2060, it is projected that there will be six adults aged 65 and over for every ten adults of working age. This trend poses a significant challenge to the Slovak economy. For instance, employment could decrease by one-fifth, and the catch-up rate of per capita income with the average for OECD countries might slow down, and even be reversed in the long term. This drop in the contribution of labour utilisation to economic growth will make productivity growth an even more important driver of economic growth in the future (OECD, 2018^[3]).

Contributing further to the uncertainties associated with technological change is the continuing expansion of international trade and global value chains. Facilitated by new technologies and trade liberalisation, a more globalised world has arisen, characterised by the expansion of global supply chains and the outsourcing of certain forms of work. For the Slovak Republic, as in all OECD countries, this has strongly affected the competitiveness and success of different economic sectors, as well as the supply of jobs and demand for skills in the labour market (OECD, 2017^[4]; 2017^[5]). The growing awareness and knowledge of the impact of climate and environmental change on future growth and well-being in the Slovak Republic deepen these various challenges (Lubyová and Filčák, 2016^[6]).

Skills are key to building an adaptable and resilient economy and society

Technological change, demographic change, and globalisation among other developments, demonstrate that skills are key to the capacity of countries and people to thrive in an interconnected and rapidly changing world. People will increasingly need to upgrade their skills to perform new tasks in their existing jobs or acquire new skills for new jobs. Strong foundational skills¹ will make people more adaptable and resilient to the changing skills demand; and digital, transversal, social and emotional, and job-specific skills will become increasingly essential for adults to succeed in both work and life. As stressed by the first principle of the European Pillar of Social Rights, everyone should be able to access high-quality and inclusive education, training and lifelong learning to enable full participation in society and to successfully manage transitions in the labour market.

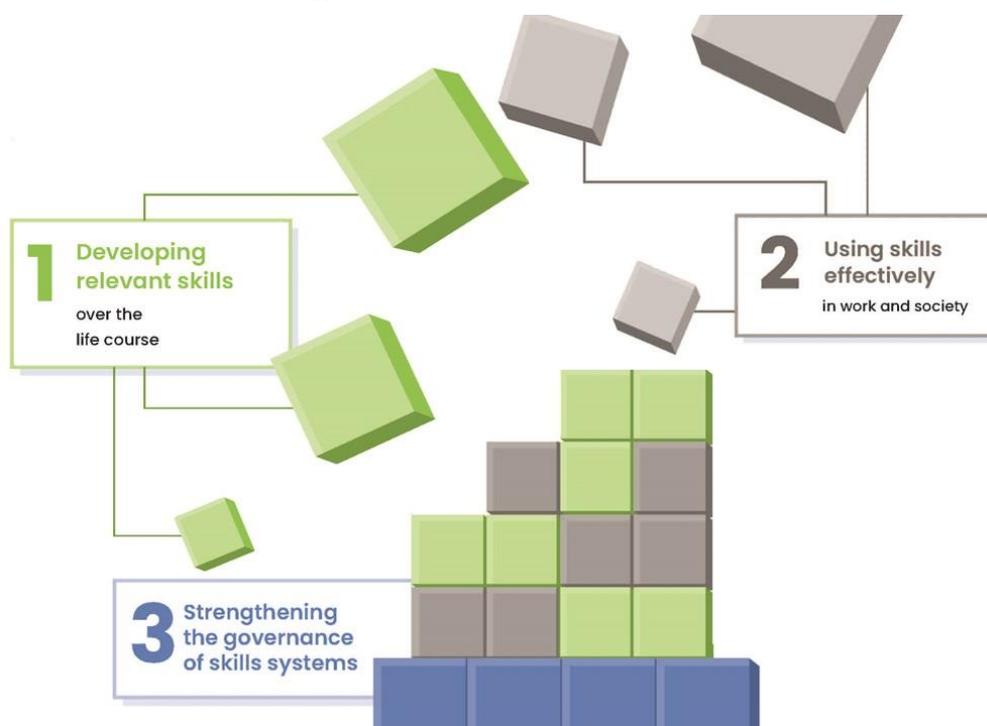
The OECD Skills Strategy project in the Slovak Republic

OECD Skills Strategy projects provide a strategic and comprehensive approach to assess countries' skills challenges and opportunities and to build more effective skills systems. The OECD works collaboratively with countries to develop policy responses tailored to each country's specific skills challenges and needs. The foundation of this approach is the OECD Skills Strategy Framework (see Figure 1.2), the components of which are:

- **Developing relevant skills over the life course:** To ensure that countries are able to adapt and thrive in a rapidly changing world, all people need access to opportunities to develop and maintain strong proficiency in a broad set of skills. This process is lifelong, starting in childhood and youth and continuing throughout adulthood. It is also “life-wide”, occurring formally in schools and higher education, as well as non-formally and informally in the home, community and workplaces.
- **Using skills effectively in work and society:** To ensure that countries and people gain the full economic and social value from investments in developing skills, people need opportunities, encouragement and incentives to use their skills fully and effectively at work and in society.
- **Strengthening the governance of skills systems:** Success in developing and using relevant skills requires strong governance arrangements to promote co-ordination, co-operation and collaboration across the whole-of-government; engage stakeholders throughout the policy cycle; build integrated information systems; and align and co-ordinate financing arrangements.

The OECD Skills Strategy project for the Slovak Republic supports this approach by forming an inter-ministerial National Project Team to support the whole-of-government approach to skills policies, and by engaging a large number of stakeholders in two workshops (assessment and recommendations workshops) and in focus group meetings.

Figure 1.2. The OECD Skills Strategy Framework



Source: OECD (2019^[7]), *OECD Skills Strategy 2019: Skills to Shape a Better Future*, <https://dx.doi.org/10.1787/9789264313835-en>.

Key themes for the Slovak Republic's skills system

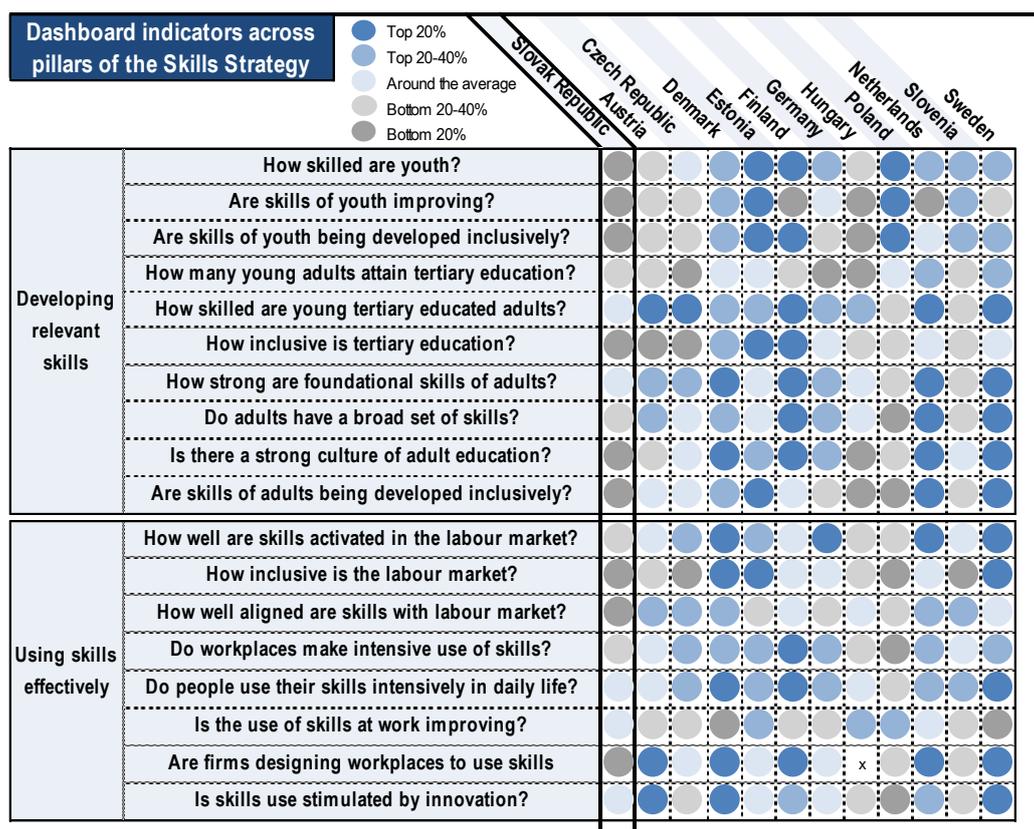
Three important themes for Slovakia emerged from the widespread engagement and analysis undertaken in relation to the three components of the OECD Skills Strategy:

