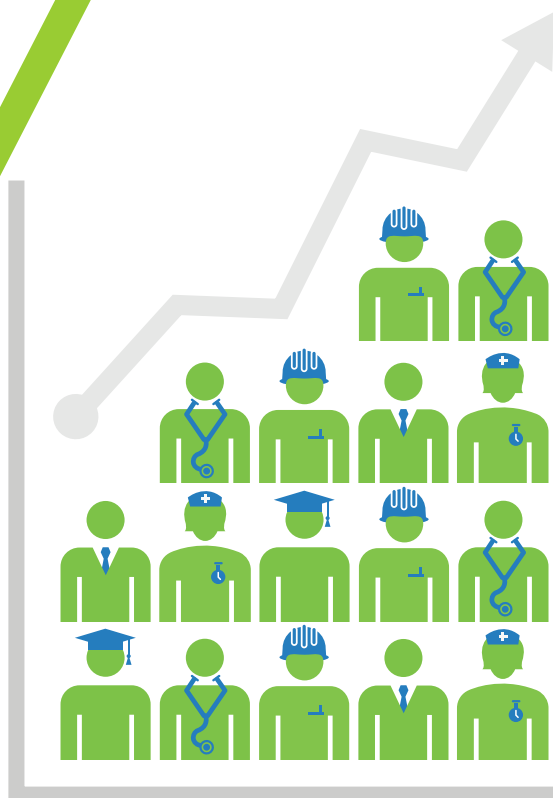
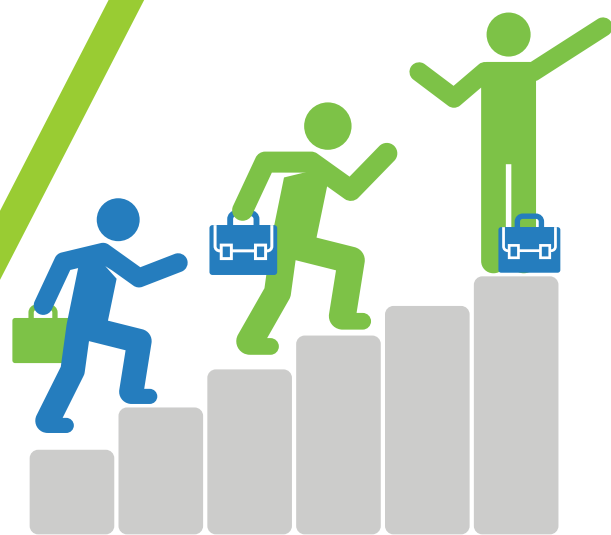


OECD Skills Strategy Diagnostic Report Slovenia 2017



Building the right skills can help countries improve economic prosperity and social cohesion



By contributing to social outcomes such as health, civil and social engagement.

By supporting improvement in productivity and growth.

By supporting high levels of employment in good quality jobs.



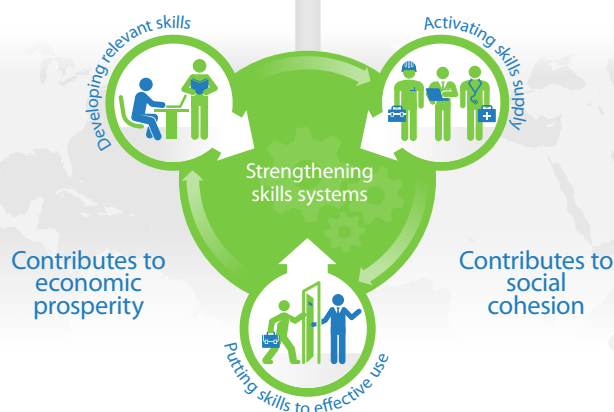
How is this achieved?

By strengthening skills systems

Designing and implementing an evidence-based national skills strategy.

Funding skills through public and private sources and designing effective incentives for employers and individuals.

Providing good information for the public, businesses and policy makers.



**OECD SKILLS STRATEGY
DIAGNOSTIC REPORT:
SLOVENIA**

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FOREWORD

Skills will be fundamental to Slovenia's success in achieving its ambitious vision for the future – a society in which people learn for and through life, are innovative, trust one another, enjoy a high quality of life and embrace their unique identity and culture.

Slovenia is a relatively prosperous country offering a good quality of life. Yet its output and jobs were hard hit by the global financial crisis, and its recovery is not yet complete. Slovenia's population is ageing more rapidly than that of most other OECD countries, meaning that there are fewer workers to meet skills needs and fewer wage earners to support public spending. At the same time, highly skilled people are increasingly mobile in search of better education, jobs and lives. Technology and digitalisation continue to transform how people learn, work and live, destroying some jobs and creating others. A better skilled population with the opportunities, incentives and motivation to develop and use their skills fully will be essential for confronting the challenges and seizing the opportunities of the future.

Slovenia has successfully increased educational attainment and quality in recent decades. Yet too many people – the young and old alike – are still not equipped with the right skills for work and life. Empowering people to succeed in the future will require a better understanding of how the skills that are needed are changing, and greater capacity and incentives for all the actors involved – students, educators, workers, employers and others – to respond to this information. Slovenia must continue to build a culture of lifelong learning and enable all adults to develop their skills over time.

A new level of co-operation within and between ministries and stakeholders will be essential for skills policies that support Slovenia's aspirations and complement other efforts. The experience of the National Skills Strategy project in Slovenia has confirmed not only the value of different ministries and stakeholders co-operating on skills issues, but also the potential for making this co-operation more systematic. The surest path to improving skills outcomes will be to work together today with a shared vision for the future.

The OECD stands ready to contribute to Slovenia's ongoing efforts to design and implement better skills policies for better jobs and better lives.



Andreas Schleicher

Director for the OECD Directorate for Education and Skills and Special Advisor to the Secretary-General on Education Policy

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Ben Game was the OECD project leader responsible for co-ordinating this OECD National Skills Strategy project with Slovenia. The authors of this report were Ben Game (Directorate for Education and Skills), Lucie Cerna (Directorate for Education and Skills) and Pierce O'Reilly (Centre for Tax Policy and Administration). Tanja Bastianic, Cuauhtemoc Rebolledo-Gómez and Bart Staats (Directorate for Education and Skills) conducted the statistical research and analysis. As team leaders for the OECD National Skills Strategy country projects, Andrew Bell provided analytical and editorial input and guidance during the drafting process, while Joanne Caddy provided guidance in designing and delivering the workshops and inter-ministerial meetings. Deborah Roseveare (Head of the Skills beyond School Division, Directorate for Education and Skills) provided thought leadership and analytical and editorial input, while Andreas Schleicher (OECD Director for Education and Skills) ensured strategic oversight for the project.

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Association of Municipalities and Towns of Slovenia
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Association of Upper Secondary Schools and Boarding Schools of Slovenia
Association of Primary and Music School Principals of Slovenia

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Confederation of Trade Unions of Slovenia PERGAM
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Federation of Machinery Rings Slovenia
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Health Centre Maribor
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Institute of Macroeconomic Analysis and Development
Institute of the Republic of Slovenia for Vocational Education and Training
IRDO - Institute for Development of Social Responsibility
JAZON d.o.o, company for tourism, manufacturing and service
LANGUAGESITTER d. o. o., language teaching
MOL, Ljubljana City Administration, Department of Pre-School Education
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ACRONYMS AND ABBREVIATIONS

ALMP	Active labour market programmes
BERD	Business enterprise R&D expenditure
CEDEFOP	European Centre for the Development of Vocational Training
CSW	Centres for Social Work
DSI	Digital Slovenia 2020 Strategy
EACEA	Education, Audiovisual and Culture Executive Agency
EC	European Commission
ECEC	early childhood education and care
ESC	Economic and Social Council
ESF	European Social Fund
ESS	Employment Service of Slovenia
EU	European Union
EUR	Euros
GDP	Gross domestic product
GVC	Global value chain
HERD	Higher education expenditure on R&D
HPWP	High-Performance Work Practices
HR	Human resource
ICT	Information and communication technology
ISCED	International Standard Classification of Education
ISIC	International Standard Industrial Classification of all Economic Activities
MDDSZ	Ministry of Labour, Family, Social Affairs and Equal Opportunities
MF	Ministry of Finance
MGRT	Ministry of Economic Development and Technology
MIPEX	Migrant Integration Policy Index
MIZS	Minister of Education, Science and Sport
MJU	Ministry of Public Administration
MKGP	Ministry of Agriculture, Forestry and Food
MOP	Ministry of Environment and Spatial Planning

MZ	Ministry of Health
NEET	Not in employment, education or training
NHEP	National Higher Education Programme 2011-20
OECD	Organisation for Economic Co-operation and Development
PIAAC	Programme for the International Assessment of Adult Competencies (Survey of Adult Skills)
PISA	Programme for International Student Assessment
PIT	Personal income tax
PPP	Purchasing power parity
R&D	Research and development
RISS	Research and Innovation Strategy of Slovenia 2011-20
S4	Slovenia's Smart Specialisation Strategy
SAA	Skills assessment and anticipation
SGI	Sustainable Governance Indicators
SIAE	Slovenian Institute for Adult Education
SME	Small and medium-sized enterprise
SSC	Social security contributions
STEM	Science, technology, engineering and mathematics
SURS	Statistical Office of the Republic of Slovenia
SVRK	Government Office for Development and European Cohesion Policy
TCN	Third-country national
USD	United States Dollar
VET	Vocational education and training

EXECUTIVE SUMMARY

Policy priorities

Slovenia has an ambitious vision for its future

Slovenia is a relatively prosperous country with a good quality of life. It not only has one of the highest standards of living in Central Europe, but one of the highest levels of income equality in the OECD, behind only Denmark, Norway and Iceland. In addition, Slovenians enjoy comparatively high levels of personal security, a relatively unspoiled natural environment and high educational attainment.

At the same time, the country faces a number of ongoing and emerging trends that are creating new challenges and opportunities. Its export-oriented economy was hard hit by the global financial crisis, experiencing declines both in output and in the employment rate that were among the highest in the OECD. This exposed several structural weaknesses and imbalances that the Government is now taking steps to address. Slovenia's recovery is well under way, but incomplete. In addition, its population is ageing, and the size of the prime working-age population is shrinking more rapidly than in most other OECD countries. This leaves a smaller pool of workers to meet skills needs, and fewer wage earners to finance growing age-related public costs, such as pensions and health care. At the same time, technology and digitalisation are transforming how people learn, work and live, and people are more mobile than ever before in search of better education, jobs and lives. Government policy must continuously evolve to help individuals of all backgrounds confront the challenges and seize the opportunities that tomorrow will bring.

Slovenia has adopted an ambitious vision for the future, Vision of Slovenia 2050, to promote a society where people learn for and through life, are innovative, trust one another, enjoy a high quality of life and embrace their unique identity and culture. A range of targeted strategies have been introduced to help achieve this vision, including the *National Higher Education Programme 2011-2020*; the *Research and Innovation Strategy of Slovenia 2011-2020*; the *Smart Specialisation Strategy (S4)*; *Digital Slovenia 2020 (DSI 2020)*; the *Framework Programme for the Transition to a Green Economy*; a *White Paper on Pensions*; and the *Public Administration Development Strategy 2015-2020*.

Skills have a central role to play in helping Slovenia to achieve this vision

Slovenia's success in achieving its vision will depend to a great extent on how well it develops, activates and uses people's skills. Higher levels of skills are associated with higher productivity, employment and earnings. The importance of skills in building economic prosperity is likely to grow. Consistent with the trends seen in many other OECD countries, the share of employment in middle-skilled occupations in Slovenia has been in decline. Those with the skills to perform complex and abstract tasks are in increasing

demand. However, even high-skilled work may be vulnerable to technological displacement in the future. This makes lifelong learning essential for the low- and high-skilled alike. Skills can play a key role in determining Slovenia's comparative advantages in global value chains and specialisation in technologically advanced industries.

Skills are also critical for strengthening social participation and inclusion. People with higher levels of skills have greater levels of trust, participate more in civic and political life, and enjoy better health. Conversely, low levels of skills, when concentrated among certain groups, can lead to marginalization and social tensions.

The OECD has identified three priority areas for action in Slovenia

This report on skills identifies a number of overarching priority areas for action. These were identified by analysing common themes that emerged from stakeholder perspectives on the most important challenges facing Slovenia in this domain, and also through the OECD's analysis of the nine challenges identified and examined in the report:

- **Empowering active citizens with the right skills for the future:** People and policy makers in Slovenia, as in all OECD countries, continue to grapple with the question of which skills are most essential for economic and social success in the future. While there is no definitive answer to this question, success is likely to require that people develop a portfolio of cognitive, socio-emotional and discipline-specific skills that equip them to learn throughout life, interact effectively with others, and solve complex problems. In building a responsive and resilient skills system, Slovenia needs to do a better job of ensuring that all actors play their part in creating, sharing and using high-quality information on skills demand and supply. Individuals, educators and employers also need the capacity and incentives to proactively respond to this information. A well-informed and responsive skills system is essential for encouraging active citizenship and giving Slovenians the best chance of developing the right skills for a changing world.
- **Building a culture of lifelong learning:** Society's attitudes towards lifelong learning will only evolve when the benefits are made tangible for more people and the barriers to entry are lowered. Building a culture of participation and lifelong learning in which all actors – individuals, employers, educators, policy makers and others – believe and are invested in the value of learning at every stage of life will be crucial for Slovenia's resilience and success.
- **Working together to strengthen skills:** The experience of the National Skills Strategy project in Slovenia has not only confirmed the value of co-operation between different ministries and stakeholders but the importance of making this co-operation more systematic. Some of the benefits of greater policy coherence and co-ordination include: aligning skills with emerging economic and social needs, ensuring that all Slovenians develop a strong skills portfolio; and the multiplier effects that come with better alignment of skills policies. The surest path to improving skills outcomes will be to work together today, based on a shared vision for the future.

Challenges and recommendations

Why a skills strategy? Better skills, better jobs, better lives

Skills have become the key drivers of individual well-being and economic success in the 21st century. Without proper investment in skills, people languish on the margins of society, technological progress does not translate into growth, and countries can no longer compete in increasingly knowledge-based economies. The more that countries strive to achieve the highest levels of innovation and competitiveness in their economies, the more they must focus on generating the right mix of skills, making sure that these skills are put to full use in the labour market.

The OECD Skills Strategy provides countries with a framework for analysing their strengths and weaknesses. This can offer the basis for taking concrete action relating to the three pillars that comprise a national skills system:

- *developing relevant skills* from childhood to adulthood;
- *activating the supply of skills* in the labour market; and
- *putting skills to effective use* in the economy and society.



In addition to these three inter-related policy areas, the OECD Skills Strategy examines how well countries facilitate policy collaboration and coherence across these three pillars. This can help countries to identify how to strengthen their skills systems, build the right skills and translate this into better jobs and better lives.

Box 1. The OECD Skills Strategy: Defining the concept of “skills”

The OECD Skills Strategy defines skills (or competences) as a bundle of knowledge, attributes and capacities that can be learned, that enable individuals to successfully and consistently perform an activity or task, and that can be built upon and extended through learning. This definition includes the full range of cognitive, technical and socio-emotional skills. The concepts of “skill” and “competence” are used interchangeably in this report. The sum of all skills available to the economy at a given point in time forms the human capital of a country.

The OECD Skills Strategy shifts the focus from traditional proxies of skills (such as years of formal education and training or qualifications/diplomas attained), to a much broader perspective that includes the skills people acquire, use and maintain – and also lose – over the course of a lifetime. People need skills to help them succeed in the labour market, contribute to better social outcomes, and build more cohesive and tolerant societies.

Source: OECD (2012), *Better Skills, Better Jobs, Better Lives: A Strategic Approach to Skills Policies*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264177338-en>.

A collaborative project between the OECD and the Government of Slovenia

The main objective of this collaborative project between the OECD and the Government of Slovenia on “Building an Effective Skills Strategy for Slovenia” is to identify the challenges Slovenia faces in developing, activating and using skills. The *OECD Skills Strategy Diagnostic Report: Slovenia* is in some respects a summary of the shared journey between the various ministries and stakeholders who helped to identify nine skills challenges facing Slovenia. These reflect insights gathered from workshops as well as several bilateral meetings with a wide range of stakeholders in Slovenia in 2016. They also reflect research and analysis undertaken by the OECD of its own comparative datasets, and the data and analysis of such organisations such as the European Commission, the Statistical Office of Slovenia and other international sources.

The nine challenges are described under each of the main pillars of the OECD Skills Strategy and are framed as outcome statements. The first six challenges refer to specific outcomes across the three pillars of developing, activating and using skills. The next three challenges refer to the “enabling” conditions that strengthen the overall skills system, by helping to boost outcomes across more than one pillar.

Box 2. Applying the OECD Skills Strategy in practice: building a whole-of-government team and engaging stakeholders

The OECD Skills Strategy is designed to be applied in practice. It has proved remarkably effective as a clear, useful framework for supporting countries seeking to build bridges across relevant policy areas and to engage all interested parties – including national, local and regional government, employers, employees, and learners.

Maximising a country's skills potential requires a co-ordinated effort across ministries. A whole-of-government approach to skills means recognising and integrating the diverse perspectives and policy initiatives of ministries responsible for education and training, labour, economy, tax, local economic development, and research and innovation. Each National Skills Strategy project starts with the country's decision to establish an inter-ministerial National Project Team by appointing representatives from key ministries and designating a National Project Co-ordinator. Much of the project work is designed to encourage greater interaction and exchange among relevant ministries. The goal is to forge a common understanding of the challenges at stake, as a basis for co-ordinated action.

Engaging stakeholders in strengthening the skills system is critical to success. **Effective skills** policy design and implementation requires a broad and shared understanding of the need to enhance skills, the current strengths and challenges facing a country's skills system, and priorities for action. This entails looking beyond government to build strong partnerships with all actors involved, including employers, trade unions, training institutions, students and other stakeholders. Each National Skills Strategy project is designed to ensure stakeholder engagement and ownership, and to build a shared commitment for concrete action. This involves a series of interactive workshops consisting of structured small group discussions among participants, speaking in their native language to facilitate interactions. In each workshop, the members of the National Project Team serve as group moderators and the OECD team members as lead facilitators.

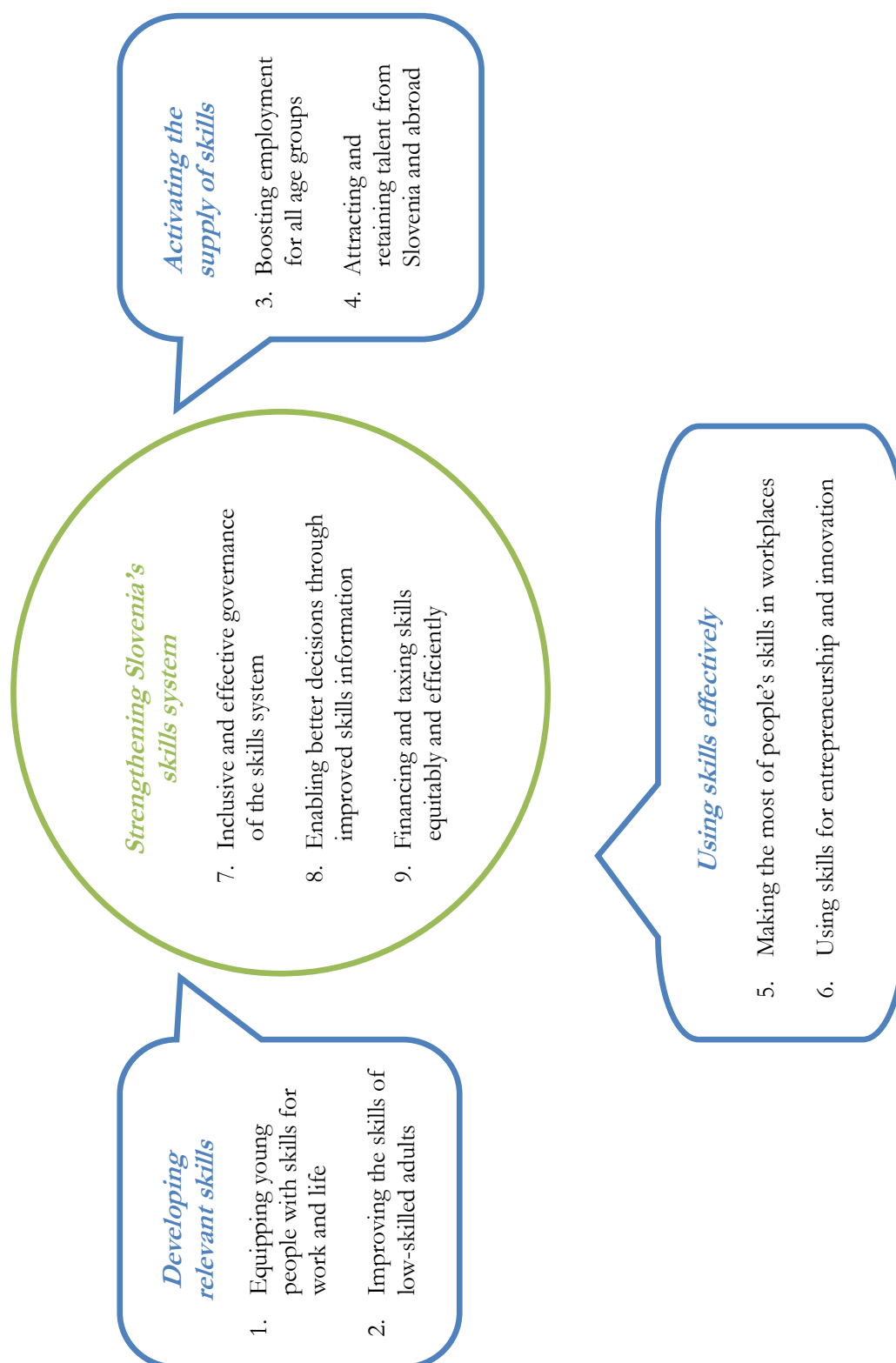
Ensuring political commitment to building a whole-of-government approach to skills and engaging stakeholders is essential. Policy makers play a key role in establishing clear expectations and accountability for shared results in tackling skills challenges across ministries and with stakeholders. Each National Skills Strategy project devotes considerable attention to ensuring that ministers, undersecretaries and senior civil servants are regularly briefed and play a visible leadership role in co-ordination meetings and stakeholder workshops.

Encouraging a whole-of-government approach to skills. The Slovenian National Project Team selected by the Slovenian government to collaborate with the OECD has assembled representatives from nine ministries and offices. Among the countries that have so far undertaken National Skills Strategy country projects with the OECD, this represents the broadest range of ministerial portfolios involved. The National Project Team is co-ordinated by the Ministry of Education, Science and Sports, and includes representatives from the Ministry of Labour, Family, Social Affairs and Equal Opportunities; the Ministry of Economic Development and Technology; the Ministry of Environment and Spatial Planning; the Ministry of Health; the Ministry of Agriculture, Forestry and Food; the Ministry of Finance; the Ministry of Public Administration; and the Government Office of Development and European Social Cohesion. The team was responsible for setting the strategic direction for the project, liaising with the OECD team, co-designing stakeholder workshops and ensuring that the diagnostic phase covered all relevant aspects of the national skills system.

Box 2. Applying the OECD Skills Strategy in practice: building a whole-of-government team and engaging stakeholders (cont'd)

Stakeholders play an active role in the Slovenian skills system: Thanks to the strong impetus provided by the National Project Team, stakeholders have played a central role in identifying the main skills challenges facing Slovenia that are outlined in this report. More than 60 people, including representatives of business, labour, the education sector, research institutes and government took part in each of the three workshops held in Ljubljana. They helped identify the main skills challenges facing the country at the Scoping Workshop (7 April 2016), the underlying causal factors during the Diagnostic Workshop (6 July 2016) and reviewed national and international good practices at the Skills Challenges Workshop (6 October 2016). The workshops were designed to encourage all stakeholders to express their diverse views and generate useful qualitative evidence and insights on the main skills challenges facing Slovenia. While many of these skills challenges are of long standing and well known, participants acknowledged that this exercise also generated new insights and a better understanding of how different stakeholders perceived or formulated challenges. Through their active participation in these events, stakeholders have helped to shape this diagnostic report.

9 SKILLS CHALLENGES FOR SLOVENIA



Developing relevant skills

Skills are critical to the success both of people and of society as a whole. People with strong skills are better equipped to succeed in education, adapt to the evolving demand for skills in workplaces, and to participate fully in society. For countries, skills are a key driver of innovation, productivity and, ultimately, economic growth and higher living standards.

Challenge 1. Equipping young people with skills for work and life

Developing young people's skills will be essential for Slovenia to achieve its aspirations to become an innovative society with a high value-added, green economy. The Programme for International Student Assessment (PISA) results for Slovenia show that at age 15, students perform relatively well overall in science, reading and mathematics, but that migrants and vocational students do much worse. Indeed, low-performing and disadvantaged students at age 15 are highly concentrated in vocational programmes. These programmes receive fewer resources than general education. Effective teaching strategies are not used widely enough. While the share of young adults in Slovenia with tertiary education is growing, completion rates in tertiary education are low, and many recent graduates lack strong cognitive and socio-emotional skills as measured by the Survey of Adult Skills (PIAAC). Co-operation between higher education institutions and employers is relatively weak and could be expanded, through work-based learning, among other measures.

During the National Skills Strategy workshops in Slovenia, many participants reported that young people lack strong cognitive and socio-emotional skills upon graduation from the education system. While recognising the broader social goals of higher education, participants questioned whether enough students in tertiary education are enrolling in fields of education and developing the skills that the labour market demands. Participants also questioned whether young people in Slovenia are being equipped with the skills and values needed for active citizenship and engagement in civil and social life.

Recommended areas for action:

- Ensure that all upper-secondary students, including those in vocational programmes or from an immigrant background, develop high levels of skills for work and life.
- Adapt Slovenia's higher education system so that it is more responsive to current and future labour market needs.

Challenge 2. Improving the skills of low-skilled adults

Adults with low skill levels face relatively poor economic and social outcomes, and are increasingly at risk of being left behind in a changing world. One-third of 16- to 65-year-olds in Slovenia – almost 400 000 adults – have low levels of literacy and/or numeracy. Slovenia is actively seeking to involve more low-skilled adults in learning, consistent with European initiatives. Most low-skilled adults, however, are not interested in adult learning and do not choose to participate in it. Some low-skilled adults would be willing to participate, but nevertheless lack the financial resources and time to do so.

During the National Skills Strategy workshops in Slovenia, participants raised concerns that many adults have low levels of literacy and numeracy, which impedes their ability to participate in the workforce and society. Particular concerns were raised about the skill levels of older Slovenians, and the reluctance of older workers and their employers to invest in skills development. Participants expressed the aspiration for all adults in Slovenia to achieve at least basic levels of cognitive skills, and emphasised the importance of accessible, high-quality lifelong learning opportunities.

Recommended areas for action:

- Strengthen awareness-raising, outreach and guidance efforts to encourage and motivate low-skilled adults to improve their skills.
- Provide more flexible modes of learning and strengthen systems for validation of non-formal and informal learning, to boost participation by low-skilled adults.

Activating skills supply

To realise the full economic and social benefits of investment in skills, countries must not only ensure that individuals develop relevant skills, but utilise them to the fullest extent possible in the labour market. If the labour market does not provide sufficient opportunities for gainful employment, people may not have the incentive to develop relevant skills in the first place. Without the opportunity to exercise their skills, they may lose them altogether.

Challenge 3. Boosting employment for all age groups

Slovenia's people and economy lose out when adults are not fully using their skills. About one-third of working-age adults in Slovenia – almost 500 000 people – are either unemployed or not participating in the labour market. Employment has been relatively slow to recover from the global financial crisis. High employment costs arising from high social security contributions (SSCs), minimum wages and allowances have deterred some employers from hiring. Low after-tax earnings and relatively generous employment and social benefits deter some adults from working. Older, lower-educated and long-term unemployed adults, as well as a growing number of youth, in particular, need better support and incentives to work.

Workshop participants raised concerns about the low rates of employment and labour market participation, especially among older adults, but also among young people. Stakeholders also cited several factors inhibiting employment, including Slovenia's generous social safety-net system and pensions, declining job security, taxes and a shortage of the skills employers require (Challenges 1 and 2).

Recommended areas for action:

- Strengthen individuals' incentives to supply their skills, and employers' incentives to hire.
- Tackle additional barriers to labour market participation for disadvantaged groups.
- Improve employment services to enhance outcomes, especially for youth not in employment, education or training (NEETs) and reach out more effectively to disengaged youth.

Challenge 4. Attracting and retaining talent from Slovenia and abroad

Retaining and attracting talented people from Slovenia and abroad can help Slovenia meet its skill needs and infuse new knowledge, technology and innovations into the economy. A relatively small share of Slovenia's foreign-born population is highly educated. At the same time, a small but growing number of tertiary-educated Slovenians are emigrating, and this is not being matched by inflows of tertiary-educated adults. High-skilled workers have a relatively low potential for earnings in Slovenia, which in part reflects the relatively high social security contributions (Challenge 3). High-skilled immigrants find it more difficult to find employment in Slovenia and receive limited support in their search. Slovenia attracts a relatively small (albeit growing) number of international students, in part reflecting the fact that tuition fees are high and few courses are offered in English.

Participants in National Skills Strategy workshops frequently raised concerns about Slovenia's "brain drain". Low wages and a lack of modern organisation and management practices in Slovenian workplaces were cited as reasons that high-skilled workers may not choose to remain in, or return to, the country. Participants also voiced concerns about the low numbers of international students in Slovenia's higher education system.

Recommended areas for action:

- Adjust the tax mix to make working in Slovenia more attractive for highly-skilled individuals.
- Make it easier for highly-skilled non-EU nationals to enter the Slovenian labour market.
- Expand the use of English in higher education programmes, to make Slovenia more attractive to international students.

Using skills effectively

Developing and activating skills is necessary but not sufficient for improving productivity and economic growth. A country can have great success in developing and activating skills, but fail to realise the full benefits of those skills for individuals and society if they are not used effectively in the workplace.

Challenge 5. Making the most of people's skills in workplaces

Using people's skills more frequently can lead to higher wages, job satisfaction and labour productivity. Through better use of the skills available, Slovenia could partially offset the impact on productivity of the relatively low skill levels of its adult population (Challenges 1 and 2). Slovenia's skill use performance is average, but well below top-performing countries. The skills of young workers, who are relatively highly skilled, and less educated workers, who most need on-the-job learning, are used relatively infrequently. High-Performance Work Practices (HPWP) including teamwork, autonomy, mentoring, job rotation, incentive pay, flexibility in working hours and other practices are the main driver of skills use in workplaces. Relatively few Slovenian firms have adopted HPWP. In contrast to trends in the OECD generally, larger firms in Slovenia use workers' skills and adopt HPWP less frequently than smaller firms. Labour regulations and offshoring practices may also be affecting skills use.

Stakeholders participating in Skills Strategy workshops confirmed how important it is for employers to recognise and fully utilise the skills of their employees. Many participants indicated that this is not typical in Slovenian workplaces, often because human resources practices are not well developed. Employers may require support if they are to establish systems that effectively identify and develop employees' skills and potential, and create stronger incentives for employees to reach their full potential in the workplace.

Recommended areas for action:

- Encourage the diffusion of High-Performance Work practices in Slovenian firms.
- Monitor how Slovenia's labour market institutions and other factors (like offshoring practices) affect firms' use of their employees' skills.

Challenge 6. Using skills for entrepreneurship and innovation

Highly skilled people are central to Slovenia's innovation system and entrepreneurial success, particularly in strategic industries like green technology. Slovenia is devoting a relatively high and growing share of its financial and human resources to research and development (R&D), but this is not systematically spurring innovation. In the business sector, innovation funding and outcomes are concentrated in a small number of large firms, with SMEs and the services sector lagging far behind. The innovation performance of universities and public research institutions is mixed, with relatively high publication rates, but low international collaboration. The relatively weak contribution of the higher education sector to innovation may be explained by comparatively low higher education expenditure on R&D, weak remuneration and evaluation systems, and institutional fragmentation. Slovenia has yet to fully implement its R&D and higher education strategies for the period 2011-20, which include comprehensive and ambitious measures to boost innovation performance.

In National Skills Strategy workshops, participants raised concerns about the disconnect between the country's high-quality R&D activities and its poor track record in getting innovations to market. In addition, participants highlighted a lack of entrepreneurial thinking and 'spirit' in Slovenia and the education system's mixed success in developing entrepreneurial attitudes and skills.

Recommended areas for action:

- Strengthen efforts to implement the reforms to Slovenia's innovation system proposed in the *Research and Innovation Strategy of Slovenia 2011-20* and the *National Higher Education Programme 2011-20*.
- Improve opportunities, skills and attitudes towards entrepreneurship.

Strengthening Slovenia's skills system

Countries that are interested in improving their skills performance need to ensure that all the actors and institutions with an interest in, and impact on, skills work together to improve policy coherence. A number of transversal policy areas are important for strengthening performance in the development, activation, and use of skills. These areas include effective governance, skills information and financing.

Challenge 7. Inclusive and effective governance of the skills system

Slovenia's performance in developing, activating, and using skills depends on relevant actors and policies working together as a coherent, mutually reinforcing skills system. Collaboration across ministries, between levels of government and with stakeholders is central for ensuring that policies are coherent, effective and efficient. Ministries are not collaborating to their full potential in Slovenia – in part reflecting the limited role played by the centre of government and the reliance on informal modes of co-ordination. Municipalities play a relatively limited role in the policy process, reflecting a centralised policy approach and funding and capacity constraints at the local level. Existing mechanisms for engagement with stakeholders are not successfully motivating stakeholders to support decisions, and appear to be undermined by citizens' low levels of policy knowledge and confidence in government. Capacity and incentives for evidence-based policy-making and effective public engagement could be strengthened.

Stakeholders noted that ministries too often work independently of one another and that municipalities are largely excluded from policy making. They also commented that public engagement is not occurring across all stages of the policy process. There is a lack of effective partnerships between government and social partners to support implementation of skills policies. Some participants noted that weak evidence-based policy making and evaluation is undermining the quality of skills policies.

Recommended areas for action:

- Evaluate the government's performance in engaging stakeholders to learn from experience and improve future practice.
- Make greater efforts to overcome ministries' tendency to work in silos and encourage inter-ministerial co-ordination and collaboration.
- Increase engagement of local levels in skills policy making and implementation and facilitate tailored responses at the local level.
- Boost public sector capacity and incentives for conducting effective stakeholder engagement and evidence-based policy making.

Challenge 8. Enabling better decisions through improved skills information

Individuals, firms and countries all lose out when employers cannot find the skills they need in the workplace. While Slovenia has relatively low skills mismatches today, keeping them low will become increasingly difficult as digitalisation, technological change and globalisation continue to transform the world of work. Effectively assessing, anticipating and disseminating information on the changing needs for skills can help countries minimise mismatches. Slovenia lacks a comprehensive skills assessment and anticipation (SAA) system. While it is improving the system it has, it will be important to ensure that information is comprehensive and well disseminated to maximise its impact.

Stakeholders participating in Skills Strategy workshops commented that only limited information on current and future skills needs is readily available. They also noted that some valuable skills assessment exercises have been discontinued. Career guidance services are seen to be hampered by the lack of quality of SAA information. Many argued that Slovenia does not have the sort of user-friendly online one-stop shop for such information typical in many high-performing countries.

Recommended areas for action:

- Develop a more comprehensive and robust skills assessment and anticipation system.
- Ensure that information about current and future skills is effectively disseminated to different users.

Challenge 9. Financing and taxing skills equitably and efficiently

How, and to what level, skills are financed plays a major role in ensuring access to learning as well as high-quality, efficient skills outcomes. Overall, Slovenia spends less on education per student, and as a share of national wealth, than the OECD average. Vocational students in particular are disadvantaged by relatively low funding at the upper secondary and tertiary levels. Public debt and the ageing of the population will make financing skills more challenging. The financial returns to tertiary education in Slovenia are amongst the highest in the OECD for individuals and government. Yet individuals in Slovenia contribute less to their tertiary education than in three-quarters of OECD countries. Full-time students pay no tuition fees. Individuals, firms and governments have a shared role in financing skills development. Financial support for adult education appears to be insufficient and to be constraining lifelong learning, including for low-skilled adults (Challenge 2).

During the workshops, participants noted the challenge of sustainably funding higher education, and questioned whether students and taxpayers are getting a good return on their investment. Participants questioned whether financial incentives for adult learning were effective in encouraging participation. They also raised concerns about the effects of taxes on incentives to work, and confirmed how important the tax system is in supporting skills development and labour market outcomes for vulnerable groups (see Challenge 3).

Recommended areas for action:

- Ensure that vocational education at all levels receives the financial support needed to help students develop strong general and technical skills.
- Identify financial support that effectively encourages firms and adults to invest in skills, especially for low-skilled adults.

Moving from diagnosis to action

This diagnostic report can be used in many ways: as a basis for raising public awareness, cultivating broader public dialogue, and encouraging social partners and national and municipal governments to work together to address these challenges.

The OECD stands ready to help translate the momentum built and lessons learned during the diagnostic phase of this project into actions that lead to better skills, better jobs and better lives in Slovenia.

INTRODUCTION

Skills are the key drivers of individual well-being and economic success in the 21st century. Without proper investment in skills, people languish on the margins of society, technological progress does not translate into growth, and countries can no longer compete in increasingly knowledge-based economies. The more countries strive to achieve the highest levels of innovation and competitiveness in their economies, the more they have to focus on generating the right skills mix, making sure that those skills are fully activated in the labour market, and maximising their use in workplaces.

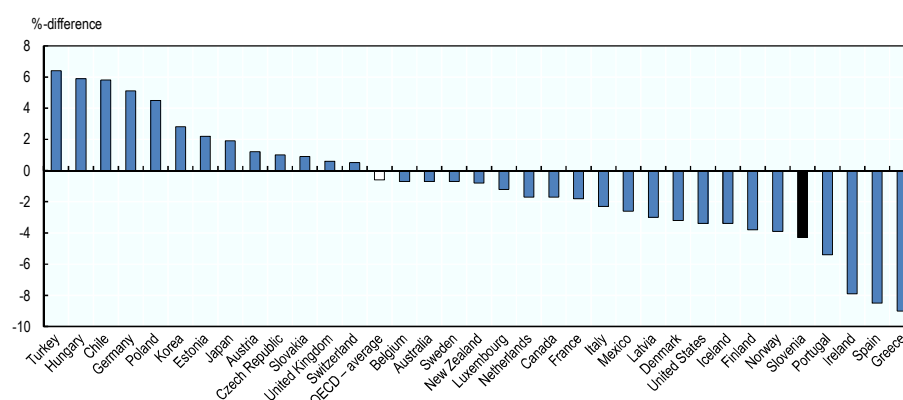
The economy and labour market are recovering and quality of life is high

Slovenia experienced one of the largest drops in gross domestic product (GDP) in the OECD after the global financial crisis. However, since 2014, its GDP growth has exceeded the OECD average and is forecast to benefit from accelerating private consumption and investment through 2018 (OECD, 2016a). Today, Slovenia has a higher GDP per person than most Central European countries, including Hungary, Poland and the Slovak Republic.

The jobs recovery is under way in Slovenia, but is far from complete. During the financial crisis, Slovenia's employment rate also suffered one of the greatest declines in the OECD, behind only Portugal, Ireland, Spain and Greece. While employment began to recover starting in 2013, it remains below pre-crisis levels (Figure 1).

Figure 1. The jobs recovery in Slovenia continues, but remains incomplete

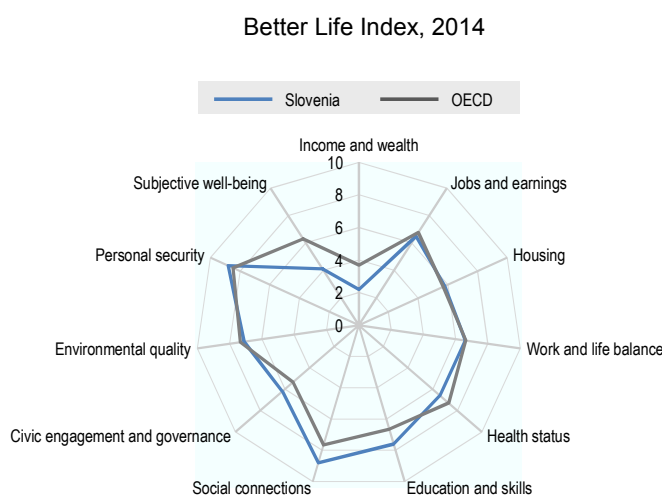
Employment gap: percentage-point change in the employment rate since the onset of the crisis (2007-2016)



Source: OECD (2016b), *OECD Employment Outlook 2016*, (Figure 1.2), http://dx.doi.org/10.1787/empl_outlook-2016-en.

Slovenians enjoy relatively high levels of personal security, social connections and educational attainment (Figure 2). Slovenia also has one of the highest levels of income equality (as measured by the Gini coefficient) among OECD member countries, behind only Denmark, Norway and Iceland (OECD, 2016d).

Figure 2. People's well-being in Slovenia is high in some areas, and low in others



Note: Each well-being dimension is measured by one to four indicators from the OECD Better Life Index set. Normalised indicators are averaged with equal weights. Indicators are normalised to range between 10 (best) and 0 (worst) according to the following formula: $(\text{indicator value} - \text{minimum value}) / (\text{maximum value} - \text{minimum value}) \times 10$.

Source: OECD (2015a), *OECD Economic Surveys: Slovenia 2015*, http://dx.doi.org/10.1787/eco_surveys-svn-2015-en.

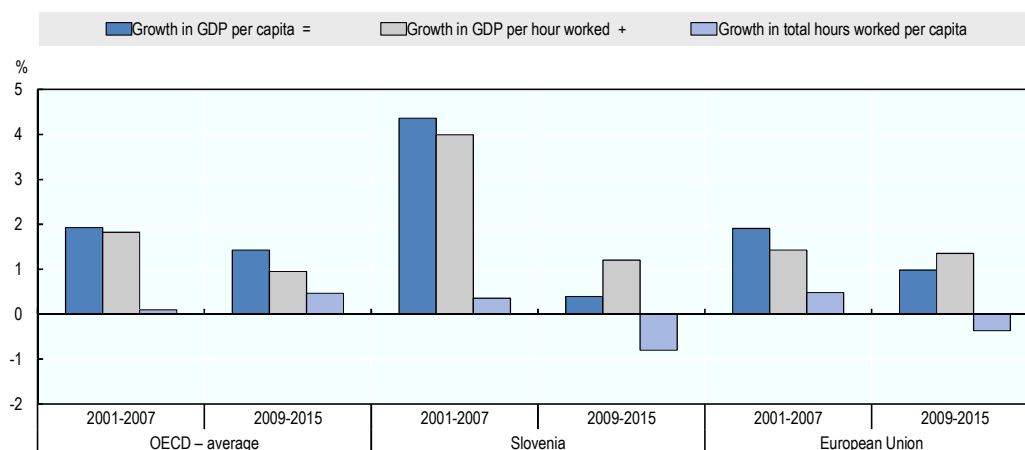
Skills are critical for achieving Slovenia's economic and social goals

Higher levels of skills empower individuals to become more adaptable and resilient. People with higher levels of education and skills are more likely to be employed, enjoy higher earnings, trust others, participate in society and enjoy better health outcomes than people with lower education and skill levels. Unequal skills outcomes across the population contribute to inequality. Early disadvantages tend to persist throughout life. Those who are less able to access education and training opportunities are less likely to engage in continuous learning in adulthood, and are more likely to become unemployed and have low earnings (OECD 2016c; 2013). When poor outcomes are concentrated among certain population groups – such as those from low socio-economic backgrounds and immigrants – they can lead to marginalisation and social tensions.

For countries, skills are central to economic prosperity. Human knowledge, and skills in particular, contribute to productivity, innovation and technological advances, as well as the diffusion and transmission of knowledge (Hanushek et al., 2015). Slovenia experienced very strong labour productivity and per capita GDP growth in the 5 years before the global financial crisis. However, per capita GDP levels remained flat in the 5 years after the downturn, as productivity growth slowed and labour utilisation declined (Figure 3). Slovenia has room to develop its people's skills to boost economic prosperity.

Figure 3. Economic prosperity has not grown in Slovenia in the past five years

Decomposition of growth in GDP per capita, 2001-07 and 2009-15



Source: OECD (2015c), *OECD Science, Technology and Industry Scoreboard 2015: Innovation for Growth and Society*, OECD Publishing, Paris, http://dx.doi.org/10.1787/sti_scoreboard-2015-en.

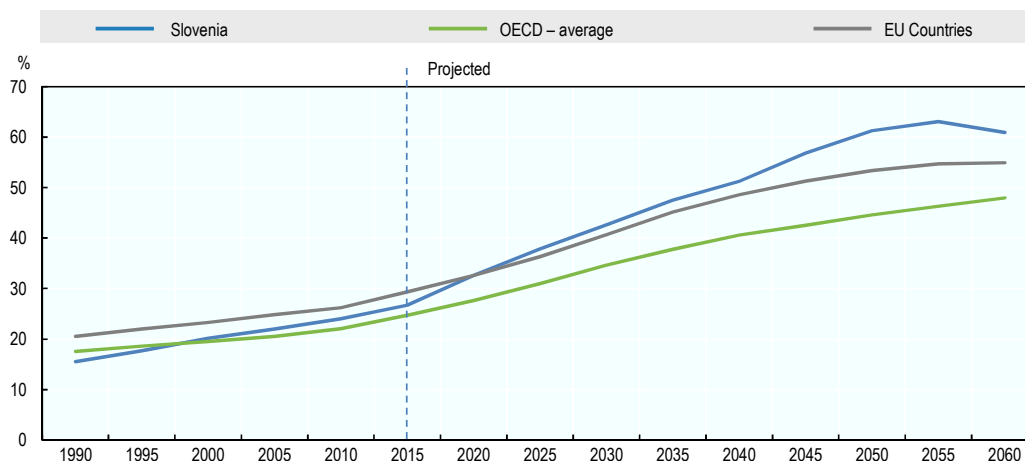
Making more effective use of people's skills in workplaces can also boost labour productivity. For example, even after accounting for differences in skills proficiency, the use of reading skills explains a considerable share (26%) of the variation in labour productivity across the countries participating in the Programme for the International Assessment of Adult Competencies, or PIAAC (OECD, 2016c). Recent OECD research suggests that reducing the level of skills mismatch in OECD countries to the levels considered to be OECD best practice is associated with labour productivity gains of between 2% and 10% (OECD, 2015b).

Skills will be critical for responding to ongoing and emerging challenges

Developing relevant skills and using them more effectively will be essential as productivity and innovation become the primary drivers of higher material living standards in the future. The population in Slovenia is ageing more rapidly than in most other OECD countries (Figure 4). This means that economic growth will increasingly depend on improvements in productivity and the higher levels of skills that support such improvements.

Figure 4. Slovenia's population is ageing rapidly

Old-age dependency ratio - population aged 65 and over relative to population aged 15-64



Source: OECD calculations based on data from, UN, *World Population Prospects*, the 2015 revision, United Nations, New York, <https://esa.un.org/unpd/wpp/Download/Standard/ASCII/>.