- **Equipping younger and older generations with the right skills for the future:** In the context of demographic and technological change, and driven by low (and declining) performance in the Programme for International Student Assessment (PISA), as well as the fact that many adults do not have the skills to succeed in an interconnected and digital world (e.g. digital and problem-solving skills), Slovakia should invest in strengthening the skills of its people by raising the performance of schools, improving teacher quality and remuneration, strengthening the responsiveness of the education system, promoting adult learning, and developing entrepreneurial skills.
- **Ensuring inclusiveness in the development of skills:** There are significant equity concerns in the Slovak education and training system, including the strong impact of socio-economic background on skills performance for younger and older generations. In particular Slovak Roma students face difficulties in progressing through the Slovak education system, and low-skilled adults insufficiently participate in adult learning.
- **Strengthening the governance of skills policies:** For Slovakia, many of today's skills challenges are rooted in inefficient governance arrangements, with ample room to improve collaboration between ministries and levels of government, and opportunities to strengthen the implementation of policies, reforms and strategies.

Performance of the Slovak skills system

The OECD Skills Strategy Dashboard provides an overview of the relative performance of countries across the dimensions of the OECD Skills Strategy (as presented in Figure 1.3) (OECD, 2019^[1]). For each dimension of the strategy there are a number of indicators, many of which are composite indicators made up of a number of other indicators. These provide a snapshot of each country's performance.

Figure 1.3. Skills Strategy Dashboard, the Slovak Republic and selected European countries



Note: These summary indicators are calculated as a simple average of a range of underlying indicators (See Annex 1.A in the full report). All underlying indicators have been normalised in a way that implies that a higher value and being among the "top 20%" reflects better performance. The "x" indicates insufficient or no available data, and dotted circles indicate missing data for at least one underlying indicator.

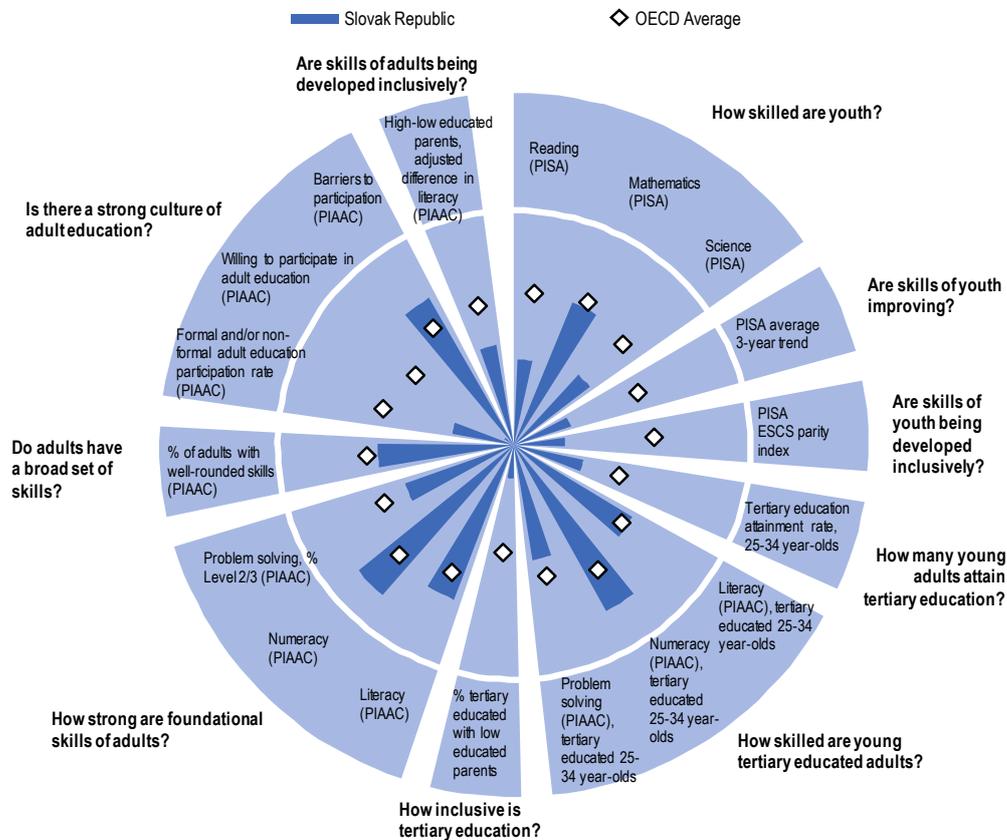
Developing relevant skills

The performance of young people and the inclusiveness of the education system could be improved

There are significant opportunities to improve the skills of young people in Slovakia (see Figure 1.4). According to 2018 PISA scores, the performance of 15 year-olds lags behind those of their peers in other OECD countries in reading and science, while it is roughly at the level of the OECD average in mathematics (OECD, 2019^[8]). In the latest PISA round, a trend of declining performance appears to have come to an end, with improvements on all PISA domains between 2015 and 2018, but the long term trend of PISA scores for reading, science and mathematics is still negative.

Figure 1.4. Key indicators for developing relevant skills

Relative position in country ranking (based on normalised scores), where higher value reflects better performance



How to read this chart: The scores indicate relative performance across OECD countries: being further away from the core of the chart indicates better performance. For example, “PISA ESCS parity index” has a low score, which indicates large inequalities in PISA performance compared to other OECD countries.

Note: The OECD average (when using PIAAC data) is based on the sample of OECD countries/regions assessed in the Survey of Adult Skills.

StatLink  <https://doi.org/10.1787/888934075089>

Student background has a strong influence on student achievement in Slovakia. For instance, with respect to reading scores, the difference between Slovak 15-year-olds in the top and bottom quarter of the PISA index of economic, social and cultural status (ESCS) equals 106 points, compared to an OECD average of 89 points (OECD, 2019_[9]). Among disadvantaged groups, Roma students achieve especially low results – average PISA scores among Roma students² are significantly worse than non-Roma students in Slovakia (OECD, 2019_[11]). Bearing in mind the crucial role played by student background, education policy in Slovakia should provide special support for students from disadvantaged backgrounds.

Tertiary education has expanded rapidly, but challenges remain

The Slovak Republic has expanded tertiary education in recent years, with the tertiary attainment rate of 25-34 year-olds doubling between 2005 and 2015. However, the country still has a relatively small share of those who have attained tertiary education. In 2018, 37% of 25-34 year-olds attained tertiary education, compared with almost 45% in the OECD on average (OECD, 2019_[10]). Moreover, the performance of tertiary education in terms of skills outcomes is mixed – while the numeracy skills of young adults with tertiary education are high, problem-solving skills are below OECD averages. There is also substantial

scope to raise the quality of university research (OECD, 2019^[1]). Academic research produces a large number of publications, but the quality is comparatively low, as shown by the small share of publications among the most cited scientific publications internationally. These outcomes can partly be explained by the resources devoted to tertiary education, which are low by OECD standards and spread too thinly.

The comparatively strong foundational skills of adults could be supported by a stronger culture of adult learning

The foundational skills of adults in Slovakia, especially numeracy skills, are comparatively strong, which reflect a historically large share of the population with at least upper secondary education (OECD, 2016^[11]). However, the skills most relevant to succeed in an interconnected and digital world, for instance problem-solving skills and digital skills, are not very well developed. For problem-solving skills, only 1 in 4 adults in Slovakia has a score reflecting high skills in this area.

A culture of lifelong learning is important for ensuring that adults keep their skills up-to-date and can adjust to changing skills needs, as well as to reduce inequities in skills performance. However, Slovakia has among the lowest participation rates in adult education in the OECD: only 32% of adults in Slovakia participated in formal and/or non-formal education in the last year in 2012, compared with 50% for OECD-PIAAC countries as a whole (OECD, 2017^[12]). Moreover, participation in adult education particularly lags behind for those who need it most (older generations; low skilled; adults with low digital skills; and women, mainly those from the most disadvantaged populations). While participation rates do differ somewhat across surveys, most provide comparable results, including the Labour Force Survey, which shows a participation rate in the last four weeks of 3.9% in 2018 in Slovakia compared with 11.1% in the EU (Eurostat, 2018^[13]).

Many adults are not motivated to learn, and barriers to participation are high

Many adults in Slovakia lack the motivation to participate in education and training, only Turkey has a higher share of adults not wanting to participate – 64% of adults in Slovakia did not participate and did not want to participate in adult learning in 2012, compared with 43% in OECD-PIAAC countries. In addition, adults in Slovakia face slightly more barriers to participation in adult education and training than in the OECD on average. According to OECD data, adults in Slovakia identify being too busy at work and lacking adequate employer support as the main obstacles to their participation.

Using skills effectively

Labour market performance has improved, but there are significant imbalances

Labour market performance has improved considerably in recent years (see Figure 1.5), with unemployment rates at record low levels and wages on the rise in Slovakia (OECD, 2019^[1]). This has led to skills shortages in many sectors. Shortages are especially large in higher-level cognitive skills, such as system skills (judgement and decision making, systems analysis and evaluation), basic skills (reading, writing and critical thinking) and complex problem-solving skills, as well as in a range of higher-level abilities (such as verbal and quantitative abilities). In contrast, there are surpluses in lower-level abilities such as endurance and physical strength (OECD, 2018^[14]). Skills imbalances in Slovakia are further exacerbated by the emigration of young and well-educated Slovaks. According to employers, the negative impact of “brain drain” on the economic competitiveness of companies in Slovakia is among the highest in Europe – scoring a 1.7 on a scale of 0 (most negative effect) to 10 (least negative effect), compared with 4.2 in Poland, 5.0 in the Czech Republic, and 5.7 in Austria (IMD World Competitiveness Center, 2018^[15]).

Skills could be used more effectively in workplaces, especially to raise productivity

Putting skills to better use in the workplace is important for workers, employers and the broader economy. Studies using data from the OECD Survey of Adult Skills (PIAAC) demonstrate the positive effects of using skills effectively on performance in both the economy and society, including employment, wages, health, trust and political efficacy (OECD, 2016_[11]). In the light of automation and the rapid ageing of the Slovak population, it will become increasingly important to raise output by enhancing the use of skills in the workplace.

The skills of adults are not used to their full potential in the workplace. The use of most types of information processing skills by employees in Slovakia could be intensified – performance is generally close to the OECD average and far below that of top performers such as Scandinavian countries, New Zealand and Australia (OECD, 2016_[11]). The use of reading skills at work, for instance, is well below the OECD average, while the average literacy proficiency of adults in Slovakia is above the average. This indicates a large waste of initial investment in skills. Furthermore, the use of information and communications technology (ICT) skills could be improved. To some extent, however, the low use of ICT skills is related to the overall low levels of digital skills of adults in Slovakia (Eurostat, 2019_[16]).

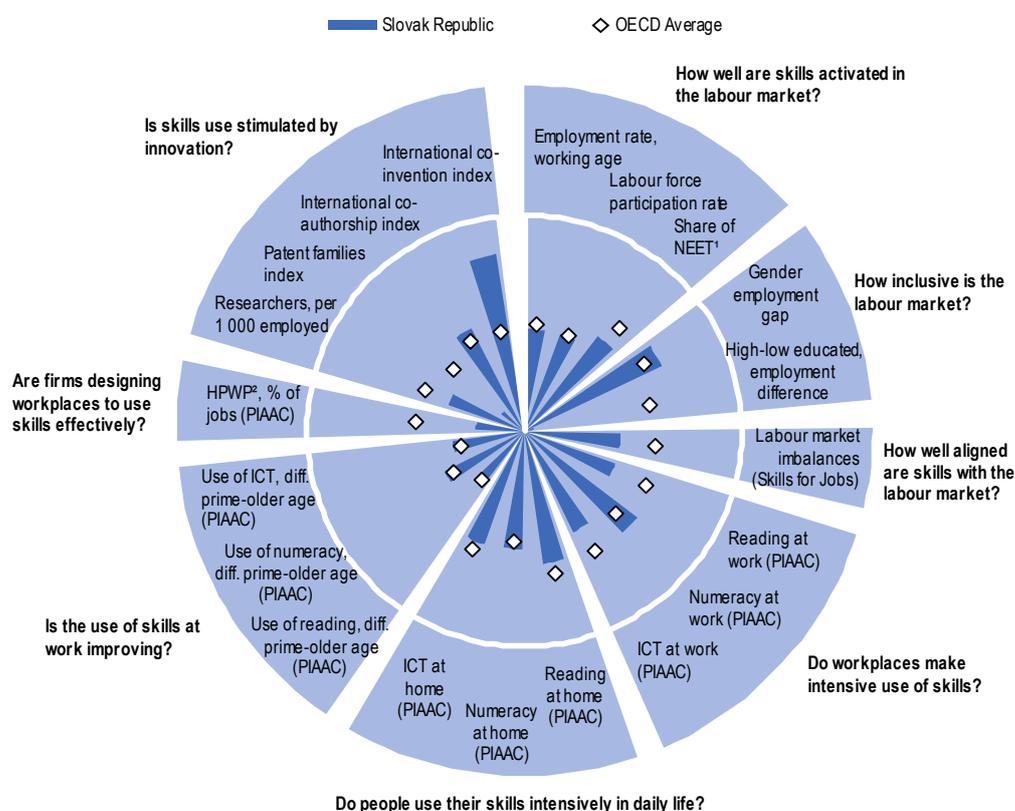
Innovations in workplaces and the broader economy could support effective skills use

Practices that are known to positively affect the performance of employees and firms are often referred to as high-performance workplace practices (HPWP). While there is no consensus on an exact definition of HPWP (Posthuma et al., 2013_[17]; UKCES, 2009_[18]) – there is, for instance, no universal list of practices that should be applied to any organisation – HPWP are considered to cover both organisational and management practices. This includes a wide range of workplace practices, including work flexibility and autonomy; teamwork and information sharing; training and development; and benefits, career progression and performance management (see Chapter 5 in the full report). The adoption of HPWP is associated with more effective skills use; however, only 17% of all Slovak jobs adopted HPWP in 2012, compared with 26% among OECD-PIAAC countries (OECD, 2016_[11]).