Skills will become increasingly important for countries hoping to benefit from participation in global value chains. In the last two decades, production has become increasingly fragmented across countries, and much of trade has become organised around global value chains (GVCs). Countries now specialise in tasks rather than in specific products, and trade in intermediate goods and services has developed. New OECD research (2017) suggests that skills are essential for participation in GVCs to translate into productivity gains. Investing in skills can reduce the potentially negative impact of GVCs on employment and inequality. This is because jobs that require and use more advanced skills are less exposed to offshoring, and skilled workers, in small and medium-sized enterprises in particular, are better equipped to connect to multinationals and benefit from GVCs. Furthermore, the workforce's skills and skills-related policies can shape a country's specialisation in GVCs and their opportunities to specialise in sophisticated industries.

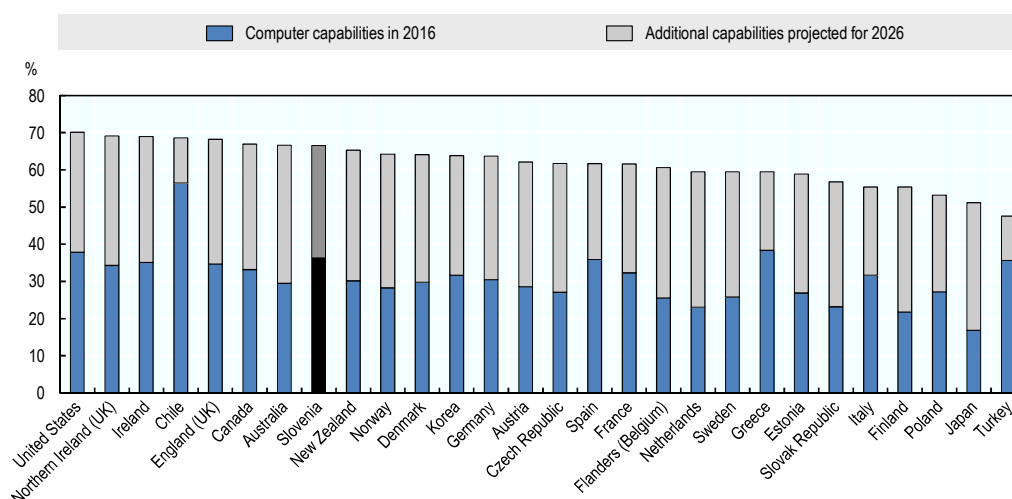
Robots, artificial intelligence, the Internet of Things, 3D printers, nanotechnology and other technological advances are transforming the world of work. Technology is replacing tasks that can be easily codified and automated, thereby displacing workers with those skills (Autor et al., 2013; Goos et al., 2014). At the same time, technological change creates new employment opportunities in different industries and in newly created markets. Most importantly, increasing use of digital technologies at work raises the demand for cognitive skills (Berger and Frey, 2016), such as information-processing and problem-solving skills, but also social and emotional skills (Deming, 2015). This requires many existing workers to upskill or reskill.

Technology will destroy certain jobs, but create others. Estimates of the share of jobs globally that is potentially vulnerable to automation in the next decade range from a low around 9% (Arntz and Zierahn, 2016) to around 67% (Elliot, forthcoming). Elliot estimates that almost 40% of the workforce in Slovenia is currently vulnerable to displacement by computer technology, while many more will be potentially vulnerable by 2026 (Figure 5).

People's skillsets and skill levels will play a major role in determining how they fare in the context of ongoing technological change.

Figure 5. The number of jobs vulnerable to technological displacement is rising

Share of workforce using general cognitive skills at or below level of computer capabilities, historical and projected



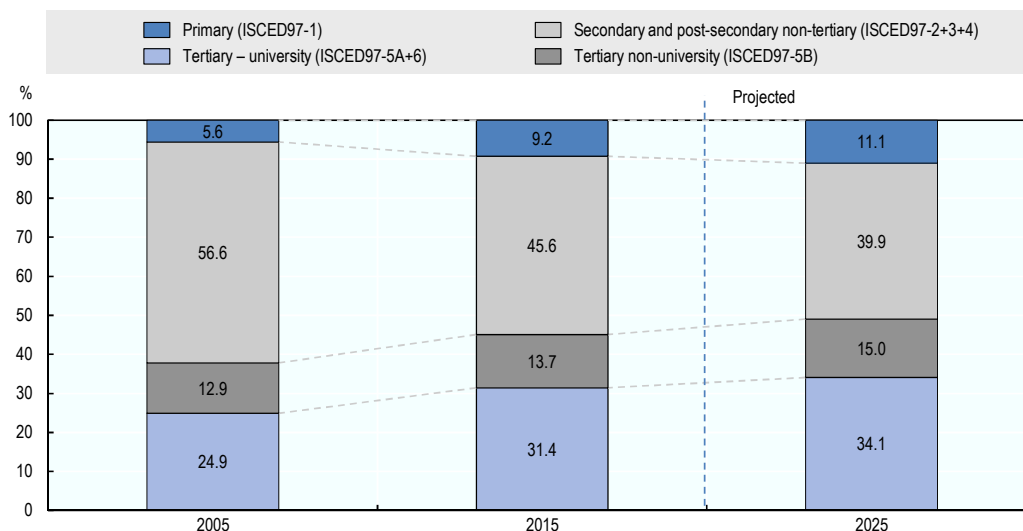
Source: Elliott, S. (forthcoming), "Computers and the future of skill demand".

These pressures are combining to reshape the skills needed for success in the Slovenian economy. The share of employment in Slovenia in occupations that involve manual tasks vulnerable to automation or offshoring has been falling. Many of the people employed in these jobs will need to be retrained for new jobs. At the same time, rising investments in intangible assets such as R&D, organisational capital, data and software mean that employment for those with the skills to perform abstract tasks are increasing. Indeed, all net growth in employment in Slovenia between 2012 and 2015 was in occupations that involved performing abstract tasks.

While the precise needs for skills in the future are uncertain, people are likely to require a mix of advanced cognitive, socio-emotional and discipline-specific skills, which equip them to learn, deal with others and solve complex problems more effectively. While the demand for specific technical skills is changing constantly, demand for individuals with tertiary education has increased steadily over the last ten years, and is expected to continue to rise until 2025 (Figure 6).

Figure 6. The share of jobs requiring high skill levels is rising

Share of employment by typical education requirements of occupations, Slovenia

**Sources:**

OECD calculations based on EU-CEDEFOP data (2015a), *OECD Economic Surveys: Slovenia 2015*, OECD Publishing, Paris, http://dx.doi.org/10.1787/eco_surveys-svn-2015-en, (2015b), “*Job opportunities: Skills forecast*”, 2013-2025, www.cedefop.europa.eu/en/publications-and-resources/data-visualisations/job-opportunities.

Slovenia needs to place skills at the heart of its policy agenda

Leaders from all sectors in Slovenia need to articulate a compelling vision for skills, and facilitate an ongoing national dialogue on skills. It is up to Slovenia’s leaders to make the case for how skilled people can help reshape economy and society. Governments alone cannot ensure an enduring vision for a highly skilled future. To gain traction, this vision must be embraced across society and include all stakeholders. All those who benefit from investments in skills – whether employers, trade unions, non-profit organisations or individuals – have a role to play in ensuring that investment in skills remains a national priority. Sustaining national dialogue and action on skills will be essential to ensure that Slovenia effectively develops, activates and uses skills today and into the future

Skills will be central for Slovenia to achieve its long-term ambitions

Initiated in 2015, the *Vision of Slovenia 2050* foresees a society where people learn throughout and for life, are innovative, trust one another, enjoy a high quality of life and embrace their identity and culture. This vision is helping to guide the new *National Development Strategy*, which will provide a strategic framework for national development, based on the principles of sustainable development and closely linked to the commitments made in the *United Nations 2030 Agenda for Sustainable Development*.

Slovenia’s Smart Specialisation Strategy (S4) provides a platform to concentrate development investments in areas where Slovenia has critical mass of knowledge and skills,

and strong innovation potential. The S4 identifies healthy working and living environments, natural and traditional resources for the future, and industry 4.0 as priority areas. The S4 notes the importance of qualified staff to meet the needs of the economy, and modern human resources management models in companies (SVRK, 2015). A number of horizontal and sectoral strategic and programming documents are being implemented to support the S4, including the Framework Programme for the Transition to a Green Economy.

Slovenia's *Framework Programme for the Transition to a Green Economy* seeks to facilitate the development of new green technologies, create new green jobs, support the more efficient management of natural resources, and promote the development of Slovenian know-how (MKGP, 2016). The framework aims to develop green skills by promoting training for the needs of a green economy and employment in green jobs.

Slovenia's *Development Strategy for the Information Society Until 2020* (DSI 2020) seeks to accelerate the development of the digital society and capitalise on opportunities offered by communication technologies. The strategy notes the importance of inclusive digital skills development – such as improved digital literacy, e-competencies, and e-skills – to realise lasting economic and social benefits from an inclusive digital society (Republic of Slovenia, 2016).

The *Research and Innovation Strategy of Slovenia 2011-20* (RISS) seeks to establish a modern research and innovation system that contributes to increased knowledge, addresses societal challenges, raises value added per employee and provides good jobs and a healthy living environment.

The *National Higher Education Programme 2011-20* aims to ensure that Slovenia's higher education sector meets the needs of a knowledge-intensive economy and society. It aims to encourage a diversity of higher education institutions; increase the autonomy of institutions' organisational structure; enhance co-operation between higher education institutions and public research organisations; and enhance co-operation between higher education institutions and the economic and public sectors.

The *Resolution on the National Plan for Adult Education 2013-20* seeks to increase the education and skills of the adult population by providing accessible non-formal and formal education and training for the general population and the unemployed, to facilitate their adaptation to a changing labour market (Bogataj, 2014).

The *Strategy for Development of Public Administration 2015-2020* and an action plan for its implementation for 2015-16 aim to modernise the public administration and increase its efficiency. The strategy introduces new performance and strategic human resource management systems (EC, 2016a).

As an EU Member State, Slovenia's skills policies are also guided by the goals established by the Skills Agenda for Europe. The Agenda calls on EU countries and stakeholders to improve the quality of skills and their relevance to the labour market. It also aims to reduce the number of Europeans without adequate reading, writing, numeracy and digital skills. At the same time, the Agenda seeks to help highly qualified young people find work that suits their potential and aspirations, make it easier for employers to recruit employees with the right profiles and to equip people with the skills and attitudes to start their own businesses (EC, 2016b).

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CHALLENGE 1: EQUIPPING YOUNG PEOPLE WITH SKILLS FOR WORK AND LIFE

Key messages

- Developing young people's skills will be essential for Slovenia to achieve its aspirations to become an innovative society with a high value-added, green economy.
- At age 15, students perform relatively well overall in science, reading and mathematics, but migrants and vocational students do much worse.
- Low-performing and disadvantaged students are highly concentrated in vocational programmes. These programmes receive fewer resources than general education.
- Effective teaching strategies are not used widely enough.
- While the share of young adults in Slovenia with tertiary education is growing, completion rates in tertiary education are low, and many recent graduates lack strong cognitive and socio-emotional skills.
- Co-operation between higher education institutions and employers is relatively weak and could be expanded, for example through work-based learning.

Stakeholder perspectives

- During the National Skills Strategy workshops in Slovenia, many participants reported that young people lack strong cognitive and socio-emotional skills when they graduate from the education system.
- While recognising the broader social goals of higher education, participants questioned whether enough students in tertiary education are enrolling in fields of education and developing the skills that the labour market demands.
- Participants questioned whether young people in Slovenia are being equipped with skills and values for active citizenship and engagement in civil and social life.

Recommended areas for action

- Ensure all upper secondary students, including those in vocational programmes or from an immigrant background, develop high levels of skills for work and life.
- Adapt Slovenia's higher education system so that it is more responsive to current and future labour market needs.

A wide range of skills are needed for success in work and life

Strong cognitive, socio-emotional and discipline-specific skills help young people to succeed in work and life. Literacy and numeracy skills are a foundation for developing higher-order cognitive skills, such as analytic reasoning, as well as developing discipline-specific skills. Socio-emotional skills – also known as non-cognitive skills, soft skills or character skills – enable people to achieve goals, work with others and manage emotions.

Higher levels of cognitive skills are associated with a number of positive economic and social outcomes for individuals and society. Across the OECD, adults with higher literacy proficiency are more likely to be employed, earn high wages, trust others, participate in the democratic process and community life and report good health than their less-skilled peers (OECD, 2016a). For countries, higher levels of cognitive skills are associated with higher productivity and economic growth.

Higher socio-emotional skills specifically are associated with social outcomes such as better health and lower crime. OECD evidence suggests that while cognitive skills are particularly important drivers of tertiary education and labour market outcomes, socio-emotional skills show a higher predictive power for a broader range of social outcomes, such as increased health and lower crime rates (OECD, 2015a). Conscientiousness (i.e. perseverance and reliability), sociability and emotional stability can be particularly important drivers of lifetime success.

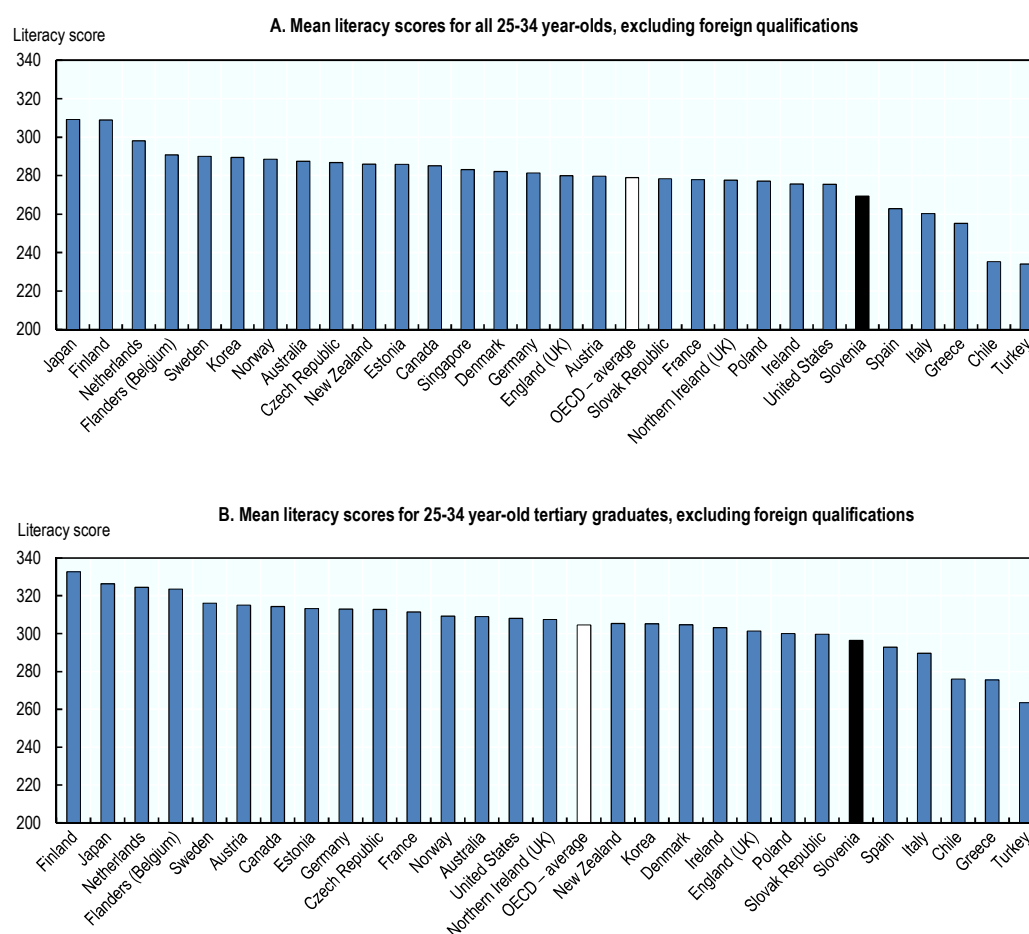
Socio-emotional skills may also promote active citizenship. Active citizenship involves political participation, and participation in civil society, community and associational life. Socio-emotional skills such as patience, ability to calculate risk and self-efficacy can foster active citizenship and civil and social engagement (OECD, 2010). Active citizenship has been one of Slovenia's educational objectives for the past 10 to 15 years, and has been integrated into curricula in various ways (Kukovic and Hacek, 2014). The Vision of Slovenia 2050 supports active citizenship with the goal of building a society of inquisitive, creative, decisive and critical thinkers.

Nonetheless, the participants in the National Skills Strategy workshops raised concerns about the cognitive, socio-emotional and discipline-specific skills of young adults in Slovenia. Many reported that when students graduate from the education system, they do not have the skills necessary to integrate well into the labour market or contribute as active citizens. Participants also expressed concerns that students in tertiary education are not enrolling in the fields of education that are most in demand in the labour market.

Slovenia's educational and skills performance

Slovenia's young people are highly educated. Around 94% of 25-34 year-olds have completed at least upper secondary education, a figure higher than almost all OECD countries. The percentage of young adults in Slovenia with tertiary education rose from 25% in 2005 to 41% in 2015, exceeding the EU 2020 target of 40%.

However, average literacy scores for 25-34 year-olds (including tertiary graduates) are lower than for their counterparts in other countries in the Survey of Adult Skills (PIAAC) (Figure 7). Young adults' numeracy skill levels are similar to the OECD average.

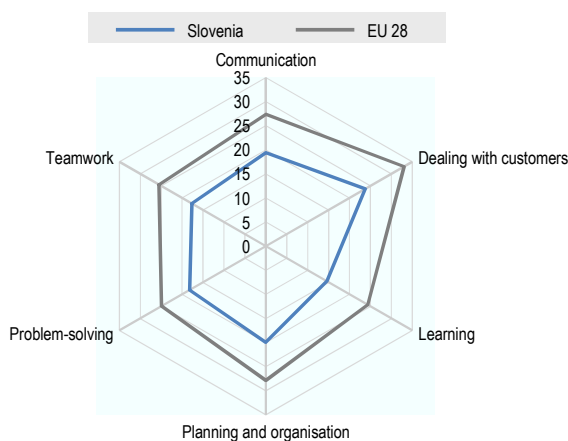
Figure 7. Young adults have lower than average literacy

Source: OECD calculations based on OECD (2017a) *OECD Survey of Adult Skills database* (PIAAC) (2012, 2015), www.oecd.org/skills/piaac/ (accessed March 2017).

Young adults in Slovenia may also lack the strong social-emotional skills employers require, and have a far more positive view of their own socio-emotional skills than do their employers. Young Slovenian employees self-reported among the lowest “skills gaps” (insofar as the required skills exceed employees’ skills) in the EU for communication, teamwork, planning, organisation and other skills (Figure 8)

Figure 8. Young Slovenians are confident in their socio-emotional skills

Share of 25-39 year-old employees (all education levels) who report that their skill levels are less than/barely match the level needed to do their job, 2014



Source: OECD calculations based on the European Centre for the Development of Vocational Training's (CEDEFOP) *European Skills and Jobs Survey (ESJS)*, (2014) www.cedefop.europa.eu/en/events-and-projects/projects/european-skills-and-jobs-esj-survey.

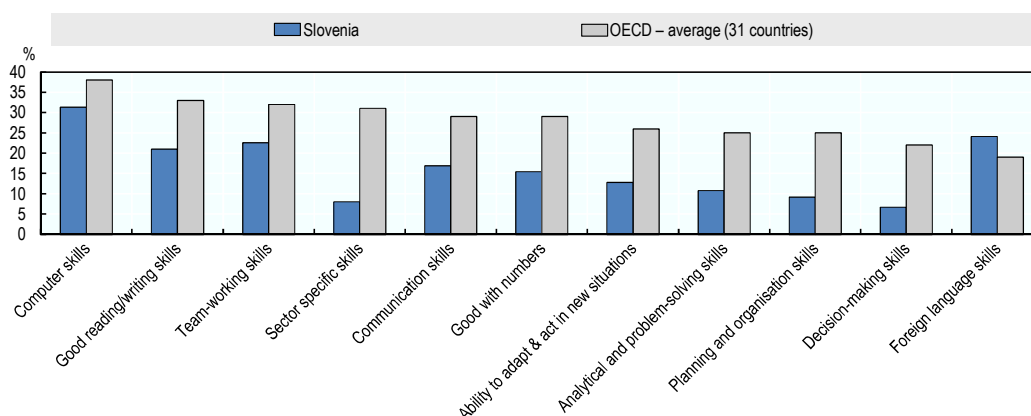
However, Slovenian employers were among the most dissatisfied in the EU with young higher education graduates, according to a 2010 survey of hiring managers in over 200 medium and large businesses in Slovenia (Figure 9). Furthermore, Slovenian employers were least satisfied with some of the skills that they deemed most important, including sector-specific (discipline-specific) skills and employees' ability to adapt.

Outside the workplace, Slovenia's youth are active volunteers. They are not active in other forms of civic and social engagement, however, and lack trust in others (Figure 10). Ensuring that young people develop strong socio-emotional skills – patience, attitude towards risk, self-efficacy and sense of empowerment – could help alleviate issues of distrust and boost civil and social engagement and active citizenship. Such active citizenship can in turn help young people develop their socio-emotional skills.

Slovenia's future economic performance will depend on an ongoing supply of young graduates with a range of skills that corresponds to labour market demand, including technical, professional and occupation-specific skills. Employers can signal their preferences for different levels and fields of education through their offers of employment and compensation. Despite strong growth in tertiary attainment, wage premiums remain relatively high, although they have declined somewhat since 2010 (Figure 11). At the same time, unemployment for young tertiary graduates (under the age of 30) has risen to 12.3%, the sixth-highest among OECD countries (OECD, 2016c).

Figure 9. Few Slovenian employers are very satisfied with tertiary graduates' skills

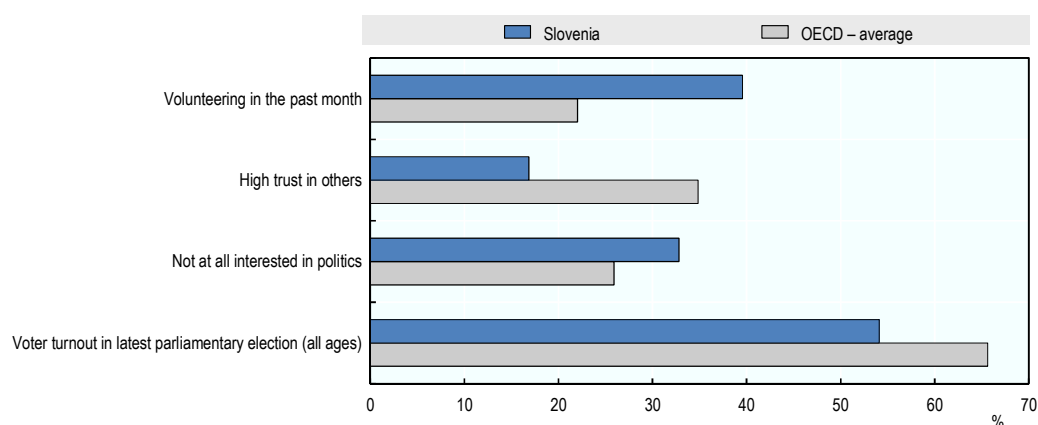
Share of employers 'very satisfied' with graduates' skill levels



Source: European Commission (EC) and Gallup Organisation (2010), Employers' Perception of Graduate Employability, Flash Eurobarometer No. 304.

Figure 10. Young Slovenians could be more active citizens

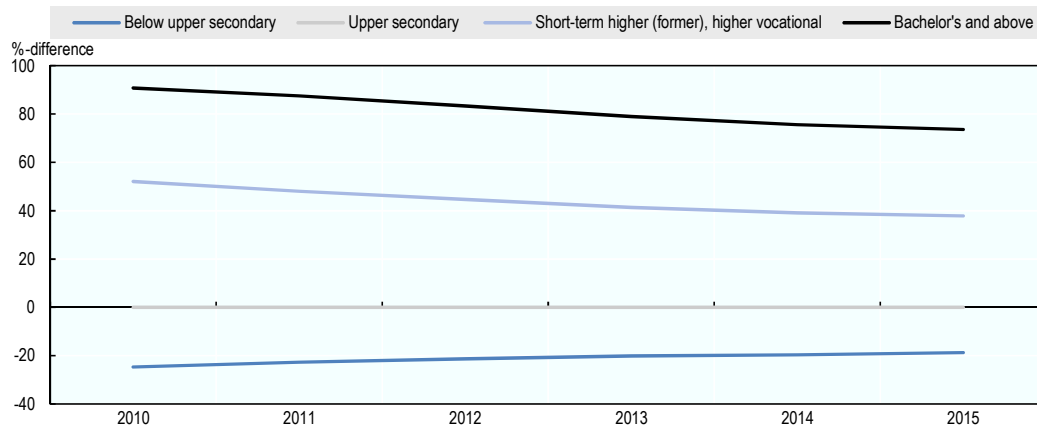
Share of 15-29 year-olds reporting on civic, social activities and engagement



Source: OECD (2016b), *Society at a Glance 2016*: OECD Social Indicators, OECD Publishing, Paris, www.dx.doi.org/10.1787/9789264261488-en.

Figure 11. Tertiary-educated adults earn relatively high wages in Slovenia

Percentage difference in wage relative to upper secondary education, 25-54 year-olds,
2010-2015



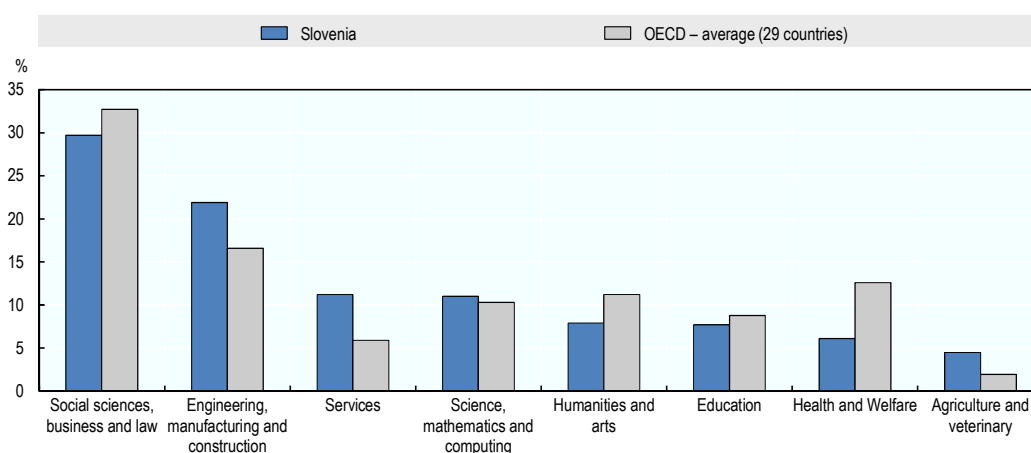
Source: OECD calculations, based on data requested from the Statistical Office of the Republic of Slovenia (SURS).

Despite the comments to the contrary from some participants in National Skills Strategy workshops, a relatively high percentage of young people in Slovenia enter tertiary programmes in engineering, manufacturing and construction, while relatively few are entering humanities and arts (Figure 12). This appears to be closely aligned with wage signals: wage premiums are high for those with degrees in engineering, manufacturing and construction, and low for humanities and the arts (SURS, 2016).

However, relatively few young people are entering tertiary programmes in health and welfare, and Slovenia does appear to have a shortage of health, information and communications technology (ICT), and science and engineering professionals (CEDEFOP, 2016). Shortages in health are of particular concern given Slovenia's ageing population, while shortages in science and engineering could inhibit Slovenia's ability to transition to a green economy. However, the shortage of health professionals is limited to certain specialities and regions, and the number of unemployed doctors in Slovenia is rising.

Figure 12. Relatively few students enter social sciences, humanities or the arts

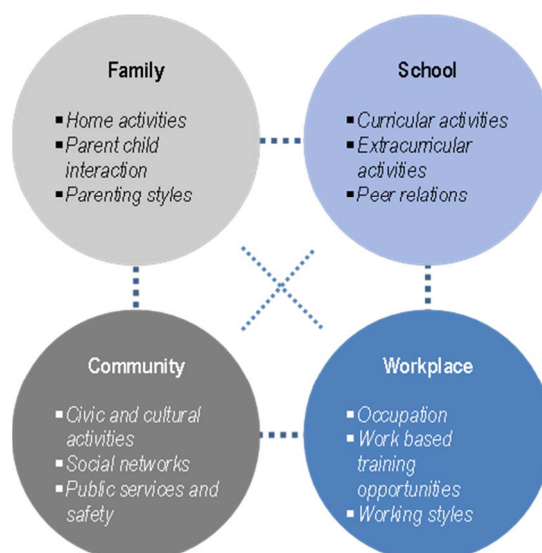
New entrants to tertiary education (International Standard Classification of Education, or ISCED, 2011 levels 5-8), by field of education, 2014



Source: OECD (2016c), *Education at a Glance*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/eag-2016-en>.

Factors contributing to Slovenia's education and skills performance

Developing skills is a lifelong effort and a shared responsibility (OECD, 2015a). Families, schools, communities and workplaces play major roles in developing young people's skills (Figure 13).

Figure 13. A framework of learning contexts

Source: OECD (2015a), *Skills for Social Progress: The Power of Social and Emotional Skills*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264226159-en>.

Families play their most important role in developing children's skills in the earliest years – shaping children's socio-emotional development by providing guidance, developing habits, imparting values and sharing expectations (OECD, 2015a).

Early childhood education and care (ECEC) is important for helping young people to get a good start in learning and life. Workshop participants reported that Slovenia's early childhood education and care system has successfully contributed to the development of children's cognitive and socio-emotional skills. The available evidence on the performance of ECEC in Slovenia tends to corroborate these reports.

As children grow older, schools become important. Participants highlighted several strengths in Slovenia's primary and secondary school system, including access and equity for different demographic groups, students' science and mathematics performance in PISA, and efforts to provide a holistic education that encourages active citizenship. But they also raised concerns about the extent to which schools equip students with important cognitive skills in critical, independent and creative thinking, and socio-emotional skills like teamwork and discipline. Many participants expressed concerns that Slovenia's education system is overly focused on memorisation, theory and tests, rather than effective, modern teaching methods.

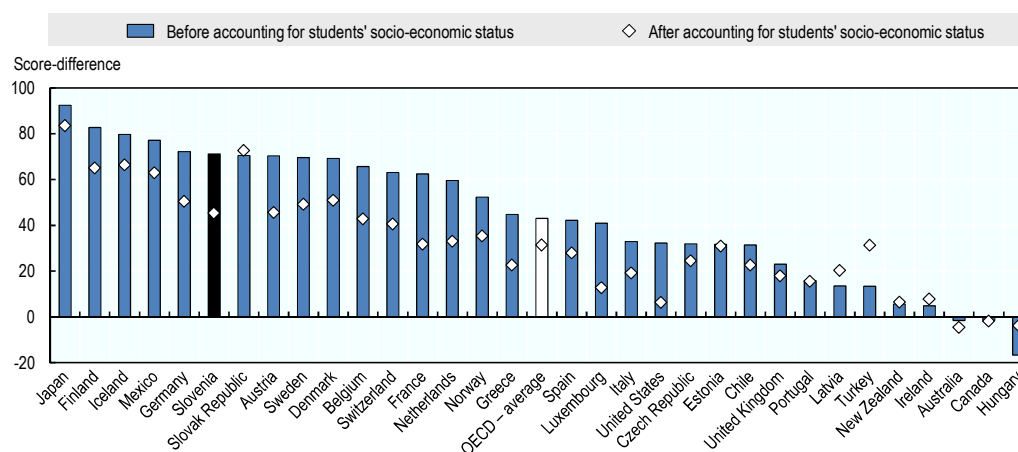
In PISA 2015, Slovenian students performed above the OECD average in all three core areas of science, reading and mathematics and in the upper quarter of all participating economies. In addition, the reading performance of Slovenian students has shown an average improvement of more than ten score points every three years since 2009, reflecting both a higher percentage of students attaining the highest proficiency levels and a lower percentage of students who do not attain the baseline level of proficiency.

Overall, students' socio-economic status has a similar impact on mathematics and science performance in Slovenia as it does across the OECD on average. And between 2006 and 2015, the impact of Slovenian students' socio-economic status on their science performance significantly decreased, while average levels of achievement remained stable.

Almost 8% of 15-year-olds in Slovenia are immigrants. However, Slovenia has a large performance gap between immigrant and non-immigrant students, even after adjusting for socio-economic status (Figure 14). This gap is approximately equivalent to one year of schooling on average across the OECD. This size of this gap has been fairly stable across PISA cycles (OECD, 2016d). Failing to ensure that all groups of school students are developing strong skills will undermine Slovenia's future prosperity and inclusiveness.

Figure 14. Immigrant students underperform in Slovenian schools

Point-score difference in science performance between non-immigrants and immigrants, before and after adjusting for differences in students' socio-economic status, 2015



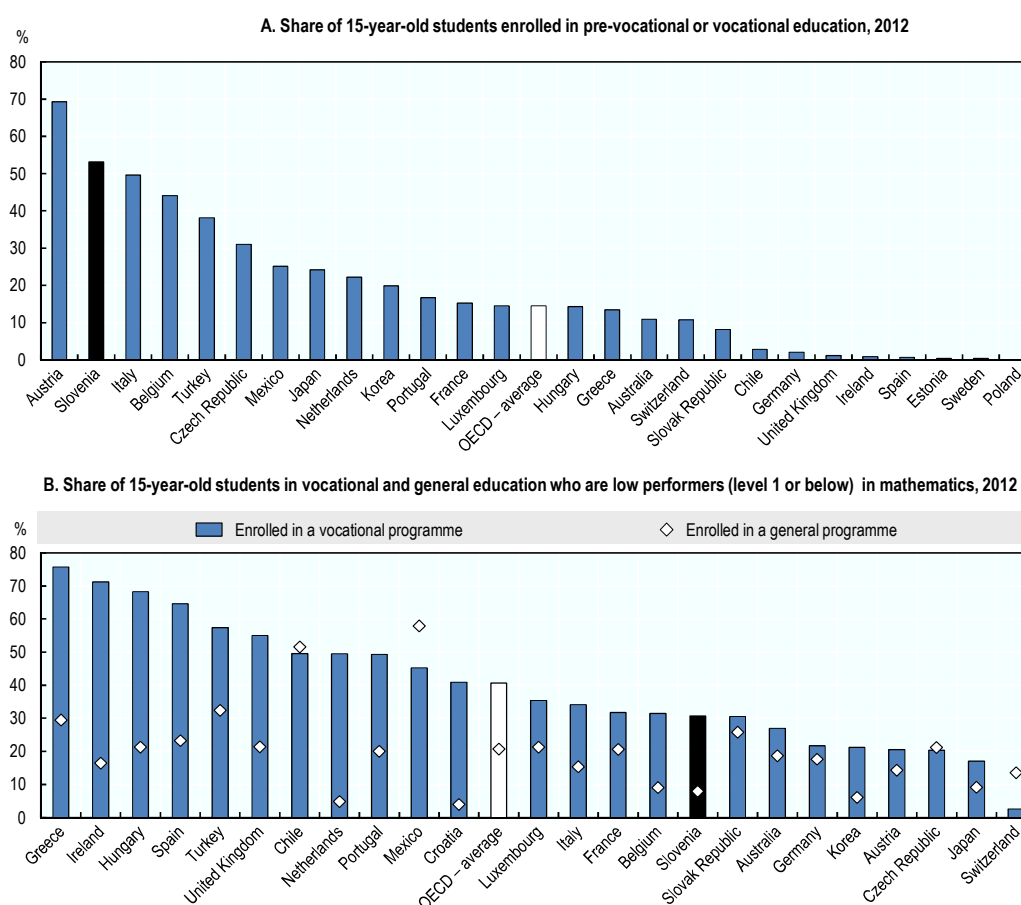
Source: OECD (2016d), PISA 2015 Results (Volume I): Excellence and Equity in Education, PISA, OECD Publishing, Paris, www.dx.doi.org/10.1787/9789264266490-en

About half of Slovenia's 15-year-old students are enrolled in pre-vocational or vocational programmes, some of which are designed to lead to tertiary education programmes. Low-performing students are highly concentrated in vocational upper secondary programmes in Slovenia (Figure 15). Furthermore, about 34% of students in vocational programmes in Slovenia are socio-economically disadvantaged, compared to 12% in general programmes (OECD, 2016d).

Schools with higher proportions of low-performing and disadvantaged students need well-selected, prepared and supported school leadership and teachers, supportive school climates and learning environments, innovative and effective classroom learning strategies, and effective links and communication with parents and employers.

However, although the education system is well resourced in Slovenia overall, expenditure per student in vocational upper secondary programmes is approximately 17% lower than in general programmes (Figure 15, Panel B). And at tertiary level, the difference in expenditure per student between short-cycle programmes and bachelor's and above is significantly larger. Skills financing is discussed further in Challenge 9.

Compared to other OECD countries, school assessment and accountability measures and collaboration between principals and teachers appear to be relatively widespread in Slovenia (OECD, 2016e). However, based on the reports of upper secondary school principals in PISA 2015, schools in Slovenia have comparatively little autonomy over curricula and student assessment, although they do have some autonomy in implementing teaching content and teaching methods.

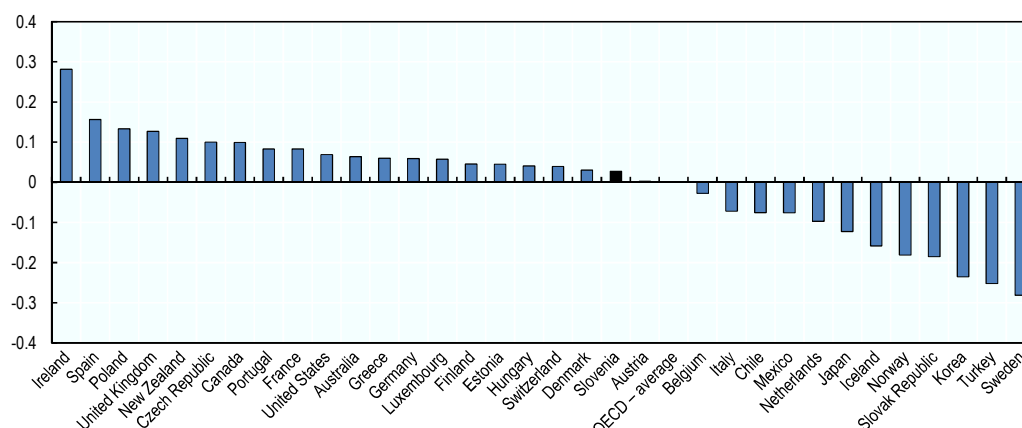
Figure 15. Low-performing students are concentrated in vocational programmes

Source: OECD (2013), PISA 2012 Results: *Excellence through Equity: Giving Every Student the Chance to Succeed (Volume II)*, PISA, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264201132-en>.

Utilising more effective teaching strategies in schools could help young people in Slovenia develop stronger cognitive skills. Across the OECD, more frequent use of “cognitive-activation instruction”¹ is associated with higher student performance. This positive association is larger in Slovenia than in all but five other PISA countries (Echazarra et al., 2016). While students report that mathematics teachers in Slovenia use cognitive-activation instruction in the classroom at a rate comparable to the OECD average, this nevertheless has room for improvement (Figure 16).

Figure 16. Teachers could use effective teaching strategies more frequently

Index of teachers' use of cognitive-activation strategies, based on student reports, 2012



Source: Echazarra et al. (2016), p. 57, "How teachers teach and students learn: Successful strategies for school", *OECD Education Working Papers*, No. 130.

In higher education too, a number of factors may be inhibiting students from developing strong cognitive, socio-emotional and discipline-specific skills.

Relatively low completion rates in Slovenian higher education (OECD, 2016c) are undermining the goal to equip students with skills for work and life. Low completions may partly reflect students enrolling without a serious commitment to their studies. Indeed, several participants raised concerns that Slovenia's "student work" scheme² has reduced study performance and completions. The government recently removed exemptions from social security contributions for student work and strengthened monitoring of enrolments to address these issues (OECD, 2016g; EC, 2015). In 2013, only about 30% of higher education students undertook paid work during the semester, and on average for eight hours per week (Eurostudent, 2015). The majority of working students (70%) report that their jobs are moderately or (very) closely related to their fields of study.

Many participants in the National Skills Strategy project reported that higher education institutions (HEIs) and employers in Slovenia need to co-operate better, to benefit students. A survey of more than 43 000 higher education graduates (HEGESCO) noted the importance of such links in graduates' career success (Pavlin, 2016). And a relatively high percentage of Slovenian businesses see co-operation with HEIs as important, and work placements and practical training as a priority (EC and Gallup Organisation, 2010).

Slovenia's National Higher Education Programme (NHEP) 2011-20 has proposed consultative forums with employers, introducing professional bachelor degrees³ with direct employer input, and requiring that teachers have industry work experience (Government of Slovenia, 2015). However, these measures have not been fully implemented.

Work-based learning, such as internships, can be a very useful way for students to develop a range of skills that are valued in the labour market. Work-based learning is compulsory for first-cycle professional study programmes, but not required for first-cycle academic study programmes. Employer reports indicate that internships are Slovenian

businesses' chief method for co-operating with HEIs and recruiting graduates (Chamber of Commerce and Industry, 2014; Melink and Pavlin 2014). But while employers in Slovenia fund about 1 000 corporate scholarships a year, involving vacation work and future employment for students, some are not taken up. Programmes like the "Creative Path to Practical Knowledge" which involve students in small, work-based research projects, are promising, but relatively small in scale (SHRDSF, 2015).

Several innovative forms of co-operation between Slovenian employers and universities have been set up. The Jezikovnik partnership is one example (Box 3). Many other OECD countries have tried to make higher education more responsive to the skills needs of the labour market (Box 4).

Tertiary education funding may not provide strong incentives for institutions and students to invest in developing the mix of skills that the labour market demands. To strengthen the incentives for higher education institutions to focus on this issue, the Higher Education Act in 2016 introduced graduate employment outcomes and completion rates as two of the performance factors in determining funding levels for institutions.

Meanwhile, higher education tuition is free for full-time students, which may reduce their incentives to consider the labour market relevance of their education. Challenge 9 of this report on financing skill effectively and efficiently considers the question of higher education tuition fees and access for disadvantaged groups.

Prospective students and higher education institutions need accurate, timely and accessible labour market information to inform their choice of study and the programmes offered. Enabling better decisions through improved learning and labour market information is considered in Challenge 8 in this report.

Box 3. Bridging the world of education and work: the Jezikovnik initiative

Recognising the need for stronger links between students and the world of work, the Jezikovnik initiative established a co-operation agreement between several translation and language teaching companies and the Faculty of Arts at the University of Ljubljana. The aim was to provide relevant working experience for students of linguistic programmes, job opportunities to graduates, and access to graduates for companies.

The programme has included career days twice a year and work experience in participating companies. Around 170 students, educators and professional translators attended the first Career Day at the University of Ljubljana, listening to lectures on translation skills and entrepreneurship, as well as job application assistance. More than 40 students subsequently applied for jobs with the participating companies, and several other companies expressed interest in joining the collaboration. It has also provided an avenue for students and teaching staff to hear directly from the sector about the skills currently in demand.

Box 4. Making higher education more responsive to the labour market

In Latvia, the Czech Republic, Denmark and Poland, higher education institutions are required to consult with employers to gain up-to-date insights into skills needs and to encourage collaboration on curriculum design and work-based learning.

In Poland, three-month-long internships are obligatory in practical higher education programmes. With support from the European Union, Poland is now working to develop a uniform, nationwide system of six-month internships in non-university higher education institutions that would provide an additional three months, beyond the three months already required. Vocational higher education institutions in Poland are required to demonstrate substantial participation by employers and industry representatives in the educational process, and their representatives are included on the collegial advisory bodies of these institutions.

In the United States, the Business Higher Education Forum (BHEF), brings together higher education institution senior administrators and CEOs of Fortune 500 companies to identify skill needs and find ways to develop those skills within higher education. One of the strengths of this collaboration is that it is a long-term partnership, allowing for in-depth research that can help to inform longer-term curriculum development. The BHEF is currently working with higher education institutions and business partners to develop new curricula for fields of study such as cybersecurity and data analytics for which demand is likely to increase.

Source: OECD (2017b), In-Depth Analysis of the Labour Market Relevance and Outcomes of Higher Education Systems: Analytical Framework and Country Practices Report, Enhancing Higher Education System Performance, OECD, Paris.

NOTES

1. In cognitive activation instruction, teachers ask questions and give problems that make students reflect or think for an extended time; ask students to decide on procedures for solving complex problems; present problems in different contexts; help students learn from mistakes, etc.
2. The role of part-time paid work during term time is more complex in Slovenia than in other countries, because student services have a long-standing tradition of acting as temporary worker agencies supplying students under separate employment conditions.
3. Accreditation processes for new tertiary programmes require providers to analyse career opportunities and establish work-placement agreements with enterprises.

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CHALLENGE 2: IMPROVING THE SKILLS OF LOW-SKILLED ADULTS

Key messages

- Adults with low skill levels face relatively poor economic and social outcomes, and are increasingly at risk of being left behind in a changing world.
- One-third of 16-65 year-olds in Slovenia – almost 400 000 adults – have low levels of literacy and/or numeracy.
- Slovenia is actively seeking to engage more low-skilled adults in learning, consistent with European initiatives.
- Most low-skilled adults, however, are not interested and do not participate in adult learning.
- Some low-skilled adults would like to participate but are not able to do so because of the financial cost and for lack of time.

Stakeholder perspectives

- During the National Skills Strategy workshops in Slovenia, participants raised concerns that many adults have low levels of skills like literacy and numeracy, which impedes their ability to participate in the workforce and society.
- Particular concerns were raised about the skill levels of older Slovenians, and the reluctance of older workers and their employers to invest in skills development.
- Participants expressed the aspiration that all adults in Slovenia acquire at least basic levels of cognitive skills, and mentioned the importance of accessible, high-quality lifelong learning opportunities.

Recommended areas for action

- Strengthen awareness-raising, outreach and guidance efforts to encourage and motivate low-skilled adults to improve their skills.
- Provide more flexible modes of learning and strengthen systems for validation of non-formal and informal learning, to boost participation by low-skilled adults.

Adults with low skill levels risk being left behind

In Slovenia and across the OECD, adults with low levels of literacy and/or numeracy proficiency generally have poorer economic and social outcomes (OECD, 2016a). They face lower earnings and employment, poorer health and are more likely to perceive themselves as objects of, rather than actors in, political processes. Low-skilled adults also have lower levels of trust in other people than adults with high levels of literacy and/or numeracy. They face a growing risk of being left behind as technological change and globalisation transform the economy. When large numbers of adults have poor skills, it becomes difficult to introduce productivity-enhancing technologies and new ways of working, which in turn stalls improvements in overall living standards.