Increased business investment in a range of intangible assets – such as organisational capital, computerised information, design, and research and development (R&D) – is also positively associated with the effective use of skills, productivity and competitiveness. However, expenditure on R&D in the Slovak Republic was only 0.9% of gross domestic product (GDP) in 2017, which is one of the lowest rates in the OECD (OECD, 2018_[3]), and the share of researchers in the workforce is comparatively low. Overall innovation activity is weak and not very international, for instance, a small share of patents is developed with foreign co-inventors (OECD, 2017_[19]).

Figure 1.5. Key indicators for using skills effectively

Relative position in country ranking (based on normalised scores), where higher value reflects better performance.



1. Youth not in employment education or training (NEET).

2. High-performance workplace practices (HPWP).

How to read this chart: The normalised scores indicate the relative performance across OECD countries: being further away from the core of the chart indicates better performance.

Note: The OECD average (when using PIAAC data) is based on the sample of OECD countries/regions assessed in the Survey of Adult Skills.

StatLink  <https://doi.org/10.1787/888934075108>

Strengthening the governance of skills systems

Implementing reforms is challenging for governments, especially when policies involve a wide range of actors and entities, such as different levels of government and stakeholders, and cut across multiple policy sectors. Across the spectrum of policy sectors, policies aimed at improving skills outcomes – of both the development and use of skills – are a prominent example of complexity. Many of today's skills challenges are rooted in poor governance arrangements across policy areas and levels of government, as well as with stakeholders; inadequate information on skills and learning outcomes; and inefficient financing mechanisms.

The effectiveness of strategies, policies and reforms is often compromised by weak implementation

In Slovakia, strategies, policies and reforms tend to be well developed and comprehensive, but their implementation is often comparatively weak. This finding is supported by 2018 data from the Sustainable Governance Indicators (SGI), which found that overall “implementation” as a category

of executive capacity scored 5.3 (on a scale of 10), compared with 6.8 on average across OECD countries (Bertelsmann Stiftung, 2019^[20]). Drivers behind this weak implementation are the limited evaluation and monitoring of policies, as well as the lack of continuity and consistency of strategies.

The whole-of-government approach to skills policies could be strengthened

Despite attempts to strengthen the whole-of-government approach in Slovakia, there are indications that there is still limited co-operation between the various ministries and government organisations on innovation, labour market and education topics (OECD, 2014^[21]). The SGI score for Slovakia on inter-ministerial co-ordination is 5.3, compared with 7.2 on average in the OECD (Bertelsmann Stiftung, 2019^[20]). These findings are supported by the European Commission, which sees fragmentation of policy design and rigid departmentalism in Slovakia's public administration as a major barrier to the implementation of policies and collaboration between ministries (European Commission, 2018^[22]).

Slovakia appears to perform much better in terms of co-operation and co-ordination with stakeholders. This is reflected in the fact that it scored among the highest in the 2015 OECD Indicators of Regulatory Policy and Governance (iREG) on stakeholder engagement (OECD, 2017^[23]).

Policy context in the Slovak Republic

The Slovak government has already taken steps to address many of the challenges identified in this section. These efforts go in the right direction and have the potential to generate the policy outcomes the country needs to strengthen adult education and training, and to more effectively use skills at work and in society.

A number of long-term visions related to skills and education have been developed in recent years. For example, the Strategy of the Digital Transformation of Slovakia 2030 defines policy priorities for the period 2019-2030 in the context of the challenges linked to digitalisation. As an inter-departmental strategy, it will be the basis for the development of specific measures, such as the Action Plan of the Digital Transformation of Slovakia 2019-2022.

For the long term, the Slovak government has developed the Economic Policy Strategy of the Slovak Republic until 2030. This comprehensive document proposes a broad range of measures in areas such as human capital development, technological change and business environment development to ensure the competitiveness and sustainability of economic growth. In 2019, the Slovak Republic also adopted the Strategy of the Environmental Policy until 2030, which defines the vision, sets objectives, proposes a framework for measures, and lists indicators to achieve better environmental quality and sustainable circulation of the economy. This strategy lists environmental education and education for sustainable development as one of its major priorities.

For education specifically, the National Programme for the Development of Education ("Learning Slovakia") was developed in 2018. This document identifies the direction of Slovak education for the next ten years (2018-2027) and includes 12 objectives and 106 measures. It is supported by an implementation plan consisting of five action plans, each of which cover a two-year period.

Strategies adopted by the Slovak government for periods ending in 2020 include the National Employment Strategy of the Slovak Republic until 2020 (identifying macroeconomic determinants of employment development). In 2016, the Slovak government launched a Government Manifesto that defined priorities and interventions in education for 2016-2020. This manifesto has both qualitative and quantitative targets.

For policies related to adult learning, the Lifelong Learning Strategy, adopted in 2011, formulates the key priorities in lifelong learning and includes implemented and evaluated action plans. A new strategy for lifelong learning is currently being developed. The National Programme of Active Ageing 2014-2020

identifies goals to activate the adult population, with several linked to adult learning. Slovakia has also developed strategies on other specific topics, for instance migration policies (the 2018 Strategy for the Mobility of Foreigners in the Labour Market in the Slovak Republic) and innovation (the 2018 Action Plan for Smart Industry).

Recently introduced reforms and policies in the field of skills and education include the 2018 Act on Quality Assurance in Higher Education, which includes new specific legislation to assure quality in higher education, including by involving stakeholders (employers, graduates, research institutions) in reviewing the content of study programmes. In 2015, the Slovak government introduced the Act on Vocational Education and Training, which covers a broad range of topics including vocational education and training (VET) in secondary education, practical training, dual education, and co-ordination of VET for the labour market. In the same year, the Slovak Qualifications Framework (SKKR) was adopted. The SKKR is a tool that allows for common understanding and the fine-tuning of learning outcomes, taking into account different learning pathways. It builds on the involvement and participation of stakeholders in the development of qualifications, and offers opportunities for the adaptation of qualifications to the needs of the labour market and society.

The above-mentioned reforms and long-term visions and strategies provide only a sample of the most recent initiatives directly related to improving the development, activation and use of skills. Nonetheless, they indicate how actively the Slovak government has worked to address skills challenges. The following section provides more detailed information on how these policies, reforms and strategies are related to the priority areas.

Priority areas and recommendations

Based on the assessment of the overall performance of the Slovak skills system and the feedback from the Slovak government, four priority areas have been identified as part of the Skills Strategy project in the Slovak Republic:

1. Strengthening the skills of youth (Chapter 2 in the full report).
2. Reducing skills imbalances (Chapter 3 in the full report).
3. Fostering greater participation in adult learning (Chapter 4 in the full report).
4. Strengthening the use of skills in workplaces (Chapter 5 in the full report).

Based on in-depth desktop analysis, stakeholder workshops and discussion groups, the OECD has selected opportunities and developed recommendations for the Slovak Republic in each of the priority areas. The summaries below highlight the key findings and recommendations for each priority area, and the specific chapters in the full report present the complete findings and describe the recommendations in more detail.