During the National Skills Strategy workshops in Slovenia, participants raised concerns that many adults in Slovenia have low levels of foundational skills and are unable to successfully participate in the workforce and society. Particular concerns were raised about the skill levels of older Slovenians, and the general reluctance of older workers and their employers to invest in further skills development. Participants expressed the aspiration that all adults in Slovenia have at least basic levels of cognitive skills, and recognised the importance of accessible, high-quality adult learning opportunities for all adults.

Low-skilled adults in Slovenia

Almost one-third of Slovenia's working-age population (around 400 000 adults) have low levels of literacy and/or numeracy proficiency (Figure 17). These adults can successfully complete reading tasks that involve only short and simple texts, and mathematics tasks involving only basic operations (Box 5). While only 13% of Slovenia's adult population has less than upper secondary education, they account for 40% of low-skilled adults. Nevertheless, more than half of Slovenia's low-skilled adults have completed at least upper secondary education, and some have even completed tertiary education.

Older adults in general are much more likely to be low skilled than younger adults, and Slovenia has in fact achieved a greater improvement in skills across age cohorts than the average among OECD countries (Figure 18). This partly reflects its rising educational attainment levels (Challenge 1), as well as improvements in educational quality. Even so, one in five 25-34 year-olds and one in four 35-44 year-olds are low skilled, posing an ongoing challenge for Slovenia's future economic prosperity and social cohesion.

Furthermore, almost half a million adults in Slovenia have low levels of proficiency in problem solving in technology-rich environments,⁴ a larger share (40%) than in all but four other countries that participate in the OECD's Survey of Adult Skills (PIAAC) (OECD, 2016a). These adults have limited ability to use digital technology, communication tools and networks to acquire and evaluate information, communicate with others and perform practical tasks.

Box 5. What does it mean to have low skills?

The Survey of Adult Skills (PIAAC) typically defines low-skilled adults as those who have less than Level 2 proficiency in literacy and/or numeracy on a scale that goes up to Level 5. Individuals are classified at different levels of numeracy and literacy based on their probability of being able to respond to tasks of different difficulty levels. At each point of the scale, an individual with a score of that particular value has a 67% chance of successfully completing items at that point.

Sample literacy question: Level 3

Look at the list of preschool rules and answer the question “What is the latest time that children should arrive at preschool?”

Preschool Rules

Welcome to our Preschool! We are looking forward to a great year of fun, learning and getting to know each other. Please take a moment to review our preschool rules.

- Please have your child here by 9:00 am.
- Bring a small blanket or pillow and/or a small soft toy for naptime.
- Dress your child comfortably and bring a change of clothing.
- Please no jewelry or candy. If your child has a birthday please talk to your child's teacher about a special snack for the children.
- Please bring your child fully dressed, no pajamas.
- Please sign in with your full signature. This is a licensing regulation. Thank you.
- Breakfast will be served until 7:30 am.
- Medications have to be in original, labeled containers and must be signed into the medication sheet located in each classroom.
- If you have any questions, please talk to your classroom teacher or to Ms. Marlene or Ms. Tree.

Sample numeracy question: Level 2

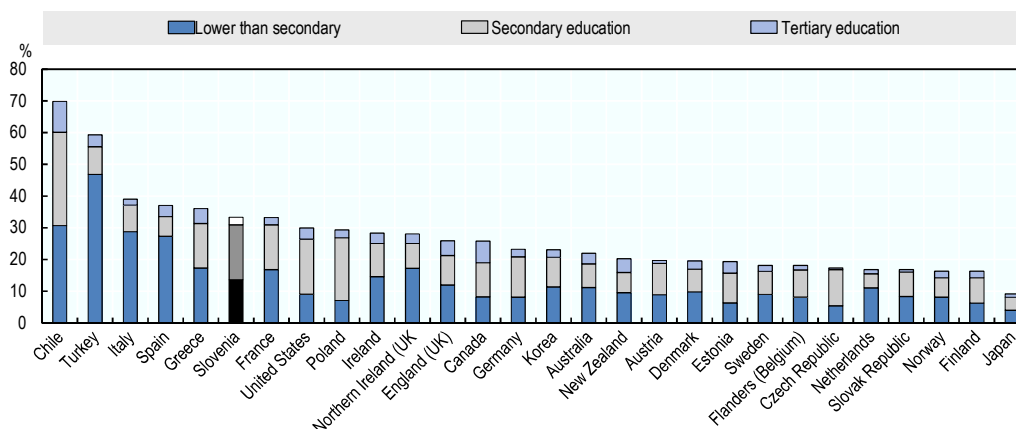
The petrol tank in this truck holds 48 gallons. About how many gallons of petrol remain in the tank? (Assume the gauge is accurate.)



Source: OECD (2016b). *Technical Report of the Survey of Adult Skills*, OECD Publishing, Paris, www.oecd.org/skills/piaac/Technical%20Report_17OCT13.pdf.

Figure 17. A relatively high share of adults in Slovenia have low skills

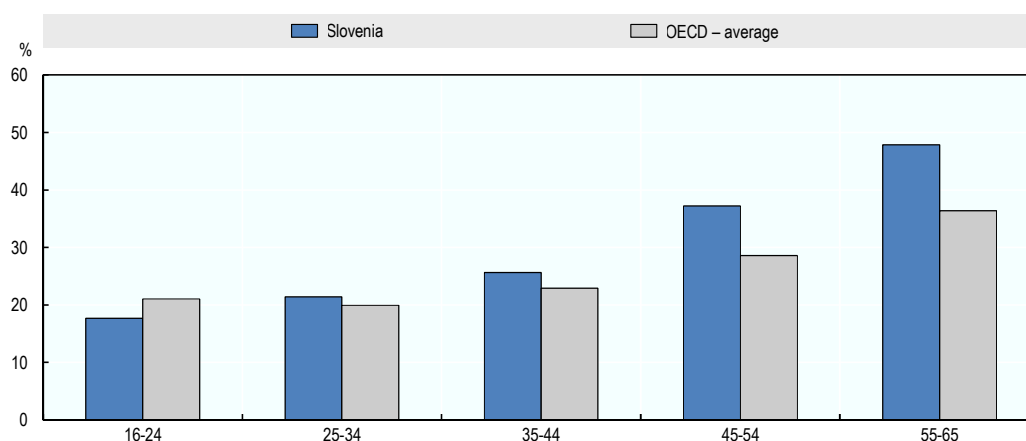
Share of adults (25-65 year-olds) with low literacy and/or numeracy proficiency, by educational attainment



Source: OECD calculations based on OECD (2017), *OECD Survey of Adult Skills database* (PIAAC) (2012, 2015), www.oecd.org/skills/piaac/ (accessed March 2017).

Figure 18. Slovenia has reduced the prevalence of low skills over time

Share of adults with low literacy and/or numeracy proficiency, by age



Source: OECD calculations based on OECD (2017) *OECD Survey of Adult Skills database* (PIAAC) (2012, 2015), www.oecd.org/skills/piaac/ (accessed March 2017).

Socio-economically disadvantaged adults and immigrants in Slovenia are more likely to have low skill levels than others, after education attainment and age are taken into account (Table 1). However, the socio-economic effect (as proxied through parental education) is more pronounced in Slovenia than in the average for OECD countries. The effect of migrant background is less pronounced than the OECD average and only relevant for those migrants with a foreign-language background.

Table 1. Socio-economic and migrant background matters

Adjusted difference in the percentage of adults scoring at or below Level 1 in literacy or numeracy between the reference category and other categories

	Slovenia %	OECD average %
Socio-economic background		
(Reference category: At least one parent attained tertiary)		
- At least one parent attained upper secondary	16	8
- Neither parent attained upper secondary	21	14
Immigrant and language background		
(Reference category: Native-born and native language)		
- Foreign-born and native language	0	6
- Foreign-born and foreign language	14	20

Source: OECD calculations based on OECD (2017) *Survey of Adult Skills database* (PIAAC) (2012, 2015), www.oecd.org/skills/piaac/ (accessed March 2017).

Participation in adult learning in Slovenia

Adults can maintain and enhance their skills through different forms of adult learning. This can include formal education, non-formal education such as training programmes, and informal learning, which can take place in many different settings, in the workplace or elsewhere. In Slovenia, overall participation and hours spent in adult education are relatively low and, as elsewhere, concentrated in non-formal education (Figure 19).

In Slovenia, as elsewhere, a much smaller percentage of adults with low literacy levels participate in formal or non-formal education than higher-skilled adults (Figure 20). Moreover, a majority of those with low levels of literacy or numeracy do not want to participate (Table 2).

About 50 000 (12%) low-skilled adults reported that although they wanted to participate in formal or non-formal education, they had been prevented from doing so (Figure 21). Cost/financing is the barrier most frequently cited by low-skilled adults in Slovenia, more than for the OECD average. In contrast, a lack of time, whether due to work or family responsibilities, is less frequently cited in Slovenia than elsewhere.

Table 2. Low-skilled adults are far less interested in adult learning

Share of low-skilled and other adults participating in education and training over previous 12 months

	Adults less than or at Level 1	All other adults
Participated	31	56
Wanted to participate but did not because of barriers	12	22
Did not participate and did not want to participate ¹	57	22
Total	100	100

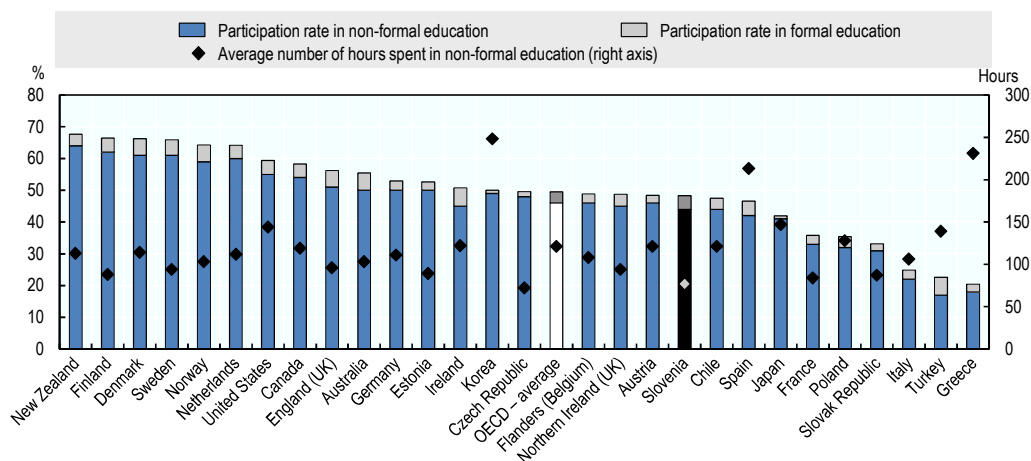
¹ derived as a residual of other categories.

Note: Those described as “low skilled” have low proficiency in either numeracy or literacy.

Source: OECD calculations based on *OECD Survey of Adult Skills database* (PIAAC) (2012, 2015), www.oecd.org/skills/piaac/ (accessed March 2017).

Figure 19. Rates and intensity of adult education in Slovenia are relatively low

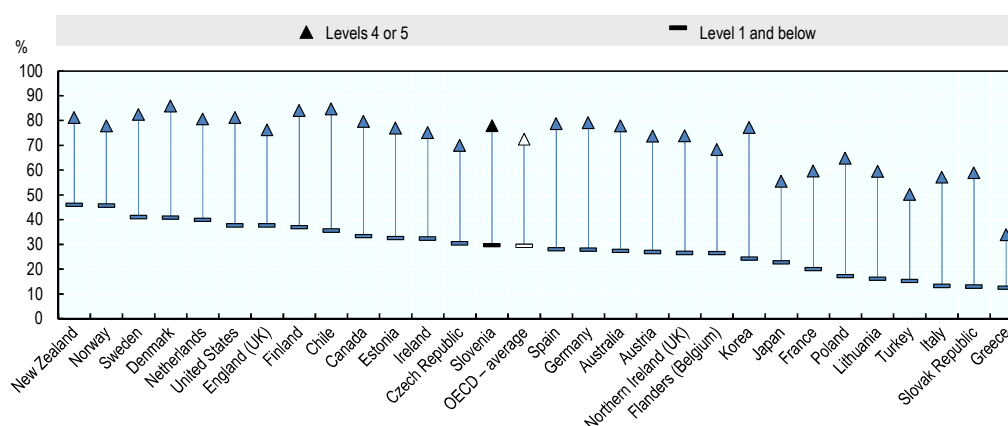
Share of all adults (25-65 year-olds) participating in education, and average hours per participant



Source: OECD calculations based on OECD (2017) *Survey of Adult Skills database* (PIAAC) (2012, 2015), www.oecd.org/skills/piaac/ (accessed March 2017).

Figure 20. Low-skilled adults participate far less frequently in adult learning

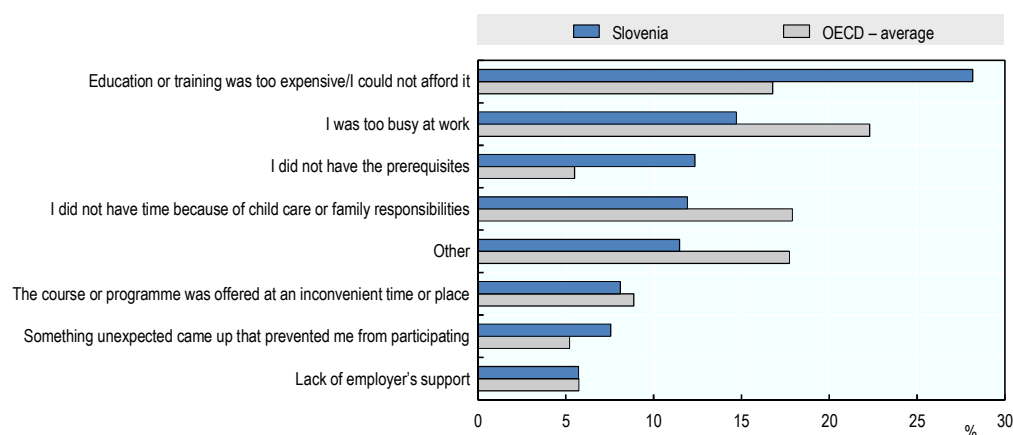
Share of adults (25-65 year-olds) participating in formal or non-formal education, by literacy proficiency



Source: OECD calculations based on OECD (2017) *Survey of Adult Skills database* (PIAAC) (2012, 2015), www.oecd.org/skills/piaac/ (accessed March 2017).

Figure 21. Cost and time are major barriers to learning for low-skilled adults

Share of adults with low levels of literacy and/or numeracy who wanted to participate in adult education or training, but did not



Source: OECD calculations based on OECD (2017) *Survey of Adult Skills database* (PIAAC) (2012, 2015), www.oecd.org/skills/piaac/ (accessed March 2017).

Informal learning is also generally thought to play a significant role in adult skill development, although by its nature, it is difficult to find reliable estimates of how much informal learning is actually taking place. Adults learn through work tasks, from colleagues and work mentors, through trial and error, by solving challenges and changing job positions, as well as through the continuing training that employers may provide. Adults who do not have the opportunity to use their skills at work not only forego the opportunity to develop their skills, but risk losing their skills over time. However, in Slovenia, as elsewhere, low-skilled adults use their skills relatively infrequently at work. Making the most of adults' skills in workplaces is discussed in Challenge 5.

Policies and programmes for adult learning

Slovenia is actively pursuing policies and programmes to engage more low-skilled in adult education. These initiatives dovetail with the “Upskilling Pathways” initiative of the European Commission (EC) (Box 6).

The Adult Education Act (1996) and the strategic Adult Education Master Plan 2013-2020 establish adult learning as a policy priority, including for low-skilled adults. The Master Plan identifies older age groups with low educational levels, immigrants, the unemployed and school dropouts as target groups for adult learning.

The Master Plan sets out various priorities for training low-skilled adults, including encouraging adults without basic school education to participate in second-chance education, certifying skills and knowledge acquired in a non-formal manner, developing adults' basic and vocational competencies to meet the needs of the labour market, and carrying out motivational, informational and counselling activities, along with career guidance.

To boost the participation of low-skilled adults in adult learning, Slovenia is currently preparing a new Adult Education Act, developing a national system of validation of prior learning, and developing a national system of quality assurance in the adult education system.

The Ministry of Education, Ministry of Labour and municipalities all have substantive roles in adult education in Slovenia. Adult learning in Slovenia includes non-formal general education for acquiring basic skills like literacy; formal second-chance education leading to a lower secondary, upper or short-cycle higher vocational certificate; and vocationally oriented formal or non-formal education leading to a vocational qualification or certificates (Eurydice, 2016).

Partial public subsidies are available for adult learning programmes *i)* that the government has identified as being in the public interest in its annual adult learning master plan, *ii)* in registered public or private education providers; and *iii)* on the basis of public tenders. Attaining compulsory elementary school education is a constitutionally guaranteed right and is free of charge at any age. Adults who wish to complete upper secondary education may enrol in regular upper secondary education programmes with special organisational adjustments for adults, provided they fulfil the requirements regarding previous education.

Slovenia also offers programmes targeted to raising the basic skills or education levels of low-skilled adults. For example, “Education programmes for success in life” (Usposabljanje za življenjsko uspešnost) includes several sub-programmes targeted to the most vulnerable groups of adults with low educational attainment. Such programmes have sought to raise adults’ skill levels in the context of workplaces, families, rural areas, second-chance education and special needs education. However, only about 1 000 adults participated in Slovenia’s “Education for success in life” programmes, which aimed to raise the basic skill levels of Slovenia’s most disadvantaged adults in 2012, while just over 1 000 adult learners participated in a programme to acquire a basic school qualification in 2013/14 (European Commission/EACEA/Eurydice, 2015a).

Box 6. European Commission’s “Upskilling Pathways” initiative

The European Commission’s new “Upskilling Pathways” initiative, which is part of the New Skills Agenda, aims to help adults acquire a minimum level of literacy, numeracy and digital skills, and/or acquire a broader set of skills by progressing towards an upper secondary qualification or equivalent. Participants may be in employment, unemployed or economically inactive, but have a need to strengthen basic skills. Member states may define priority target groups for this initiative, depending on the national circumstances. As part of the programme, adults with low levels of skills would receive:

- Skills assessment: to enable adults to identify their existing skills and any needs for upskilling. This may take the form of a “skills audit”, an assessment of the individual’s skills that can be the basis for planning a customised learning plan.
- Learning plan: education and training to meet the needs identified by the skills assessment. The proposed programme should aim to boost literacy, numeracy or digital skills or allow progress towards higher qualifications aligned with labour market needs.
- Validation and recognition: adults’ skills will be validated and recognised.

Beyond the EUR 27 billion European Social Fund (ESF) investment in education, training, skills and lifelong learning from 2014 to 2020, a further EUR 21.2 billion is available for social inclusion and EUR 30.8 billion for sustainable and quality employment. Delivery of adult learning under the Upskilling Pathways initiative will build on existing national structures and vary across member states. Many countries, like Slovenia, already offer elements of Upskilling Pathways and can build on this as they implement this new initiative in co-operation with social partners, education and training providers, and local and regional authorities.

Source: European Commission (2016), Education and Training Monitor 2016, http://ec.europa.eu/education/policy/strategic-framework/et-monitor_en.

Total public funding in Slovenia’s 2016 *Annual Adult Education Plan* was EUR 62 million, the equivalent of approximately EUR 150 per low-skilled adult in Slovenia. Total expenditure on adult education from private sources in 2015 was much higher, estimated at EUR 140 million. While public funding is available for a range of adult education programmes in Slovenia, tender-based funding from the ESF and the national government has created gaps of one or more years between the programming periods, interrupting provision of training. In addition, the regions and communities covered by providers of

adult education have changed between tender periods, and caused regional gaps in provision (Javrh, 2011).

Low-skilled adults in Slovenia are often highly reliant on financial support from their employers for training: 55% of those in adult learning are fully financially supported by their employer, while only 13% are not supported (OECD, 2017). However, national experts note that this includes health and safety training required by law.⁵ There is strong international evidence that funding learning for disadvantaged and difficult-to-engage groups is an effective policy lever for increasing participation in adult learning (EC, 2015a). Unlike a number of EU countries, Slovenia has no systematic co-funding instruments with preferential treatment or targeted support for adults who need more training, but instead relies on public tenders (EC, 2015b). A more comprehensive financing mix for adult learning, with more targeted support for low-skilled adults, may be needed to boost the participation of low-skilled adults. As explored in Challenge 9, individual learning accounts and subsidies (vouchers and allowances) are other potential mechanisms that could facilitate more learning among low-skilled adults, as long as they are appropriately targeted.

Time barriers to adult learning can be reduced by more flexible delivery, including in the workplace, which can be an effective place to reach low-skilled adults (Windisch, 2015). Furthermore, only some adult learning programmes in Slovenia are modular or credit-based, whereas in most Western European countries, all or almost all programmes are modular (EC, 2015a). Slovenia is also currently strengthening aspects of validation of non-formal and informal learning with European Social Funds support. Enabling more low-skilled adults in Slovenia to gain recognition for the skills they have acquired outside formal education can help them to gain tangible benefits from adult learning.

Nevertheless, a major challenge is to convince adults with low skills in Slovenia that they would benefit from raising their skills through adult learning. Reaching low-skilled adults with high-quality information and tailored guidance is necessary to demonstrate the benefits of adult learning, and Slovenia has taken several steps to reach adults with high-quality information and tailored guidance and increase participation in adult learning (Box 7).

A potential reason many low-skilled adults in Slovenia do not want to participate in adult learning may be a lack of information. Only 9% of adults with low educational attainment (below upper secondary) in Slovenia searched for information on learning opportunities in 2011, compared to 14% across EU-28 countries (European Commission/EACEA/Eurydice, 2015b). Only 7% of adult learning participants in Slovenia used career guidance providers (including employment service offices) as a source of information about formal and/or non-formal education, compared to 12% across the OECD. Many countries provide face-to-face interviews to low-skilled individuals in order to provide them information and guidance on adult learning, and to overcome their difficulties with Internet use or complex printed material (OECD, 2005). Slovenia faces a challenge in developing a proper network of public institutions to provide guidance and counselling for adults to encourage them to engage in lifelong learning and enrol in basic skill courses (Mallows, 2016). Low-skilled adults in Slovenia are likely to benefit from more active outreach measures and face-to-face guidance on adult learning.

Box 7. Awareness-raising, guidance services and information for adult learners

Slovenia holds “adult education (or lifelong learning) weeks” including “Learning Parades – Days of Learning Communities”. These activities commonly involve up to 30 partners, usually led by a local adult education centre. Each lifelong learning week is evaluated, in order to improve subsequent events.

Adults can find information on adult learning opportunities by contacting a call centre or visiting an adult learning website. The Slovenian Institute for Adult Education (SIAE) has developed a platform providing details on formal as well as non-formal provision for adult learners. In 2013/14, the platform included more than 200 providers and 4 000 adult education programmes, mainly programmes run by private organisations, but also provided by secondary schools and adult education centres. All officially recognised programmes (i.e. programmes that have been approved by the Council of Experts for Adult Education) are included on the platform.

Adults can also visit one of 14 regional adult education guidance centres within the adult education centres. Guidance centres provide educational guidance to adults and aim to enhance networking between adult education and guidance providers at the local level. Slovenia has developed an information and communication technology-based (ICT) monitoring system surveying client satisfaction as regards the provision of guidance services delivered by the 14 regional adult education guidance centres.

For 2015-2017, the SIAE is focusing on awareness-raising, motivation and professional development, paying special attention to certain groups, including the low qualified and low skilled, elderly and migrants. Special emphasis is being placed on stimulating the supply of non-formal educational programmes for basic skills and other key competences and approaches tailored to the needs of these learners. Furthermore, the “Project Professional support information and counselling activities and evaluation of non-formal knowledge 2016-2021” co-financed by the ESF focuses on vulnerable employed adults, including less educated and older workers.

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NOTES

4. These adults scored at the lowest level of proficiency, reported having “no computer experience” or failed the ICT core test in PIAAC (OECD 2016).
5. While national experts note that this includes health and safety training required by law, the PIAAC data do not allow this to be separately identified.

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CHALLENGE 3: BOOSTING EMPLOYMENT FOR ALL AGE GROUPS

Key messages

- Slovenia's people and economy lose out when adults are not deploying their skills fully in the labour market.
- About one-third of working-aged adults in Slovenia – almost 500 000 people – are either unemployed or not participating in the labour market.
- Employment has been relatively slow to recover from the global financial crisis.
- High employment costs arising from high social security contributions (SSCs), minimum wages and allowances deter some employers from hiring.
- Low after-tax earnings and relatively generous employment and social benefits deter some adults from working.
- Older, lower-educated and long-term unemployed adults, as well as a growing number of young people, need better support and incentives to work.

Stakeholder perspectives

- Participants raised concerns about low rates of employment and labour market participation, especially among older adults, but also among young people.
- Stakeholders cited several factors that have been limiting rates of employment, including Slovenia's generous social safety-net system and pensions, declining job security, taxes and the fact that people do not have the skills employers are looking for (Challenges 1 and 2).

Recommended areas for action

- Strengthen individuals' incentives to supply their skills and employers' incentives to hire.
- Tackle additional barriers to labour market participation for disadvantaged groups.
- Improve employment services to enhance outcomes, especially for youth not in employment, education or training (NEETs) and reach out more effectively to disengaged youth.

Getting more people into jobs can boost prosperity

Slovenia cannot reach its full economic potential if large numbers of its population are not employed. Adults without jobs have lower incomes and material living standards, and their skills and earnings prospects may erode over time. Low employment rates dampen economic activity and tax revenues, requiring higher public expenditure on active labour market programmes and social assistance. High rates of unemployment are also associated with weaker social cohesion. Finally, with large numbers of adults out of the labour market, Slovenia cannot achieve its ambition to become a society in which people learn throughout and for life.

During the National Skills Strategy workshops, participants raised concerns about the number of adults not in work. Stakeholders identified low skill levels and a lack of participation in adult learning as barriers to employment (issues discussed in Challenge 2). Stakeholders also identified Slovenia's tax system, pension system, unemployment benefits and social assistance as potential barriers to employment. The declining security of employment in Slovenia, as evidenced by rising rates of temporary work, was also a concern to some participants.

Given the correspondence between the issues raised by participants in the National Skills Strategy workshops and those covered by the 2016 OECD review *Connecting People with Jobs: The Labour Market, Activation Policies and Disadvantaged Workers in Slovenia*, this chapter draws primarily on the findings of that report.

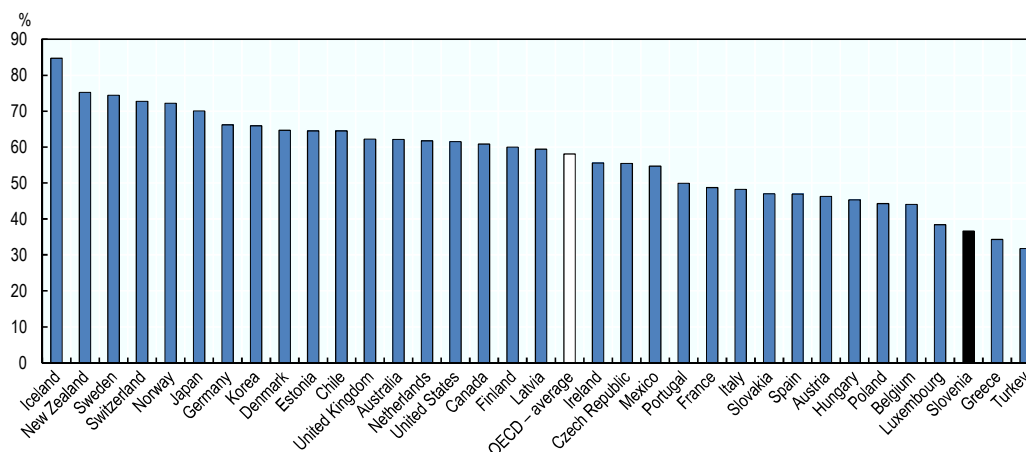
Activation of skills in Slovenia

Almost 500 000 adults (aged 15-64) are either unemployed or not participating in the labour market. In 2015, the employment rate in Slovenia was 65%, lower than the OECD average and that of 18 other OECD countries. Slovenia has a relatively high unemployment rate of 9% (above the OECD average of 6.8%) and a participation rate on a par with the OECD average (OECD, 2016d).

Slovenia faces persistent challenges in getting specific groups of adults into work – older adults, low-educated adults and the long-term unemployed. It has the third-lowest employment rate for older adults in the OECD (Figure 22). Furthermore, only half of adults with less than an upper secondary education in Slovenia are employed, a lower proportion than in over two-thirds of OECD countries.

Figure 22. Very few older people in Slovenia are in paid employment

Employment rates of 55-64 year-olds, across OECD countries, 2015

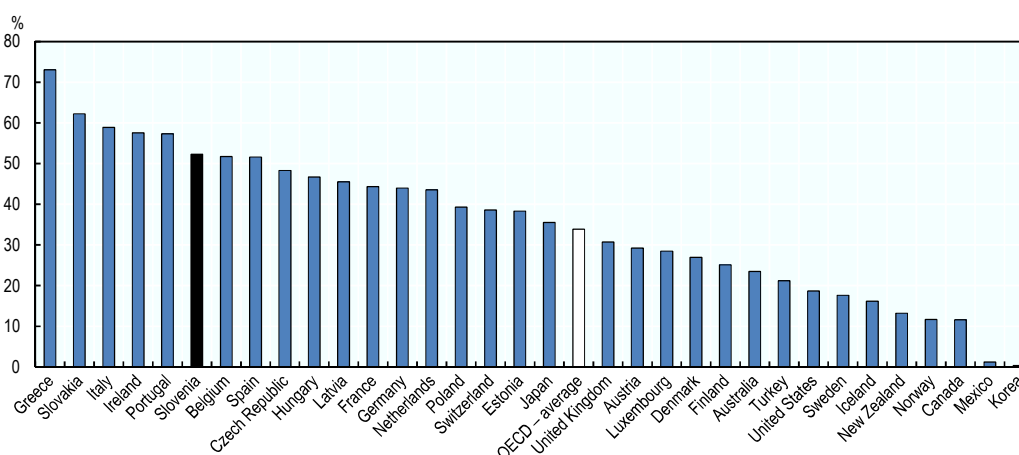


Source: OECD calculations based on OECD (2017) Employment Database (LFS by sex and age), www.oecd.org/employment/database.

Half of Slovenia's unemployed adults have been out of work for more than one year, one of the highest long-term unemployment rates in the OECD (Figure 23). About one-third of its unemployed have been out of work for more than two years (OECD, 2016a). Such prolonged periods of inactivity magnify the individual and social costs of unemployment.

Figure 23. Half of Slovenia's unemployed adults have been out of work for over a year

Share of long-term unemployment (1 year or more) in total unemployment, OECD countries, 2015



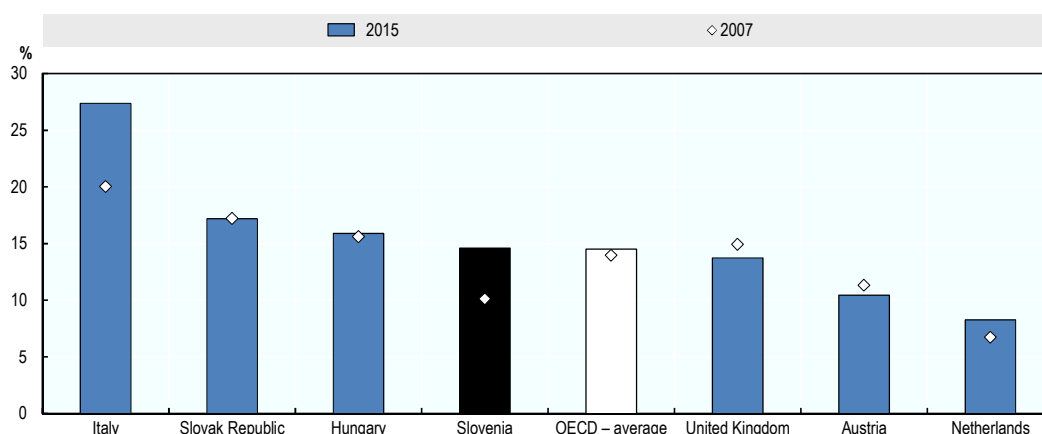
Source: OECD calculations based on OECD (2017) Labour Force Statistics database (http://dotstat.oecd.org/Index.aspx?DataSetCode=DUR_D).

The employment rate in Slovenia has been slower to recover from the 2007 financial crisis than most other OECD countries (Introduction, Figure 1). Slovenia's "employment gap" mainly reflects the relatively large declines and slow recovery in the employment rates for young and low-educated adults. For example, by 2015, the employment rate of 15-29 year-olds in Slovenia (45.9%) was almost 8 percentage points lower than its 2007 level. Less well-educated adults in Slovenia also experienced larger declines in employment than more highly educated adults, reinforcing the importance of adult learning for low-educated and low-skilled adults (Challenge 2).

Almost 50 000 young Slovenians are not in employment, education or training (NEET) in 2015. While consistent with the OECD average, the share of youth NEET in Slovenia (14.6% of 15-29 year-olds) is at its highest level on national record. In contrast, the NEET rate in many nearby OECD countries today is near its pre-crisis levels (Figure 24).

Figure 24. The share of youth NEET is rising in Slovenia, unlike in many nearby countries

Share of young adults (15-29 year-olds) Not in Employment, Education or Training (NEET), 2007 and 2015



Source: (OECD 2016f), Youth not in employment, education or training (NEET) (indicator), <http://dx.doi.org/10.1787/72d1033a-en> (accessed on 2 December 2016).

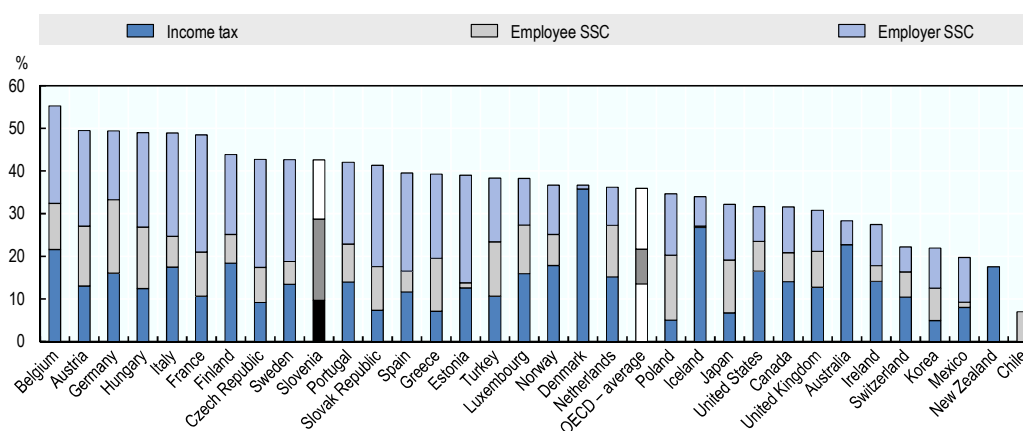
Employment costs and employers' incentive to hire

Slovenia's tax wedge – the gap between what it costs to hire a worker and the worker's after-tax income – is larger than in about two-thirds of OECD countries for earners without children (Figure 25). Slovenia's tax wedge is relatively low for low-income earners with children, after accounting for cash benefits received by families (OECD, 2017). If workers demand higher wages to compensate for income lost to taxes, or if employer SSCs are high, the tax wedge reduces employers' willingness to hire new workers.

The Slovenian government recently reduced income taxes (Box 8). However, its tax wedge is primarily driven by employee social security contributions, which are levied at the highest rate of any OECD country. Social security contributions can be a drag on getting adults into work – particularly low-skilled adults – because they are levied on every dollar of income. By contrast, for reasons of equity and activation, income taxes in Slovenia and across the OECD exclude the first tranche of workers' incomes from taxation.

Figure 25. High employment costs in Slovenia may cost jobs

Income tax plus employee and employer social security contributions (SSC) as a share of labour costs, 2015



Note: Single individual without children at the income level of the average worker. Includes payroll taxes where applicable.

Source: OECD (2016c), *Taxing Wages 2016*, OECD Publishing, Paris, www.dx.doi.org/10.1787/tax_wages-2016-en.

Box 8. Changes to Slovenia's income taxes

Slovenia amended the Personal Income Tax (PIT) Act in early 2017 to reduce PIT on employment income. This involved:

- Reducing PIT on the part of salaries paid on the basis of business performance, allowing all workers receiving performance-based pay to retain more of this income. Performance-based income will not be included in the taxable base of employment income, up to an amount corresponding to 70% of the average monthly salary. This aims to increase the competitiveness of enterprises hiring employees in Slovenia, thereby maintaining employment;
- Reducing the progressivity of the tax schedule/scale for income over 164% of the average wage, allowing higher earners to retain a larger share of their incomes. Specifically, whereas someone earning EUR 70 907 per annum used to pay EUR 25 334 in taxes, they will now pay EUR 22 943; and
- Changing the income bracket for additional general allowances. This means more low-income earners will be eligible for the maximum general allowance (EUR 6 520) that is deductible from income.

However, lowering social security contributions (SSCs) remains contentious in Slovenia, amid concern that this will lead to lower public expenditure on social services. As such, SSCs have not been part of recent tax reforms.

Slovenia's high minimum wage also makes employing low-skilled workers expensive for firms. The minimum wage was raised by 23% in 2010, and is now one of the highest relative to median wages in the OECD (OECD, 2015a). Minimum wages can safeguard the earnings quality of low-skilled workers, but also makes hiring more expensive for firms that must find ways to absorb or pass on higher costs. Slovenian employers reported that the minimum wage hike led to some dismissals, prevented hiring and significantly raised employment costs for firms employing low-skilled workers (Bank of Slovenia, 2014). Recent changes further increase the costs of employing low-skilled adults, by making allowances (night work, Sunday work, etc.) additional to the minimum wage (Selan, 2016).

Employers incur other legislated employment costs that may deter them from hiring (OECD, 2016a). Fixed meal and travel allowances can add up to 10% of net earnings, and even more for part-time workers. Seniority bonuses for experience in a sector can make hiring older workers roughly 15% more expensive than younger workers.

Job quality, social benefits and incentives to work

An individual's decision to work is a reflection of the prospective job quality (earnings, job security and working environment) as well as the generosity of unemployment and social benefits.

Slovenian employees have relatively low net earnings, which can limit their incentives to work. Average pre-tax earnings are higher in Slovenia than several nearby countries – Poland, the Slovak Republic, Hungary and the Czech Republic (by up to USD 8 500 PPP adjusted). However, after income taxes and SSCs are deducted, the earnings advantage over these countries drops by more than a half (OECD, 2017). In several nearby countries that

have higher tax wedges than Slovenia – such as Germany and Austria – wages are also higher, meaning that workers still enjoy higher net incomes than in Slovenia. A high tax wedge can make Slovenia a relatively less attractive place to work for high-skilled adults (Challenge 4). It can also lower the incentives for individuals to improve their skills in adult learning (Challenge 2).

Generous unemployment benefits in Slovenia reduce the incentives for returning to work. In 2011, the amount of time in work that is required to qualify for unemployment insurance was reduced to 9 of the previous 24 months (from 12 of the last 18 months). This effectively subsidises repeat unemployment and may be contributing to rising temporary employment (OECD, 2016a). Initial income replacement rates are high by comparison with other countries. In addition, individuals can qualify for unemployment benefits by negotiating a dismissal based on incompetence, and once they are receiving benefits, are only required to accept jobs one level below their current qualification. Two-thirds of unemployed adults receive other social benefits.

Adults in Slovenia may be reluctant to take work because of poor job security, especially given the generous unemployment benefits. Slovenia has the highest proportions of young (15-24 year-olds) and older (65+ year-olds) workers in temporary employment in the OECD. Non-standard employment, such as fixed-term work with less protection against termination, may be attractive for workers who need flexibility. However, excessive use of non-standard contracts by firms can make work so insecure as to be unattractive to potential workers (OECD, 2014).

The 2013 labour market reform reduced incentives for firms to hire on temporary contracts, by introducing severance payments and higher employer unemployment insurance contributions, and limiting the maximum duration of fixed-term contracts. At the same time, it increased incentives to hire on permanent contracts, by making it easier and cheaper to terminate open-ended contracts (OECD, 2016a).

The OECD's 2016 *Connecting People with Jobs* review made a number of recommendations for strengthening the financial incentives for employers to hire and for individuals to work in Slovenia (Box 9).

Box 9. Recommendations for reducing general barriers to employment from the OECD review *Connecting People with Jobs*

The OECD's 2016 *Connecting People with Jobs* review of Slovenia made the following recommendations for removing barriers to employment:

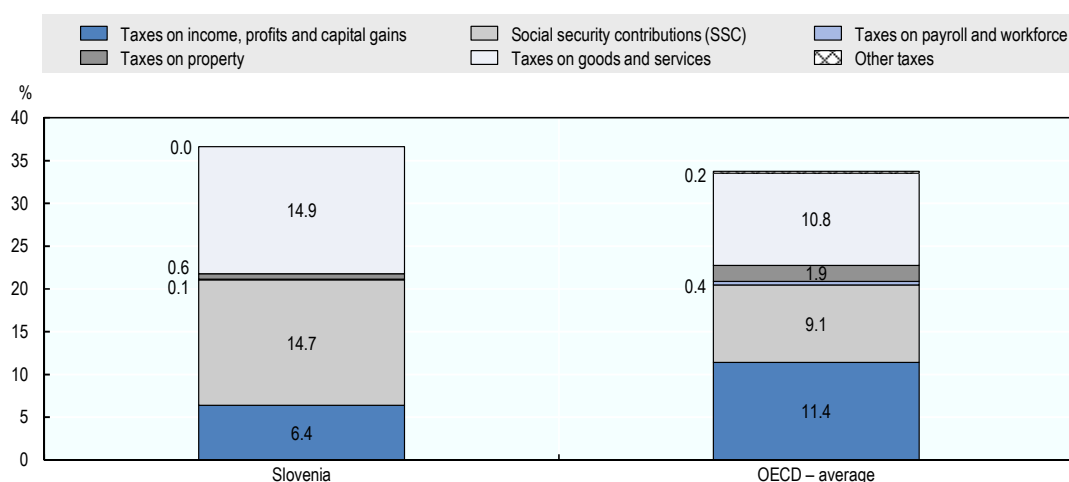
- Consider further changes in the labour law, to eliminate differences between contracts to avoid tactical behaviour, and to explore, in a tripartite process, the options for and potential of a more unified work contract.
- Roll back unnecessary peculiarities of the pay system, in particular the non-taxable travel allowance, which invites misuse and tax fraud and discourages part-time work.
- Continue evaluating the impact of the minimum wage legislation and consider carefully whether its high level is a barrier to the employment of disadvantaged groups.

Source: OECD (2016a), *Connecting People with Jobs: The Labour Market, Activation Policies and Disadvantaged Workers in Slovenia*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264265349-en>.

Shifting the tax mix (especially SSCs) away from labour towards other tax bases, could help alleviate Slovenia's employment challenges without reducing overall tax revenues. Property (land) taxes and non-labour income make up only a very low share of the tax mix (Figure 26). OECD research suggests that taxes on immovable property can be progressive easy to administer and can minimise economic distortions (OECD, 2010). Shifting the tax mix in Slovenia towards such taxes could raise financial incentives to activate skills in the labour market.

Figure 26. Slovenia's tax mix burdens labour disproportionately

Tax revenue as a share of GDP, by type of taxation, 2013



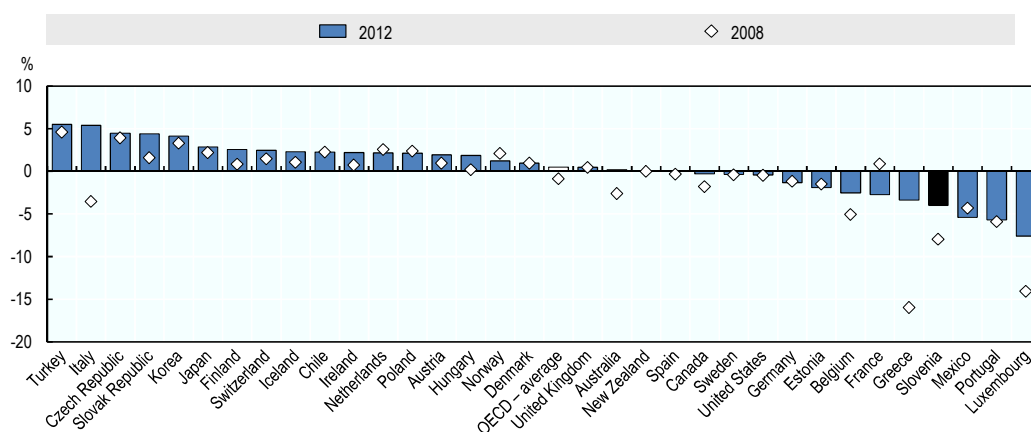
Source: OECD (2016e), *Revenue Statistics 2016*, OECD Publishing, Paris.

Employment of disadvantaged groups

Older workers, in particular, face barriers to employment. Of all OECD countries, Slovenia provides some of the weakest incentives to remain in employment past the age of 60. For example, the net pension of workers aged 60-64 who decide to work for an additional year is reduced by 4% (based on the parameters to come into effect in 2020, once the 2013 pension reforms are fully implemented). By contrast, in several OECD countries, workers aged 60-64 who work for an additional year receive an increase in their net pension (Figure 27).

Figure 27. Incentives to remain in employment after age 60 are weak in Slovenia

Change in net pension wealth in OECD countries for those who continue to work past age 60, 2008 and 2012



Note: The analysis labelled as 2012 is based on parameters and taxes for 2012, but takes into account long-term legislated rules that were known at the time of publication. In particular, the pension reform of 2013 for Slovenia is reflected in the calculations. The change in pension wealth is a measure of the incentive to remain in the workforce longer. It measures the level of the pension promised to those remaining in employment for an additional year. The calculation is the annual average increase in pensions for men working from age 60 to 64. Net pension wealth is the present value of the flow of pension benefits, taking account of the taxes and social security contributions that retirees have to pay on their pensions. It is measured and expressed as a multiple of gross annual individual earnings in the respective country.

Source: OECD Pension Models (www.oecd.org/els/public-pensions/) in OECD (2016a), *Connecting People with Jobs: The Labour Market, Activation Policies and Disadvantaged Workers in Slovenia*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264265349-en>.

The unemployment benefit system effectively offers older Slovenians incentives not to return to work, since they receive unemployment benefits for relatively long periods and requalify more easily for repeat unemployment benefits. Unemployed adults close to retirement age – about one-third of current pensioners – are given pensions early (OECD, 2016a). Slovenia's 2016 White Paper on Pensions aims to keep older adults active in the labour force for longer (Box 10).