Priority 1: Strengthening the skills of youth

Ensuring that youth leave school with strong skills is key to ensuring that Slovakia has the skills it needs to achieve its economic and social ambitions. The development of strong skills in young people not only paves the way to success in higher education and the labour market, but also helps to foster a culture of lifelong learning that will play a part in building an adaptable and resilient society. Providing youth with a strong set of skills also helps to foster strong self-esteem and provides young people with the aptitude to contribute towards the building of a sustainable society for future generations. Building up an adequately skilled generation that is able to eventually easily join and strengthen the labour force also has wider positive effects on the social cohesion and general well-being of the country.

In Slovakia, the skills of 15 year-olds (as measured by the PISA) lag behind their peers in other OECD countries in reading and science and are declining over time on all three domains measured by PISA (reading, science, mathematics). In addition, the performance in school is uneven across different groups of youth, especially between Roma and non-Roma students.

Opportunity 1: Increasing enrolment in pre-primary education, especially among vulnerable groups

Data from PISA 2015 show a strong, positive relationship between the number of years that 15-year-old students spend in early childhood education and their scores on the PISA science assessment, even when comparing students from similar backgrounds (OECD, 2019^[8]). In Slovakia, the score-point difference in science performance between 15-year-old students who attended early childhood education (ISCED 0) for two years or more and those who attended pre-primary educational facilities for less than two years is roughly 25.7 points (almost one year of schooling), after accounting for student and school socio-economic profile. Similarly, data from PISA show that Slovak students who spend three or more years in early childhood education are four times less likely to be low performers in the PISA assessment. Therefore, Slovakia should take advantage of the benefits of high-quality pre-primary education and continue its efforts to increase enrolment, especially among vulnerable groups, by ensuring the availability of pre-primary schools in disadvantaged regions and by building the trust of disadvantaged groups in the school system.

Opportunity 2: Supporting schools and teachers in their work with vulnerable students

PISA 2018 scores indicate that the general skills of 15 year-olds in the Slovak Republic lag behind those of their peers in other OECD countries in reading and science, and match the OECD average in mathematics (OECD, 2019^[8]). However, the average scores obscure considerable variation in school performance across different groups of Slovak youth. Socio-economic status (including parental education and occupation, wealth and educational resources) has a large impact on school performance of Slovak students. In fact, 17.5 % of the variance in students' reading performance in Slovakia is accounted for by differences in students' socio-economic status which is above the OECD average of 12% (OECD, 2019^[9]). Therefore, focusing on vulnerable students and supporting schools and teachers in better catering to their needs has significant potential to improve the student performance of these groups, and therefore boost the overall level of skills of youth. More specifically, Slovakia should do so by providing targeted support to vulnerable students and identifying schools and students at risk.

Opportunity 3: Building a strong teaching workforce

Building up a strong teaching workforce is critical for improving the skills of youth. Research shows that teacher quality has a significant impact on student learning outcomes and academic achievement (Schacter and Thum, 2004^[24]; Hanushek, Piopiunik and Wiederhold, 2018^[25]), and that those effects can be persistent (Konstantopoulos and Chung, 2011^[26]). Unfortunately, a number of factors hinder Slovakia's capacity to attract and retain high-quality teachers in the education system, the most relevant being teachers' salaries. However, higher salaries will provide neither an automatic nor a comprehensive solution to the low levels of attractiveness of the teaching profession, and there are other aspects that need to be improved in parallel. Slovakia should thus focus on enhancing the practical aspects of curricula in initial teacher training, improving the professional development of teachers and enhancing teacher career advancement.

Overview of recommendations

Opportunity 1: Increasing enrolment in pre-primary education, especially among vulnerable groups	
Improving the availability of pre-primary schools in disadvantaged regions	<ul style="list-style-type: none"> Gradually introduce a legal entitlement for 3 and 4 year-olds to attend pre-primary education. Increase the number of public kindergartens to accommodate the new demand, while also giving private providers the opportunity to complement the supply.
Lowering the perceptual and financial barriers that prevent disadvantaged groups from enrolling in pre-primary education	<ul style="list-style-type: none"> Strengthen the capacities and reach of on-the-ground work with vulnerable families. Adjust the criteria for receiving financial assistance in order to better cover the population of socially disadvantaged children.
Opportunity 2: Supporting schools and teachers in their work with vulnerable students	
Providing targeted support to vulnerable students	<ul style="list-style-type: none"> Provide school teachers working with vulnerable students easily implementable international best practice examples of teaching these students. Strengthen co-operation and communication between schools, vulnerable students' families and social services. Simplify the administrative complexity of setting-up individual educational programmes.
Identifying schools and students at risk	<ul style="list-style-type: none"> Transform the Resort Informational System (RIS) into a fully-fledged early warning system (EWS) by redesigning it to collect data on pupil attendance and grades. Embed the EWS within a wider, flexible and personalised system of response to prevent early school leaving.
Opportunity 3: Building a strong teaching workforce	
Enhancing the practical aspects of curricula in initial teacher training	<ul style="list-style-type: none"> Legislate a minimum share of practical training for student teachers at universities. Facilitate the establishment of partnerships between pedagogical faculties and schools.
Improving the professional development of teachers	<ul style="list-style-type: none"> Strengthen the quality and relevance of professional development. Expand the diversity of teacher professional development.
Supporting teacher career advancement	<ul style="list-style-type: none"> Establish clear guidelines for the creation of portfolios. Support teachers in the transition towards the portfolio system. Unify teaching standards across the system. Make mentoring activities a key component of career advancement.

Priority 2: Reducing skills imbalances

Skills imbalances are comprised of shortages and skills mismatches. Skills imbalances are costly for individuals, firms and the economy as a whole as they lead to lower investment and lower overall productivity. The existing evidence suggests that Slovakia experiences shortages both among higher-skilled occupations (such as engineers) and lower-skilled occupations (such as assemblers). There are also strong skills mismatches among younger workers and tertiary educated workers. The low responsiveness of the secondary VET and tertiary education system have contributed to skills shortages and skills mismatches, whereas emigration and brain drain have been major drivers behind shortages.

Opportunity 1: Improving the dissemination of information on labour market and skills needs

Effectively disseminating information on current and future labour market and skills needs is crucial to address shortages and skills mismatches. Skills assessment and anticipation (SAA) exercises are the main tools to generate and disseminate information on labour market and skills needs. To minimise shortages and skills mismatches, the results from SAA tools should be tailored and disseminated to different users, including policy makers, education and training institutions, students, adult learners, career guidance services, and employers. The evidence suggests that the dissemination of information from SAA tools in Slovakia is fragmented and not always tailored to the needs of different users.

Opportunity 2: Strengthening the responsiveness of students and their families to labour market needs

To minimise skills imbalances, students and their families need to become more responsive to labour market needs and make choices that are aligned with current and future labour market dynamics. This typically requires improving the direct dissemination of information from SAA tools to students and their families, and providing effective career guidance services. In the Slovak context, the direct dissemination of information and effective career guidance could help reduce skills mismatches among younger workers and tertiary graduates, as well as reduce shortages among both medium-skilled and high-skilled occupations. So far, Slovakia has struggled to directly disseminate information on labour market and skills needs to students and their families, and the available evidence shows that performance in terms of career guidance has not been stronger. However, Slovakia has recently introduced some reforms in schools, which will need to be adequately supported and complemented.