Box 10. White Paper on Pensions 2016

Slovenia's 2016 White Paper on pension reform proposes many changes to the pension system, including (MDDSZ, 2016):

- Possibility of receiving a full pension upon satisfying the requirements and continuing to work (paying the same SSCs as before), possibly with upper limits.
- Increasing the retirement age (various scenarios are discussed, with different replacement rates, generally proposing a two-year increase in the statutory retirement age and five additional working years).
- Levying equal SSCs on all forms of labour.
- Compulsory matching of individuals' contributions in supplementary schemes provided by employers or determined by sectoral collective agreements or introducing opt-out possibilities (i.e. individuals would be enrolled by default in a supplementary scheme).
- Abolishing Category III of partial disability, and instead introducing mandatory vocational rehabilitation.
- Simplifying eligibility criteria, including terminology (currently, seven different phrases e.g. a pension qualifying period) to emphasise the years of paid contributions.

Sources:

MDDSZ (2016), *Youth Guarantee, Implementation Plan, 2016-2020*, Ministry of Labour, Family, Social Affairs and Equal Opportunities of Slovenia, Ljubljana,
 OECD (2016a) *Connecting People with Jobs: The Labour Market, Activation Policies and Disadvantaged Workers in Slovenia*, OECD Publishing, Paris,
<http://dx.doi.org/10.1787/9789264265349-en>, p. 102.

Long-term unemployed adults in Slovenia are increasingly being moved from active labour market support to passive social assistance. An increasing proportion of job seekers are receiving partial disability benefits while on the unemployment register: currently, 1 in 10 job seekers falls into this group, up from 1 in 20 ten years ago. A large proportion of job seekers are placed into a client segment of the employment service, where regular active labour market support is not guaranteed. Most job seekers on partial disability benefits never return to work, and more than 80% have been unemployed for over two years (OECD, 2016a).

The low skill levels of many adults may also limit their chances of employment. As noted earlier, young Slovenians do not always display strong cognitive, social-emotional skills and discipline-specific skills (Challenge 1). In addition, a relatively high proportion of Slovenian adults have low levels of literacy and/or numeracy skills, which restricts their chances of finding anything but a low-skilled, low-paid occupation (Challenge 2).

Connecting People with Jobs (OECD, 2016) included recommendations for Slovenia intended to reduce the barriers to employment for specific groups of disadvantaged adults (Box 11).

Box 11. Recommendations for reducing barriers to employment for specific groups of disadvantaged adults from the OECD review *Connecting People with Jobs*

The OECD's 2016 *Connecting People with Jobs* review of Slovenia made the following recommendations for reducing barriers to employment for specific groups of disadvantaged adults:

Doing more to tackle long-term unemployment

- Enforce conditionality, job search obligations and sanctions for social assistance clients in the same way as for jobseekers who receive unemployment benefit.
- Develop activation programmes for the increasing number of jobseekers receiving partial disability benefit who are currently exempt from participation requirements.
- Make work pay especially for longer-term unemployed people, e.g. by lower taper rates and expanded time-limited into-work benefits that encourage taking up work.
- Keeping older workers in employment longer
- Consider abolishing the special rules for older workers in the unemployment system (lengthy periods of payments, and easier re-entitlement, and the granting of two years of pension contributions) which are conducive to early retirement.
- Further reduce and eventually abolish the seniority bonus in the Slovenian labour law.
- Continue with pension reform that promotes longer working lives, including by using lifetime earnings as a reference base and introducing an automatic mechanism that takes into account the annual increase in life expectancy.
- Reform the partial disability benefit system to prevent it being used as a route to retirement. This would include, as suggested in a recent White Paper, making vocational rehabilitation mandatory and reconsidering and tightening benefit eligibility criteria.

Ensuring employability over the lifecycle

- Evaluate training programmes rigorously to identify interventions that best help those with poor or outdated skills.
- Invest in career and training counselling, as well as continuous learning and skills updating or upgrading, to keep people employable.

Source: OECD (2016a), *Connecting People with Jobs: The Labour Market, Activation Policies and Disadvantaged Workers in Slovenia*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264265349-en>.

The capacity of the Employment Service of Slovenia (ESS) to support harder-to-place job seekers is limited. Its resources are limited, and the average caseload per counsellor is high. As a result, the ESS is directing harder-to-place clients to passive social assistance, where they lack active labour market support. At 0.28% of GDP, spending on active labour market programmes (ALMPs) in Slovenia is below the OECD average of 0.43% of GDP (OECD, 2016a). Variations in ALMP spending across training, employment incentives, direct job creation and start-up incentives are large. While 13% of job seekers participate in an ALMP, only 4% of older and 6% of low-skilled job seekers participate (OECD, 2016a).

The services of the ESS could be better co-ordinated with those of the social insurance system, to improve job support for those who are hard to place in jobs. In Slovenia, many of the most hard-to-place unemployed receive social assistance through the Centres for Social Work (CSW). However, job brokering and referrals to active labour market programmes, such as job placements and training, are provided by the ESS. While the ESS and CSW co-operate in a number of ways, the exchange of information needs improvement. The culture of the two institutions is also quite different. The ESS strongly emphasises activation, with strong conditionality on entitlement to benefits and enforcement of sanctions for non-compliance, while the CSW focuses on meeting the diverse and complex needs of their clientele. Some clients whose job prospects are relatively weak too often end up on social assistance and do not receive active support to find employment (OECD, 2016a).

Youth NEET in Slovenia may require more active outreach to benefit from the support available through the ESS. Slovenia has a well-developed system of services for disengaged youth – the Youth Guarantee provides eligible 15-29 year-olds with preventive support in schools, including career guidance, information on labour market opportunities and job search strategies. Beyond school, youth who register as unemployed with the ESS receive support based on their needs and time out of employment, which can include guidance and counselling, study scholarships and employment subsidies, among other measures (MDDSZ, 2016). However, half (25 000) of Slovenia's youth NEET are not registered with the ESS (OECD, 2016a), and are therefore receiving no assistance to return to education or work. While the ESS has a well-developed online presence, reinforcing activities at the local level – for example through local Youth Centres and programmes like Youth Support Youth – could help reach disengaged youth.

The OECD's 2016 *Connecting People with Jobs* review of Slovenia made several recommendations to improve ALMPs and the ESS, to help support disadvantaged job seekers find jobs in Slovenia (Box 12).

**Box 12. Recommendations for improving ALMPs and the ESS from
OECD's Connecting People with Jobs**

The OECD's 2016 Connecting People with Jobs review of Slovenia made the following recommendations to improve active labour market programmes (ALMPs) and the Employment Service of Slovenia (ESS):

Enabling the Employment Service to help harder-to-place jobseekers

- Introduce a profiling tool for caseworkers in a systematic manner to segment job seekers into the three pre-defined risk groups, ensuring that harder-to-place job seekers are given extra help faster and more consistently.
- Increase the number of employment counsellors, to reduce their caseload and free up time for them to support harder-to-place job seekers in training and work.
- Bring sufficient competence into the Employment Service to deal better with additional labour market barriers related to social and health problems.

Strengthening the link between the ESS and the Centres of Social Work

- Improve the relationship between the ESS and the Centres of Social Work (CSW), to prevent social assistance recipients who can work from falling between the cracks (i.e. not getting the employment support they need) and from misusing the system.
- Introduce lighter sanctions that are increased with every breach of an obligation and apply sanctions systematically and consistently, by both the ESS and the CSW.
- Consider the following options to strengthen the links between the ESS and the CSW:
- Make the ESS responsible for the administration of social assistance payments, at least for clients who have to register with the ESS;
- Make the regional CSW offices responsible for the administration of social assistance payments (leaving only the frontline client services to the local CSW/ESS offices) and align their regional structure with that of the regional ESS;
- Merge the ESS and the CSW at both the regional and local level.

Source: OECD (2016a), *Connecting People with Jobs: The Labour Market, Activation Policies and Disadvantaged Workers in Slovenia*, OECD Publishing, Paris,
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CHALLENGE 4: RETAINING AND ATTRACTING TALENT FROM SLOVENIA AND ABROAD

Key messages

- Retaining and attracting talented people from Slovenia and abroad can help Slovenia meet its skills needs and introduce new knowledge, technology and innovations in the economy.
- A relatively small share of Slovenia's foreign-born population is highly educated.
- A small but growing number of tertiary-educated Slovenians are emigrating, and this is not being matched by inflows of tertiary-educated adults.
- High-skilled workers have relatively low earnings potential in Slovenia, in part reflecting relatively high social security contributions (Challenge 3).
- High-skilled immigrants find it more difficult to find employment in Slovenia, and receive relatively limited support to do so.
- Slovenia attracts a relatively small but growing number of international students, which is in part a reflection of the few courses being offered in English and the high cost of tuition.

Stakeholder perspectives

- Participants in National Skills Strategy workshops frequently raised concerns about Slovenia's "brain drain".
- Low wages and a lack of modern organisation and management practices in Slovenian workplaces were cited as reasons why high-skilled workers might not choose to remain in, or return to, Slovenia.
- Participants also voiced concerns about the low numbers of international students in Slovenia's higher education system.

Recommended areas for action

- Adjust the tax mix to make working in Slovenia more attractive for highly skilled individuals.
- Make it easier for highly skilled non-EU nationals to enter the Slovenian labour market.
- Expand the use of English in higher education programmes to make Slovenia more attractive to international students.

Retaining and attracting talented people can boost Slovenia's prosperity

Retaining and attracting talented people can yield significant benefits for a country like Slovenia. Attracting and retaining high-skilled migrants can help respond to skills shortages, relieve the pressures of population ageing and boost competitiveness. Encouraging the return of highly skilled nationals – “circular migration” – can help to introduce new knowledge, technology and innovations from abroad into domestic workplaces and the economy (World Bank, 2006, 2009; IMF, 2016). International students can also bring important benefits to Slovenia, as they typically integrate more easily than other migrants into host countries' labour markets and, at the same time, help to establish international cultural and economic ties.

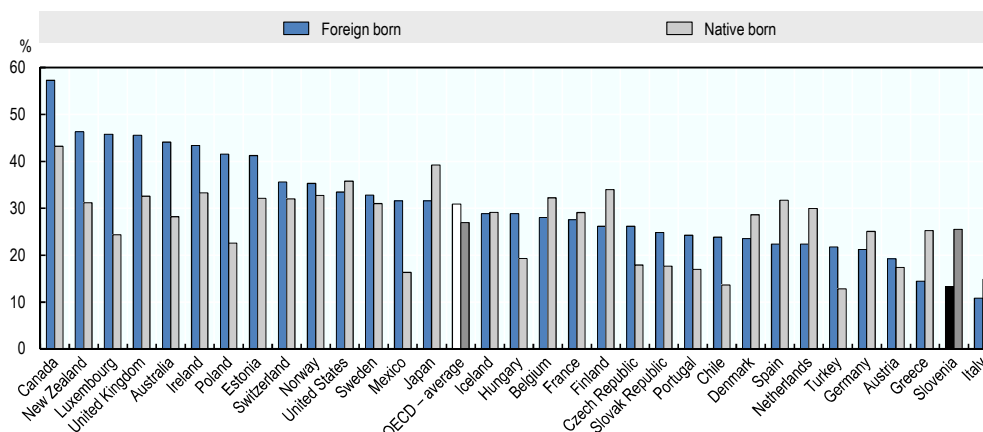
During the National Skills Strategy workshops, participants frequently raised concerns about Slovenia's so-called brain drain. Specifically, stakeholders perceived that large numbers of highly skilled people are emigrating from Slovenia in pursuit of better work opportunities abroad. Several potential explanations were offered for the high-skilled migration from Slovenia, including the relatively low wages and the inflexibility of progression pathways in the labour market. Participants also noted that the low numbers of international students in the higher education system means that the country is losing out on opportunities to attract talent to the country.

Slovenia's performance in attracting and retaining talent

In the World Economic Forum 2015-16 Global Competitiveness Index, Slovenia ranks 118th of 140 countries in its capacity to attract talent from abroad and 98th in its capacity to retain domestic talent (WEF, 2016). Its foreign-born population is among the least well-educated in the OECD, and is far less educated than the native-born population on average (Figure 28). This underscores the importance of ensuring that Slovenia's adult learning system is accessible to low-skilled migrant adults (Challenge 2).

Figure 28. A small share of foreign-born people in Slovenia have tertiary education

Share of population (15-64 year-olds) with tertiary education, 2013

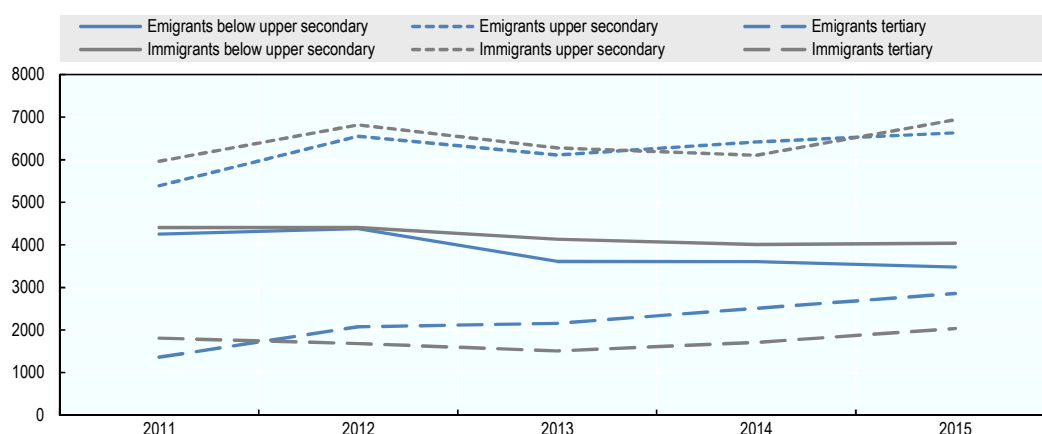


Source: OECD (2014), *International Migration Outlook 2014*, OECD Publishing, Paris, http://dx.doi.org/10.1787/migr_outlook-2014-en.

Despite concerns raised in the National Skills Strategy workshops, Slovenia is not experiencing high levels of “brain drain”. Of the 13 000 adults who emigrated from Slovenia in 2015, 2 900 were tertiary educated, representing just over 20% of emigrants. However, the share of tertiary-educated adults emigrating from Slovenia doubled between 2011 and 2015, which has not been matched by a commensurate increase in immigration of tertiary-educated adults (Figure 29).

Figure 29. Although low today, emigration of highly skilled Slovenians is increasing

Emigration and migration numbers, by education level, Slovenia, 2011-2015



Source: SURS (2017a), International migration, Statistical Office of the Republic of Slovenia, <http://pxweb.stat.si/pxweb/Database/Demographics/Demographics.asp>.

A large number of Slovenian health professionals are emigrating. Slovenia’s expatriation rates for doctors and nurses (the number of Slovenian doctors and nurses working in other OECD countries as a percentage of all Slovenian doctors and nurses) are 10.8% and 9.4% respectively. This is well above the OECD averages of 4.1% and 2.8% respectively (OECD, 2015a). This reflects significantly higher salaries and perceived better working conditions in countries like Switzerland, Germany and Austria, as well as competition for jobs from foreign doctors and dentists working in Slovenia (CEDEFOP, 2016).

Recognising the importance of attracting and retaining talented people, Slovenia introduced a Strategy and Action Plan for Economic Migration for 2010-20 (Box 13).

Box 13. Slovenia's Strategy and Action Plan for Economic Migration for 2010-20

The Government of the Republic of Slovenia adopted the Strategy for Economic Migration 2010-20 at the end of 2010. The main objectives of the strategy are to: promote immigration to alleviate the effects of a shrinking labour force and disparities in the labour market; increase innovation and entrepreneurial activity; promote economic competitiveness and strengthen human resources; and limit the brain drain by encouraging "circular migration" (i.e. the eventual return) of high-skilled emigrants.

The Strategy provides a number of guidelines for achieving these objectives:

- Increasing the number of highly qualified migrant workers to meet the demands of the labour market and respond to anticipated workforce shortages in the medium term, in particular by establishing a mechanism for analysing the skills the economy needs;
- Establishing an effective system for recruiting an adequate number of suitable temporary workers (with a focus on low and medium-qualified labour) to meet domestic labour market needs, in particular by establishing a mechanism for analysing labour demand by industry and concluding partnership dialogue and bilateral agreements with interested third countries;
- Encouraging immigration of third-country nationals with financial capital or investors to encourage investment and development, create jobs, and transfer technology and innovation;
- Improving the system of recognition and evaluation of foreign education and skills;
- Promoting mobility and migration of researchers and students;
- Improving the efficiency of the management of economic migration with the development of selective measures for the more simple, transparent and controlled admission of certain groups of migrant workers, namely:
- Setting up a system to identify third-country nationals eligible for priority access to employment, for occupations that contribute to the growth and productivity of the Slovenian economy;
- Encouraging talented Slovenians to return to Slovenia; and
- Simplifying and standardising the procedures for admission of migrant workers.

Sources:

EMN (2013), Attracting Highly Qualified and Qualified Third-Country Nationals: Slovenia, EMN Focussed Study, European Migration Network, Brussels;

MDDSZ (2010), *Strategija ekonomskih migracij za obdobje od 2010 do 2020 [Strategy of Economic Migration for the Period 2010 – 2020]*, Ministry of Labour, Family, Social Affairs and Equal Opportunities, www.mddsz.gov.si/fileadmin/mddsz.gov.si/pageuploads/dokumenti_pdf/Strategija_ekonomskih_migracij-2010-2020.pdf.

EMN (2015a), Determining Labour Shortages and the Need for Labour Migration from Third Countries in the EU: Slovenia, EMN Focused Study, European Migration Network, Brussels.

Slovenia is attracting very few international students. Several OECD countries have made major efforts to attract international students to help mitigate challenges like population ageing and higher education financing (OECD, 2016). Approximately 2 500 international tertiary students were enrolled in Slovenia in 2014, constituting only 2.7% of all tertiary students. Only three other OECD countries, Chile, Poland and Spain, had lower shares of international students than Slovenia (OECD, 2016). According to national data, the percentage of international tertiary students was about 6% in 2016/17. This reflects an

increase in the number of foreign students and a drop in the number of Slovenian students (SURS, 2017b).

Slovenia's National Higher Education Programme 2011-2020 and recent reforms seek to internationalise tertiary education (Box 14).

Box 14. Internationalising tertiary education in Slovenia

National Higher Education Programme 2011-2020

Internationalisation is an important component of Slovenia's National Higher Education Programme 2011-2020. The goal of Slovenian higher education is to become an integral part of the global higher education space by 2020, by improving its quality in co-operation and competition with the best foreign institutions (EMN, 2012). The programme aims to increase: the number of study programmes offered in foreign languages in all higher education institutions by 2020, with priority given to postgraduate study programmes; the proportion of foreign nationals to at least 10% of the overall student population; and the proportion of foreign teachers, staff and researchers in higher education to 10%.

Strategy of Internationalisation of Slovenian Higher Education 2016–2020

In July 2016, the government enacted the Strategy of Internationalisation of Slovenian Higher Education 2016-2020, which unites under one umbrella strategy all the efforts related to: encouraging international mobility and cross-border research co-operation, developing students' cross-cultural skills; and promoting Slovenian educational institutions abroad. It was adopted together with a detailed action plan 2016-2018 and a budgetary plan allocating EUR 57 million from existing sources, including Erasmus+, EU funds and national funds (no new funds are available).

Sources:

EMN (2012), "National report from the Republic of Slovenia for EMN Study on Immigration of International Students to the EU", European Migration Network, Brussels;

MDDSZ (2010), *Strategija ekonomskih migracij za obdobje od 2010 do 2020 [Strategy of Economic Migration for the Period 2010 – 2020]*, Ministry of Labour, Family, Social Affairs and Equal Opportunities, www.mddsz.gov.si/fileadmin/mddsz.gov.si/pageuploads/dokumenti_pdf/Strategija_ekonomskih_migracij-2010-2020.pdf.

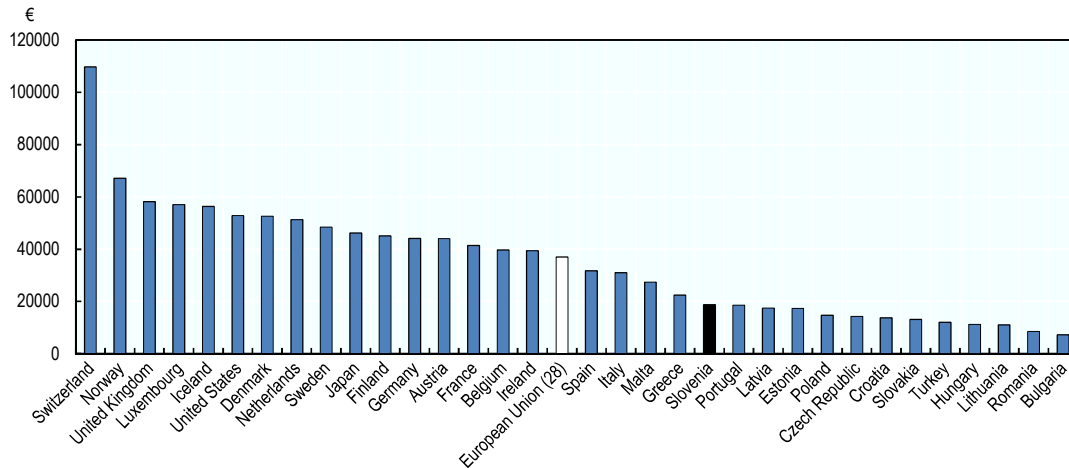
EC (2016), Education and Training Monitor 2016 Slovenia, European Commission, Brussels.

Factors affecting Slovenia's performance in attracting and retaining talent

The relatively low earnings potential of high-skilled people in Slovenia undermines Slovenia's ability to attract and retain high-skilled Slovenians and migrants alike. Typical high-income earners in Slovenia earn roughly half the EU-28 average (Figure 30). Unlike most EU tertiary students, Slovenians believe their prospects on the international labour market to be significantly better than at home (Hauschildt, 2015). The tax wedge in Slovenia, driven primarily by SSCs on employees, contributes to the relatively low earnings potential for highly skilled people (see Challenge 3). More broadly, pursuing growth-oriented structural reforms (OECD, 2015c) and strategic interventions like the *Smart Specialisation Strategy* (see Introduction) will be important for improving earnings potential in Slovenia. A lack of modern organisation and management practices within Slovenian firms may also deter some high-skilled adults from working in Slovenia (Challenge 5).

Figure 30. Highly educated adults have relatively low earnings potential in Slovenia

Annual net earnings of single person without children, earning 167% of the average wage, in EUR, 2015

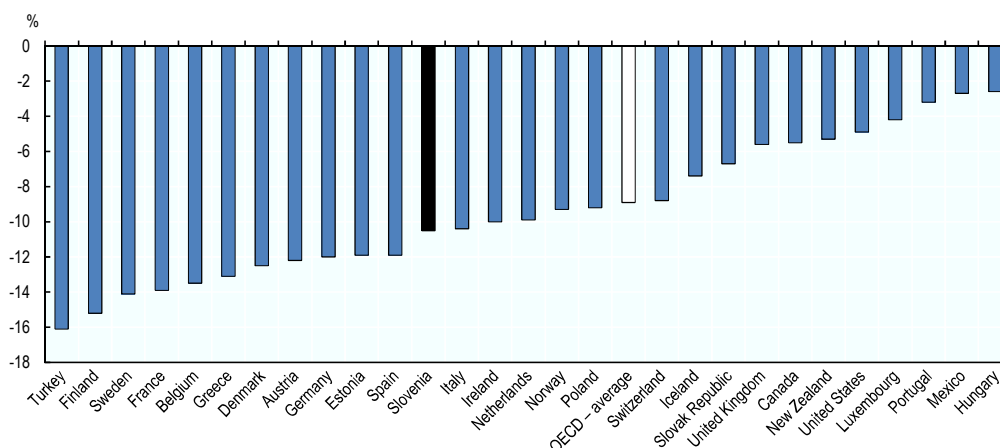


Source: Eurostat (2015) Annual Net Earnings, Data Explorer, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=earn_nt_net

Foreign-born tertiary-educated adults in Slovenia have employment rates of about 10 percentage points lower than native-born tertiary-educated adults on average, a larger gap than in about two-thirds of OECD countries (Figure 31). For highly educated women in Slovenia born outside the European Union (EU), participation in the labour market is particularly low. About 50% were not in education, employment or training in 2012 (MIPEX, 2015a).