Opportunity 3: Strengthening the responsiveness of secondary VET and tertiary education institutions to labour market needs

Students making choices aligned with labour market needs is insufficient to ensure a responsive education system; education institutions also need to supply programmes that align with labour market needs. This depends on the incentives designed by the government and effective collaboration between education institutions and employers. In Slovakia, improving the alignment of the secondary VET offering to labour market needs is important to close shortages in medium-skilled occupations. Improving the alignment of the tertiary offering would help minimise shortages among higher-level occupations and contribute to reducing skills mismatches among tertiary graduates. The available evidence suggests that Slovakia has struggled to develop effective financing and regulatory arrangements, as well as strong collaboration between education institutions and employers, both in secondary VET and tertiary education. However, some reforms have recently been introduced to improve the performance of secondary VET institutions and the quality assurance regime in tertiary education. These reforms will need to be carefully supported going forward.

Opportunity 4: Moving from “brain drain” to “brain gain”

Since joining the EU in 2004, emigration and brain drain have been a major concern for Slovakia. However, the emigration of Slovaks has slowed down in the last few years, and improved economic conditions have led to positive net migration. Going forward, Slovakia could increase its efforts to attract and retain workers from abroad. This could help address skills shortages, especially in the short term. However, Slovakia has struggled to develop a coherent policy response to attract Slovak and foreign workers from abroad. It does not have a single body responsible for overseeing engagement with the diaspora and has not developed a comprehensive diaspora engagement policy. Slovakia has recently simplified the procedures to hire non-EU/EEA (European Economic Area) workers, but it can further improve policies for the relocation and integration of foreign workers.

Overview of recommendations

Opportunity 1: Improving the dissemination of information on labour market and skills needs	
Strengthening the dissemination of information from SAA tools to all users	<ul style="list-style-type: none"> Develop a comprehensive strategy to consolidate results from multiple SAA exercises, and tailor dissemination to different users.
Opportunity 2: Strengthening the responsiveness of students and their families to labour market needs	
Improving the direct dissemination of information to students and their families	<ul style="list-style-type: none"> Introduce a one-stop-shop portal that allows students and their families to access information on labour market and skills needs and study opportunities. Consider launching a publicity campaign targeted at students and their families that advertises the importance of using labour market information.
Expanding career guidance in schools and universities	<ul style="list-style-type: none"> Complement reforms to career guidance in schools by implementing clear standards for the compensation of school counsellors, as well as the range of services offered. Provide targeted funding and tighten regulatory requirements for career guidance centres in universities.
Opportunity 3: Strengthening the responsiveness of secondary VET and tertiary education institutions to labour market needs	
Supporting recent reforms in secondary VET institutions	<ul style="list-style-type: none"> Support recent reforms on the allocation of funding and study places in secondary institutions by making full use of the results from SAA tools. Support the recently introduced dual system by financing employer-led training associations. Further strengthen the role and capacity of sectoral assignees in curriculum development, quality assurance and the provision of information.
Strengthening incentives to align tertiary education with labour market needs	<ul style="list-style-type: none"> Introduce more targeted incentives to monitor the employability of graduates in the funding structure. Consider introducing separate governance and funding arrangements for professionally oriented institutions to encourage the uptake of professional bachelor programmes.
Opportunity 4: Moving from “brain drain” to “brain gain”	
Attracting Slovak workers from abroad	<ul style="list-style-type: none"> Identify or introduce a government body responsible for the implementation of a diaspora engagement programme. Develop a comprehensive strategy for engagement with the diaspora that builds on data on the skills and motivation of Slovaks abroad.
Attracting foreign workers from abroad	<ul style="list-style-type: none"> Streamline and improve the recently introduced hiring procedures for non-EU/EEA workers. Introduce a one-stop-shop portal for foreign workers that advertises employment opportunities in Slovakia and supports the relocation process. Strengthen the provision of services that can support the integration of foreign workers.

Priority 3: Fostering greater participation in adult learning

Across the OECD, adults with lower literacy and numeracy levels are far more likely than those with higher levels of skills to have lower earnings and employment rates, report poor health, feel excluded from political processes and report not having trust in others. There is also a growing need to upgrade and reskill regularly in adulthood in the context of technological change, more frequent transitions between jobs, the growth of non-standard forms of work (and by extension less access to employer-sponsored training) and the lengthening of working lives.

The Slovak economy is strong and catching up with higher-income countries. Employment and wages are growing and the unemployment rate is historically low, dipping below 7%. Nonetheless, Slovak production and exports are concentrated in a small number of manufacturing industries. The high degree of specialisation and agglomeration has allowed for the development of clusters, which have been relevant in attracting foreign direct investments (FDI). However, this is also a source of vulnerability, especially as the risk of automation is particularly high in Slovakia. In this context, adult learning is, and will continue being, essential for boosting the skills of adults, and can generate a range of personal, economic and social benefits. More effective adult education and training will be needed to maintain or increase the level of skills to keep pace with these rapidly changing conditions.

Opportunity 1: Improving the governance of adult learning

Increasing participation in adult learning requires a policy framework that is well co-ordinated. In order to encourage adults to participate in learning and education over their life course, the importance of adult learning, as well as a clear definition of what it is, needs to be acknowledged across all levels of government and society. A clear connection between government goals and policies, as well as a consensual, coherent, long-term vision supported by an unambiguous division of responsibilities is necessary for the functioning of an adult learning system that is capable of easily attracting and retaining participants. Slovakia should therefore focus its efforts on improving the governance of its adult learning system by further improving its long-term adult learning strategy, as well as by improving co-ordination across ministries, levels of government and stakeholders.

Opportunity 2: Increasing the participation among adults out of work

Unemployed and long-term unemployed adults have among the lowest participation levels in adult learning not only in Slovakia, but also across the OECD. A similar situation can be observed with respect to the gaps between their participation in adult learning and that of employed Slovaks. The participation of unemployed Slovaks is thus integral for increasing the overall participation level in adult learning. The continued education and training of unemployed adults as a way of re/upskilling presents important gains, not only at an individual level by increasing the employment prospects and related economic and mental well-being of individuals, but at a government level through a better qualified workforce, lower unemployment rate, stronger and more resilient economy, and reduced pressure on the welfare state. As a result, Slovakia should concentrate its efforts on increasing participation in adult learning among unemployed adults by providing high-quality and accessible training, and strengthening the outreach of labour offices.

Opportunity 3: Supporting the capacity of employees and firms to engage in adult learning

Although the participation of employed adults in adult learning is higher than unemployed adults in Slovakia, it is unequal, with workers most in need of continuous education and training participating considerably less than those without as much need. For instance, adults working in small and medium-sized enterprises (SMEs) participate less in adult learning than employees of large firms, both within Slovakia and when compared internationally. Only five other OECD countries report having lower participation of SME employees in adult learning. Also, the training provided to adults in large companies tends to be firm specific, thus failing to develop the general human capital and basic, transferable skills of Slovak workers. Various barriers to inclusive participation in adult learning in Slovakia have been identified. An important step forward will depend on removing the financial barriers that both individuals and firms face through the provision of financial incentives. In the context of the ongoing analysis of the new financial instruments, Slovakia should seek to maximise its potential to increase inclusive participation in adult learning by designing targeted individual learning accounts that reflect labour market needs, and target tax exemptions at SMEs.

Overview of recommendations

Opportunity 1: Improving the governance of adult learning	
Further improving Slovakia's long-term adult learning strategy	<ul style="list-style-type: none"> • Unify the existing strategies and initiatives into a one coherent lifelong learning strategy. • Emphasise the governance, financing and equity aspects of adult learning in the new lifelong learning strategy. • Explicitly acknowledge in the new lifelong learning strategy that the need for adult learning is greater in certain Slovak regions.
Improving co-ordination across ministries, levels of government and stakeholders	<ul style="list-style-type: none"> • Introduce cross-sectoral co-ordination during the implementation and monitoring stages of policy/programme cycles. • Reinforce co-ordination with regions and districts.
Opportunity 2: Increasing the participation among adults out of work	
Providing high-quality and accessible training	<ul style="list-style-type: none"> • Direct a greater share of ALMP spending to labour market relevant training and education. • Increase resources for the Central Office of Labour, Social Affairs and Family (Ústredie práce, sociálnych vecí a rodiny, UPSVR) counselling services to expand access to training for unemployed adults, especially those long-term unemployed and with low skills.
Strengthening the outreach of labour offices	<ul style="list-style-type: none"> • Integrate municipalities into the employment registration process to expand access to training opportunities for hard-to-reach groups of unemployed adults. • Consider the use of data driven processes and tools to increase the capacity and efficiency of labour offices.
Opportunity 3: Supporting the capacity of employees and firms to engage in adult learning	
Designing targeted incentives that reflect labour market needs	<ul style="list-style-type: none"> • When piloting an ILA scheme, consider the different enabling conditions that are prerequisites for successful implementation. • Training subsidies should be spent on approved training courses only.
Targeting tax exemptions at SMEs	<ul style="list-style-type: none"> • Consider differentiated tax exemptions for SMEs. • Limit tax deductions to non-wage costs only. • Tax deductions should only apply to approved training courses.

Priority 4: Strengthening the use of skills in workplaces

There has recently been a growing awareness that how well employers use skills in the workplace may be just as important as the skills their workers possess. To not waste the initial investment in skills development, and to limit the depreciation and obsolescence of unused skills, countries should strive to use skills as intensively as possible in the economy, workplaces and society (Guest, 2006^[27]). Putting skills to better use in the workplace is important for workers, employers and the broader economy, with benefits for both the economy and society (OECD, 2019^[7]). In the context of megatrends, there is an even stronger need to improve the effective use of skills in the workplace to ensure the long-term sustainability of Slovakia's economy.

The skills of adults are not used to their full potential in the Slovak workplace, and the use of most types of employees' information processing, job-specific and generic skills could be intensified. As one of the few countries in the OECD, the use of reading skills at work in Slovakia is well below the OECD average, while the average literacy proficiency of adults in Slovakia is above the average (OECD, 2016^[11]), and also the use of ICT skills could also be strengthened. There is a strong link between the intensive use of skills and the adoption of HPWP, including 1) flexibility and autonomy in the workplace; 2) teamwork and information sharing; 3) training and development; and 4) benefits, career planning and performance management (OECD, 2016^[28]). However, Slovak firms are adopting HPWP at a lower rate than their counterparts in most other countries: about 17% of jobs adopted these practices, compared with 26% in the OECD; only Italy, Turkey and Greece have a lower share across the OECD.

Opportunity 1: Creating the conditions to facilitate the adoption of HPWP in Slovak firms

Skills use can be improved by creating a culture in firms where innovation and entrepreneurship flourish. To develop such a culture, it is essential that employees, management staff, employers and entrepreneurs have the skills and motivation to make changes in organisation and management practices. In Slovakia, there are indications that such a working culture, as well as the required skills and motivations, can be strengthened. The low adoption of HPWP in Slovakia, despite various programmes and measures, indicates that for many firms, there are other factors contributing to the limited adoption. It is likely that systemic barriers within the firms play a role. For Slovakia, it would be important to develop a working environment and working culture that strengthens the engagement and job satisfaction of employees to support changes in workplaces. Furthermore, the adoption of HPWP would be facilitated by strengthening the skills and motivation of management staff, as well as improved attitudes towards entrepreneurship.

Opportunity 2: Providing incentives and support to Slovak firms for the adoption of HPWP

The strong productivity growth and success of the Slovak economy in recent years has largely been driven by joining global value chains supported by large foreign investment inflows, which has created a competitive export-led manufacturing industry. However, the overall strong average economic performance hides large disparities, with in particular, predominantly domestically owned SMEs increasingly falling behind. Strengthening the adoption of HPWP in SMEs and local firms could help to counter the trend of divergence and would support broader, more sustainable economic growth in Slovakia. In addition to raising the awareness of skills use and HPWP, targeted measures and initiatives that directly support Slovak firms should be introduced, and current support measures should be strengthened and expanded. A decentralised approach, supported by employer groups, business clusters and sectoral associations could contribute to more knowledge spillovers to the local SMEs.

Opportunity 3: Enhancing the governance of policies and strategies that affect skills use

Implementing reforms is challenging for governments, especially when policies involve a wide range of actors and entities and cut across multiple policy sectors. The inherent difficulties in co-ordinating and aligning different policy sectors and actors is one of the main challenges impeding a more effective and efficient implementation of skills policies. For Slovakia, there are indications that these governance arrangements can be strengthened. A long-term vision for skills use and HPWP could help to raise Slovakia's performance. The topics should be included more explicitly in existing visions, strategies and action plans, and Slovakia should ensure the continuity, consistency and actual implementation of these initiatives. A whole-of-government approach and active engagement of stakeholders are crucial for optimal outcomes of the government's actions to raise skills and the adoption of HPWP, and the role of the public sector, especially its effectiveness and efficiency should be taken into account.

Overview of recommendations

Opportunity 1: Creating the conditions to facilitate the adoption of HPWP in Slovak firms	
Creating a supportive working environment for employees	<ul style="list-style-type: none"> • Raise the job satisfaction of Slovak workers by promoting a working environment where workers' contributions are recognised, valued and rewarded. • Raise employee engagement by strengthening employee representative structures in Slovak firms.
Strengthening the skills and motivation of management staff	<ul style="list-style-type: none"> • Raise awareness of the need to improve the quality of management staff and share knowledge and examples of strong management practices. • Raise the participation of management staff in education and training by improving and expanding the overall training offer that is relevant for management.
Developing entrepreneurial attitudes from early on in the education system	<ul style="list-style-type: none"> • Improve attitudes towards entrepreneurship by expanding and strengthening public and private programmes in the education system that develop entrepreneurial skills.
Opportunity 2: Providing incentives and support to Slovak firms for the adoption of HPWP	
Raising awareness of skills use, workplace practices and support measures	<ul style="list-style-type: none"> • Promote the benefits of skills use and workplace innovations through campaigns and by introducing a centralised portal with relevant information. • Expand awareness of existing support measures for firms, especially among SMEs.
Strengthening and expanding support measures to firms	<ul style="list-style-type: none"> • Improve the accessibility of support programmes for SMEs by reducing the administrative burden. • Strengthen support to firms by consolidating and aligning support measures and by offering programmes to all firms.
Leveraging employer groups, clusters and sectoral associations for the adoption of HPWP and to facilitate knowledge spillovers	<ul style="list-style-type: none"> • Strengthen current employer networks, clusters and associations, including by stimulating the participation of local SMEs. • Introduce programmes that facilitate and promote the exchange of knowledge between large international firms and local SMEs.
Opportunity 3: Enhancing the governance of policies and strategies that affect skills use	
Strengthening visions, strategies and action plans for the growth and innovation of firms and workplaces	<ul style="list-style-type: none"> • Develop a long-term vision for skills use and HPWP by including them more explicitly in existing visions, strategies and action plans, and ensure their continuity, consistency and implementation.
Applying a whole-of-government approach and engaging stakeholders in policies that affect skills use	<ul style="list-style-type: none"> • Strengthen co-operation and co-ordination between all ministries, government organisations and stakeholders in the development of policies that affect skills use and workplace practices.
Enhancing the adoption of HPWP in the public sector to raise effectiveness and efficiency	<ul style="list-style-type: none"> • Strengthen the adoption of HPWP in the public sector by setting government-wide standards and requirements. • Ensure that civil servants have the right skills for their work by improving learning opportunities and strengthening the recruitment system.

References

- Bertelsmann Stiftung (2019), *Sustainable Governance Indicators*, <http://www.sgi-network.org/2018/> (accessed on 17 September 2019). [20]
- European Commission (2018), *Public Administration Characteristics and Performance in EU28: Slovakia*, Directorate-General for Employment, Social Affairs and Inclusion, Publications Office of the European Union, Luxembourg. [22]
- Eurostat (2019), *Individuals' level of digital skills*, Eurostat, Luxembourg, https://ec.europa.eu/eurostat/web/products-datasets/-/isoc_sk_dskl_i (accessed on 13 September 2019). [16]
- Eurostat (2018), *Participation rate in education and training (last 4 weeks) by NUTS 2 regions*, Eurostat, Luxembourg, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=trng_lfse_04&lang=en. [13]
- Guest, R. (2006), "Better Utilization of Skills Through Job Design", *Human Resource Management*, Vol. 3/3, pp. 1-11. [27]
- Hanushek, E., M. Piopiunik and S. Wiederhold (2018), "The Value of Smarter Teachers: International Evidence on Teacher Cognitive Skills and Student Performance", *Journal of Human Resources*, pp. 0317-8619R1, <http://dx.doi.org/10.3368/jhr.55.1.0317.8619R1>. [25]
- IMD World Competitiveness Center (2018), *IMD World Talent Ranking 2018*, Institute for Management Development (IMD), <https://www.imd.org/wcc/world-competitiveness-center-rankings/talent-rankings-2018/>. [15]
- Konstantopoulos, S. and V. Chung (2011), *The Persistence of Teacher Effects in Elementary Grades*, American Educational Research Association, <http://dx.doi.org/10.2307/27975293>. [26]
- Lubyová, M. and R. Filčák (2016), *Globálne Megatrendy Hodnotenie A Výzvy Z Pohľadu Slovenskej Republiky [Global Megatrends: Evaluation and Challenges from the Slovak Republic's Point of View]*, Centrum spoločenských a psychologických vied, Slovenská akadémia vied, http://www.cspv.sav.sk/fileadmin/user_upload/Aktuality/Publikacia_GMT/Global_Megatrends_from_Slovak_Point_of_View_06.pdf (accessed on 21 October 2019). [6]
- Nedelkoska, L. and G. Quintini (2018), "Automation, skills use and training", *OECD Social, Employment and Migration Working Papers*, No. 202, OECD Publishing, Paris, <https://dx.doi.org/10.1787/2e2f4eea-en>. [2]
- OECD (2019), *OECD Economic Surveys: Slovak Republic 2019*, OECD Publishing, Paris, https://dx.doi.org/10.1787/eco_surveys-svk-2019-en. [1]
- OECD (2019), *OECD Skills Strategy 2019: Skills to Shape a Better Future*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264313835-en>. [7]
- OECD (2019), *PISA 2018 Results (Volume I): What Students Know and Can Do*, PISA, OECD Publishing, Paris, <https://dx.doi.org/10.1787/5f07c754-en>. [8]
- OECD (2019), *PISA 2018 Results (Volume II): Where All Students Can Succeed*, PISA, OECD Publishing, Paris, <https://dx.doi.org/10.1787/b5fd1b8f-en>. [9]

- OECD (2019), *Population with tertiary education* (indicator), <https://dx.doi.org/10.1787/0b8f90e9-en> (accessed on 19 September 2019). [10]
- OECD (2018), *OECD Regional Statistics*, <https://doi.org/10.1787/region-data-en>. [3]
- OECD (2018), *Skills for Jobs Database*, OECD, Paris, <http://www.oecdskillsforjobsdatabase.org>. [14]
- OECD (2017), *Education at a Glance 2017: OECD Indicators*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/eag-2017-en>. [12]
- OECD (2017), *Government at a Glance 2017*, OECD Publishing, Paris, https://doi.org/10.1787/gov_glance-2017-en. [23]
- OECD (2017), *OECD Employment Outlook 2017*, OECD Publishing, Paris, http://dx.doi.org/10.1787/empl_outlook-2017-en. [5]
- OECD (2017), *OECD Science, Technology and Industry Scoreboard 2017: The digital transformation*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264268821-en>. [19]
- OECD (2017), *OECD Skills Outlook 2017: Skills and Global Value Chains*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264273351-en>. [4]
- OECD (2016), *OECD Employment Outlook 2016*, OECD Publishing, Paris, http://dx.doi.org/10.1787/empl_outlook-2016-en. [28]
- OECD (2016), *Skills Matter: Further Results from the Survey of Adult Skills*, OECD Skills Studies, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264258051-en>. [11]
- OECD (2014), *Slovak Republic: Developing a Sustainable Strategic Framework for Public Administration Reform*, OECD Public Governance Reviews, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264212640-en>. [21]
- Posthuma, R. et al. (2013), "A High Performance Work Practices Taxonomy: Integrating the Literature and Directing Future Research", *Journal of Management*, Vol. 39/5, pp. 1184-1220, <http://dx.doi.org/10.1177/0149206313478184>. [17]
- Schacter, J. and Y. Thum (2004), "Paying for high- and low-quality teaching", *Economics of Education Review*, Vol. 23/4, pp. 411-430, <http://dx.doi.org/10.1016/J.ECONEDUREV.2003.08.002>. [24]
- UKCES (2009), *High Performance Working: A Synthesis of Key Literature*, UK Commission for Employment and Skills, Wath-upon-Deerne, <http://dera.ioe.ac.uk/id/eprint/9239>. [18]

Notes

¹ The OECD Skills Strategy (OECD, 2019^[7]) applies a broad definition of skills, including: 1) foundational skills, including literacy, numeracy and digital literacy; 2) transversal cognitive and meta-cognitive skills such as critical thinking, complex problem solving, creative thinking, learning to learn and self-regulation; 3) social and emotional skills such as conscientiousness, responsibility, empathy, self-efficacy and collaboration; 4) professional, technical and specialised knowledge and skills needed to meet the demands of specific occupations.

² In the PISA survey, Roma students are self-identified based on the language they speak at home.

OECD Skills Strategy Slovak Republic

ASSESSMENT AND RECOMMENDATIONS

Skills are the key to shaping a better future and central to the capacity of countries and people to thrive in an increasingly interconnected and rapidly changing world. Megatrends such as globalisation, technological advances and demographic change are reshaping work and society, generating a growing demand for higher levels and new sets of skills.

OECD Skills Strategy projects provide a strategic and comprehensive approach to assess countries' skills challenges and opportunities and help them build more effective skills systems. The OECD works collaboratively with countries to develop policy responses that are tailored to each country's specific skills needs. The foundation of this approach is the OECD Skills Strategy Framework, which allows for an exploration of what countries can do better to 1) develop relevant skills over the life course; 2) use skills effectively in work and in society; and 3) strengthen the governance of the skills system.

This report, "*OECD Skills Strategy Slovak Republic: Assessment and Recommendations*", identifies opportunities and makes recommendations to strengthen the skills of youth, reduce skills imbalances, foster greater participation in adult learning and strengthen the use of skills in the workplace.