Figure 31. Skilled immigrants fare relatively poorly in the labour market

Employment rate of foreign-born tertiary-educated adults minus employment rate of native-born tertiary-educated adults, 2015



Source: OECD calculations based on OECD (2017) Migration Statistics Database (http://stats.oecd.org/Index.aspx?DataSetCode=MIG_EMP_EDUCATION).

The system for recruiting talent from abroad to fill skills shortages in Slovenia appears to be inefficient, reducing the attractiveness of Slovenia as a destination for foreign talent. In many EU countries, third-country nationals (TCNs) – nationals of countries outside the EU – are offered expedited work permits if they work in an occupation on the national list of shortage occupations. Implementing such a strategy requires a well-developed skills assessment and anticipation system, which Slovenia does not have at present (Challenge 8). TCNs are only granted work permits in Slovenia if the Employment Service of Slovenia (ESS) determines that there are no adequate unemployed persons in ESS records or available EU nationals. It can take up to six months to receive a decision on an application, which is often too long for firms to wait. While the Minister of Labour may make special determinations to expedite the work permit application process for TCNs for certain occupations (e.g. because of skills shortages), this measure is not being utilised (EMN, 2015a; 2015c).

Slovenia does not sufficiently facilitate the labour market integration of immigrants. According to the Migrant Integration Policy Index (MIPEX), which assesses policies to integrate migrants in all EU member states and some other countries, Slovenia ranks 33rd out of 38 countries for equal labour market access and rights afforded to TCNs (MIPEX, 2015a). Slovenia's performance in MIPEX is lowest in the areas of targeted support and labour market access.

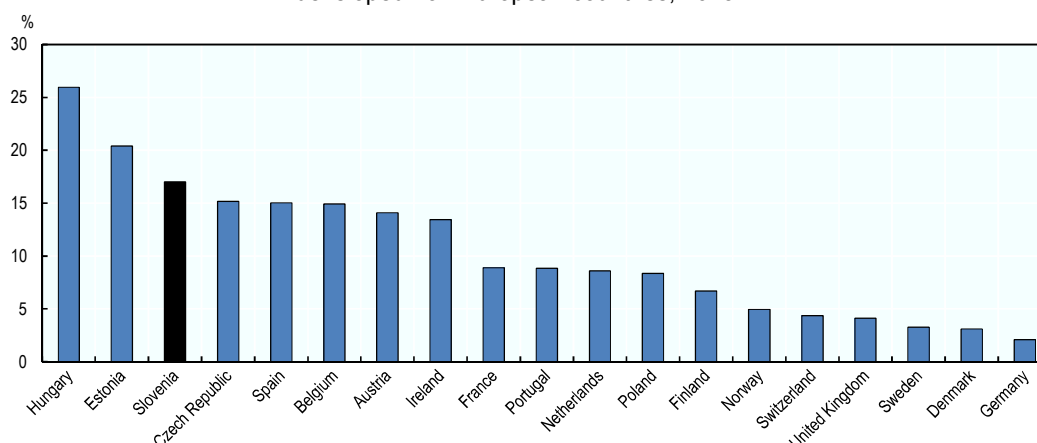
- Targeted support: Slovenia lacks both a one-stop-shop for recognition of qualifications and national guidelines on fair procedures, timelines and fees for assessments by professional, governmental and non-governmental organisations. TCNs in Slovenia only receive *ad hoc* support (mainly from NGOs) in the form of targeted training, programmes to encourage hiring, and programmes for employment of youth and women. They have no access to resource people, mentors, or coaches linked to the public employment service, and would only receive such support on an *ad hoc* basis from NGOs (MIPEX, 2015b). By contrast, Sweden has a one-stop-shop and national guidelines, and government-funded training, employment and mentoring programmes specifically targeted to TCNs. Other countries, for example Denmark, Germany, Norway and Portugal, offer almost all these targeted supports. Overall, the lack of targeted supports in Slovenia may prevent some highly skilled TCNs from considering Slovenia as a place of work.
- Access to the labour market: TCNs residing in Slovenia do not have equal access to employment as nationals if they are on temporary work permits for less than one year or on family reunion permits; are not permitted to work in the public sector; and are only able to take up self-employment under equal conditions as nationals in certain sectors and activities (for example, Slovenian citizenship is required for self-employment in the judiciary sector). In contrast, Finland, Italy, Portugal, Spain and Greece provide non-EU residents holding temporary work permits or family reunion permits with equal access to employment to nationals. Greece, Italy, Poland, Portugal and Spain afford non-EU citizens the right to work in the public sector (MIPEX, 2015b).

Slovenia is progressively improving the legal basis for TCNs to work in Slovenia. Slovenia's Economic Migration Strategy (2010-2020) states that TCNs should enjoy equal working conditions and discrimination protections as EU and Slovenian nationals. The Employment, Self-Employment and Work of Aliens Act (2015) was adopted in accordance with EU directives, which created a single permit and procedure to replace separate work and residence permits (EMN, 2015b). This shorter, single process for obtaining temporary residence and work permits will help to reduce barriers to TCNs, including high-skilled workers, from migrating to Slovenia.

Unfavourable public perceptions towards immigrants may also limit Slovenia's capacity to attract and retain highly skilled workers from abroad. For example, Slovenians are less welcoming than most other EU countries to highly skilled migrants from less developed countries (Figure 32). Recognising that negative attitudes towards migrants may be a barrier to attracting more of them, the Slovenian government has funded media campaigns to inform Slovenians of the positive contribution that migrants make to society (EMN, 2015b).

Figure 32. Slovenians are relatively opposed to immigration of highly educated TCNs

Share of people who think their country should not admit entry to professionals from less developed non-European countries, 2015



Source: European Social Survey (2015). ESS Round 7 (2014/2015).

Participants in National Skills Strategy workshops questioned whether Slovenia's outreach and support to highly skilled emigrants is sufficient to encourage Slovenian emigrants to return to Slovenia. Experience from OECD countries shows that good data on emigrants, their skills and needs, as well as initiatives to provide information and facilitate the return and employment of emigrants are important (OECD et al., 2012). Some countries, like Ireland, have been particularly active in maintaining ties with the diaspora through associations, networks and websites (Box 15). Slovenia's Strategy for Economic Migration has highlighted the importance of establishing labour and employment policies and partnership dialogue with third countries that facilitate the return of emigrants (EMN, 2013; MDDSZ, 2010).

Box 15. Engaging with the Irish diaspora

Ireland has explicit, well-designed policies for engaging with those who have left the country. It has recently formulated its approach in a comprehensive diaspora policy review. The number of Irish nationals who live abroad is large (about 70 million claim Irish ancestry and heritage) and over half of emigrants in the recent wave during the economic crisis have tertiary degrees. Ireland has also appointed a minister of state for Diaspora Affairs.

Emigrants' needs vary, from those facing vulnerable situations and who are in need of support, to those requiring counselling on a possible return to the country or information about job opportunities in Ireland. The Irish diaspora policy review is comprehensive enough to cater for those different requirements and needs. Its full deployment could be facilitated by a more systematic effort to gather information on the situation of Irish emigrants living abroad.

The 2015 diaspora policy review proposes to convene an interdepartmental Committee on the Irish Abroad, including external stakeholders, to deliver the diaspora policy and examine issues affecting the Irish abroad and those seeking to return. Supporting local authorities in identifying and connecting with their diasporas is also important, as is an improvement in communication and connectivity between Ireland and its diaspora. One of the main objectives of the policy is to create more opportunities as part of the economic recovery, to encourage the return of those emigrants who left the country for economic reasons.

The Global Irish Economic Forum and the Global Irish Network were created in response to the economic crisis. They provide mechanisms for successful Irish abroad to connect with Ireland and contribute to Ireland's continued recovery and economic development. The Emigrant Support Programme assisted over 470 organisations in more than 30 countries between 2004 and 2014 (with grants of over EUR 126 million).

The government is also working on reducing the barriers for emigrants wanting to return home, in particular on the recognition of qualifications, recognition of driving licenses, lack of affordable housing and job opportunities. Returned migrants in Ireland are encouraged by the government to inform the diaspora of jobs opportunities in Ireland and to focus on employment and training agencies on return migration. Additional policies that could facilitate a smooth return to Ireland include setting up systems of information and cultural outreach to expatriate communities.

Sources:

OECD (2015b), "Migration in Ireland: Challenges, Opportunities and Policies", *OECD Economics Department Working Papers*, No. 1292, OECD Publishing, Paris,

<http://dx.doi.org/10.1787/5jm0s94jzx5j-en>,

DFA (2015), *Global Irish: Ireland's Diaspora Review*, Department of Foreign Affairs, Dublin, Ireland.

The relatively small number of courses in English at Slovenia's universities is a barrier to attracting international students. In the academic year 2016/17, 21 first-cycle, 82 second-cycle and 75 third-cycle study programmes were offered in foreign languages at Slovenian universities. In contrast, students can choose from over 1 200 courses in English in the Netherlands, 600 in Denmark and 900 in Sweden (TopUniversities, 2015). Only study programmes already offered in Slovenian can also be taught in English. This precludes participation for most prospective international students, except those from Slavic-language backgrounds. Amendments to lift this restriction have been resisted by many in Slovenian

academia, amid concerns over a potential threat to the Slovenian language and culture (EC, 2016).

The cost of studying in Slovenia may deter international students from non-EU countries. In Slovenia, citizens of EU member countries do not pay course fees for full-time bachelor's and masters' programmes. However, TCNs pay fees set by higher education institutions, which can be as high as EUR 9 020 per year in the first cycle and EUR 15 831 per year in the second cycle in 2016/17 (EC/EACEA/Eurydice, 2016). By contrast, TCN students in neighbouring Austria generally pay fees of about EUR 1 500 per year, with lower or no fees charged to students from developing countries. The Slovenian government offers several types of scholarships to international students (EMN, 2012). Despite Slovenia's language advantages, Austria has attracted more high-performing students from the Western Balkan region due to favourable scholarship schemes (Klemenčič and Flander, 2013).

Improving the skills development and labour market outcomes of students in Slovenian higher education could make the system more attractive internationally. This could be achieved by better adapting the higher education system to respond to current and future labour market needs, nationally and internationally (Challenge 1). Better internship opportunities, including for international students, could help set Slovenia's system apart. Ongoing investments and continuous improvements in the student experience in Slovenian higher education will require sustainable funding over time (Challenge 9).

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CHALLENGE 5: MAKING THE MOST OF PEOPLE'S SKILLS IN WORKPLACES

Key messages

- Using people's skills more frequently in workplaces can lead to higher wages, job satisfaction and labour productivity.
- Through better skills use, Slovenia could partially offset the productivity impacts of the relatively low skill levels of its adult population (Challenges 1 and 2).
- Slovenia's skill use performance is average, but well below top-performing countries.
- The skills of young workers (who are relatively highly skilled) and low-educated workers (who most need on-the-job learning) are used relatively infrequently.
- High-Performance Work Practices (HPWP) including teamwork, autonomy, mentoring, job rotation, incentive pay, flexibility in working hours and other practices are the main driver of skills use in workplaces.
- Relatively few Slovenian firms have adopted HPWP.
- In contrast to OECD patterns, larger firms in Slovenia use workers' skills and adopt HPWP less frequently than smaller firms.
- Labour regulations and offshoring practices may also be affecting skills use.

Stakeholder perspectives

- Stakeholders participating in skills strategy workshops confirmed the importance of employers recognising and fully utilising the skills of their employees.
- Many participants indicated that this is not sufficiently common in Slovenian workplaces, often because of underdeveloped human resource practices.
- Employers may require some support for implementing effective systems that both identify and develop employees' skills and potential, and that create stronger incentives for employees to reach their full potential in the workplace.

Recommended areas for action

- Encourage the diffusion of High-Performance Work practices in Slovenian firms.
- Monitor how Slovenia's labour market institutions and other factors (like offshoring practices) affect firms' use of their employees' skills.

Better use of people's skills has both economic and personal benefits

Developing and activating skills is necessary but not sufficient for improving productivity and economic growth. A country can successfully develop skills, but fail to realise the full benefits of those skills if they are not used effectively in workplaces (Box 16). OECD countries with higher skills proficiency tend to show more frequent skills use. However, several countries rank differently in the two dimensions (OECD, 2016a; b). On the other hand, countries like Slovenia whose adults typically do not have high skill levels by international comparison (Challenges 1 and 2), can partially compensate for this by making the most of the skills adults do possess. Failing to fully use skills in the workplace can result in skills depreciation, and may waste the initial investment in human capital, as well as opportunities for enhancing productivity and economic growth.

Stakeholders participating in skills strategy workshops confirmed how important it is for employers to recognise and make the most of their employees' skills. Many participants indicated that this is not common enough in Slovenian workplaces, thanks to underdeveloped human resource practices. Employers may need support in implementing effective systems to identify and develop their employees' skills and potential, and to create stronger incentives for employees to reach their full potential in the workplace.

Why making the most of skills matters for firms and workers

Higher skills use at the workplace is typically associated with higher labour productivity within firms. For example, the use of reading skills explains a considerable share (26%) of the variation in labour productivity across countries participating in the OECD's *Survey of Adult Skills* (PIAAC), after adjusting for average proficiency scores in literacy and numeracy. In other words, how skills are used at work can have an important impact on productivity, above and beyond that of proficiency (OECD, 2016a; OECD 2016b). Using workers' skills more frequently in Slovenian workplaces could help the country improve the slow growth in labour productivity in recent years.

Workers themselves also benefit when their skills are used effectively at work. In Slovenia, workers who use their skills more tend to earn higher wages. The impact of skills use on wages in Slovenia is similar to that of workers' skill levels. Skills use is also generally associated with higher levels of job satisfaction. PIAAC suggests that in Slovenia, use of skills in the workplace typically has a greater impact on job satisfaction than workers' skills proficiency or education levels (Figure 33).

Box 16. Measuring skills use at work using the Survey of Adult Skills (PIAAC)

The Survey of Adult Skills (PIAAC) asks workers how frequently they use reading, writing, numeracy, ICT and problem-solving skills at work:

Set of measured tasks performed at work by each information-processing skill

- Reading: Reading documents (directions, instructions, letters, memos, e-mails, articles, books, manuals, diagrams, maps).
- Writing: Writing documents (letters, memos, e-mails, reports, forms).
- Numeracy: Calculating prices, costs or budgets; use of fractions, decimals or percentages; use of calculators; preparing graphs or tables; algebra or formulas; use of advanced math or statistics (calculus, trigonometry, regressions).
- ICT skills: Using e-mail, the Internet, spreadsheets, word processors, programming languages; conducting transactions on line; participating in online discussions (conferences, chats).
- Problem solving: Facing hard problems (at least 30 minutes of thinking to find a solution).

Frequency is measured as follows:

- **1 indicates that the skill is never used;**
- **2 indicates that it is used less than once a month;**
- **3 indicates that it is used less than once a week but at least once a month;**
- **4 indicates that it is used at least once a week but not every day; and**
- **5 indicates that it is used every day.**

The exception is for problem-solving skills, which is based on a single question “How often are you usually confronted with more complex problems that take at least 30 minutes to find a good solution?”

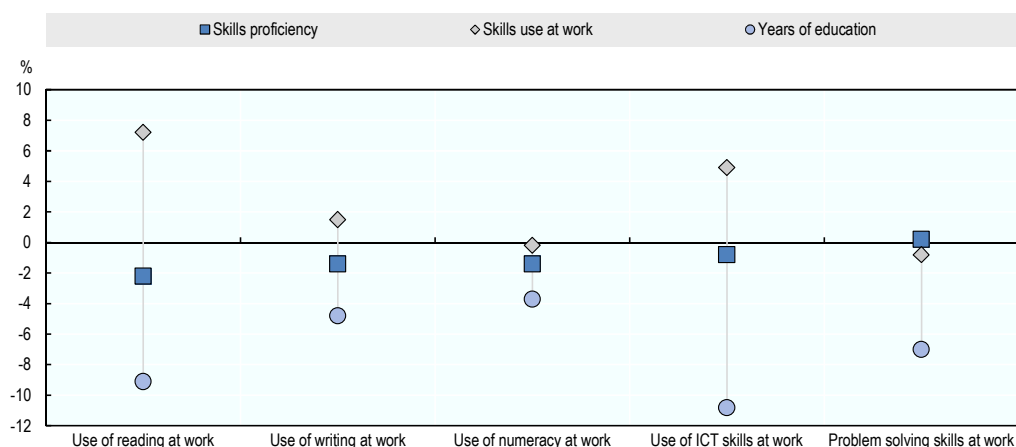
Source: OECD (2016b), *Skills Matter: Further Results from the Survey of Adult Skills*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264258051-en>.

Skills use across socio-demographic and firm characteristics

Overall, adults in Slovenia use their skills at work as often as adults across the OECD on average. Workers in Slovenia reported using their writing, numeracy and information and communication technology (ICT) skills at work more frequently, and their reading and problem-solving skills less frequently, than the average for OECD countries. In particular, use of ICT skills is relatively low for younger, temporary and less well-educated workers (Table 3), with similar patterns observed for other skills. For example, younger workers in Slovenia use their ICT skills 21% less frequently than prime-age workers.

Figure 33. Skills use has a relatively large impact on job satisfaction

Percentage-point change in job satisfaction associated with a standard deviation^(a) increase in skills proficiency, skills use at work and years of education^(b)



Note:

a) One standard deviation corresponds to 3.2 years of education; 48 points on the literacy scale; 54 points on the numeracy scale; 45 points on the problem solving in technology-rich environments scale; 1.1 for reading use at work; 1.3 for writing use at work; 1.2 for numeracy use at work; 1.3 for ICT and for problem solving at work. Skills use scales range from 1 (never used) to 5 (used every day).

b) Regressions are run by country and the coefficients reported correspond to the unweighted averages of country-specific values. Other controls included in the regressions are: age, age squared, gender, whether foreign-born and gross hourly wages. Skill proficiency controls are the following: literacy for reading and writing at work, numeracy for numeracy at work and problem solving in technology-rich environments for ICT and problem solving. Source: OECD calculations based on OECD (2017), *OECD Survey of Adult Skills database (PIAAC)* (2012, 2015), www.oecd.org/skills/piaac/ (accessed March 2017).

Table 3. Younger and lower-educated adults use their skills relatively infrequently

Adjusted difference in the mean use of ICT skills at work as a percentage of the average use of the reference group

	Between 16–25 year-olds and 26–54 year-olds %	Between permanent and fixed-term contracts %	Between tertiary educated and upper secondary educated %
Slovenia	-21	10	27
OECD	-20	9	17

Source: OECD (2016b), *Skills Matter: Further Results from the Survey of Adult Skills*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264258051-en>.

The relatively low skills use for these groups may have large costs for Slovenia. Younger workers may use their skills less than prime-age workers because they are in less senior and demanding roles. However, young adults (16–24 year-olds) have the highest average skill levels of all age groups in Slovenia. Infrequent use of their skills limits the short-term return to investment in their education, and may be a source of forgone productivity.

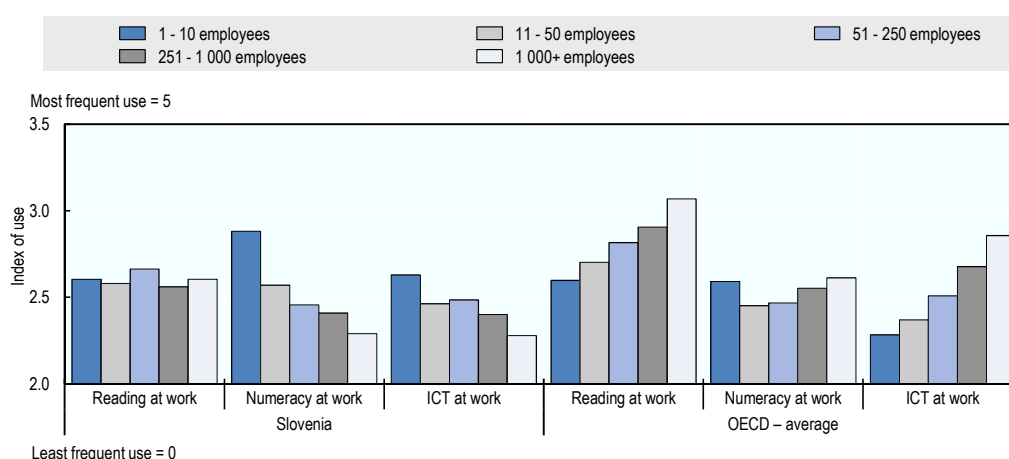
The rate of temporary employment in Slovenia is among the highest the OECD (for example, 75% of youth employment). Given low rates of transition to permanent contracts in Slovenia and the over-representation of young, relatively high-skilled, people in temporary employment (Challenge 3), low use of temporary workers' skills may also involve significant costs.

Finally, with the exception of writing at work, the difference in skills use between tertiary- and upper secondary-educated workers is larger in Slovenia than about three-quarters of OECD countries on average, even after adjusting for differences in skill levels and occupations. The differences in skills use between upper secondary- and lower-educated workers in Slovenia are among the highest in the OECD (OECD, 2016b). Given the large number of low-skilled adults in Slovenia and the importance of workplace learning for developing their skills (Challenge 2), workplaces may require support and incentives to encourage further skills use and development (OECD, 2016a). Slovenia has scope to get more out of the skills of these groups, to improve workers' productivity, wages and job satisfaction.

Increasing skill use in Slovenia's medium and large enterprises could also yield productivity gains. In contrast to patterns observed across the OECD, larger firms in Slovenia generally use workers' numeracy and ICT skills less frequently than smaller firms (Figure 34). Larger firms in Slovenia may not be taking advantage of their internal resources to identify and attract more skilled workers, adopt sophisticated production technologies or institute productive work organisation and management practices. At the same time, it appears that smaller firms in Slovenia are giving workers relatively more flexibility and cause to use these skills (OECD, 2016b).

Figure 34. Larger firms in Slovenia are frequently not using workers' skills

Average use of information-processing skills at work by firm size, Slovenia and OECD



Source: OECD calculations based on OECD (2017) *OECD Survey of Adult Skills database* (PIAAC) (2012, 2015), OECD, Paris, www.oecd.org/skills/piaac/ (accessed March 2017).

Key policies and practices that foster better use of skills at work

While workers' occupations and skills proficiency, and firm size and industry all affect skills use, the most important factor within firms is the presence of High-Performance Work Practices (HPWP). The HPWP measured by PIAAC include both organisational factors (i.e. teamwork, autonomy, task discretion, mentoring, job rotation, applying new learning) and management practices (i.e. employee participation, incentive pay, training practices and flexibility in working hours) (OECD, 2016b). HPWPs affect workers' performance and motivation as well as firms' flexibility to adapt job content to employees' skills (OECD, 2016a). Across the OECD, skills use increases with HPWP intensity in almost all the subcomponents. In total, HPWP account for between 14% and 27% of the variation in skills use across individuals.

However, few Slovenian firms are adopting HPWP, which limits skills use and productivity. About 23% of jobs in Slovenia are characterised by high levels of HPWP, well below that of vanguard countries like Sweden, Finland and Denmark (Figure 35). Most HPWP are less prevalent in Slovenian workplaces than the OECD average – teamwork, autonomy, task discretion, mentoring, job rotation and applying new learning, as well as flexibility in working hours (OECD, 2016b).

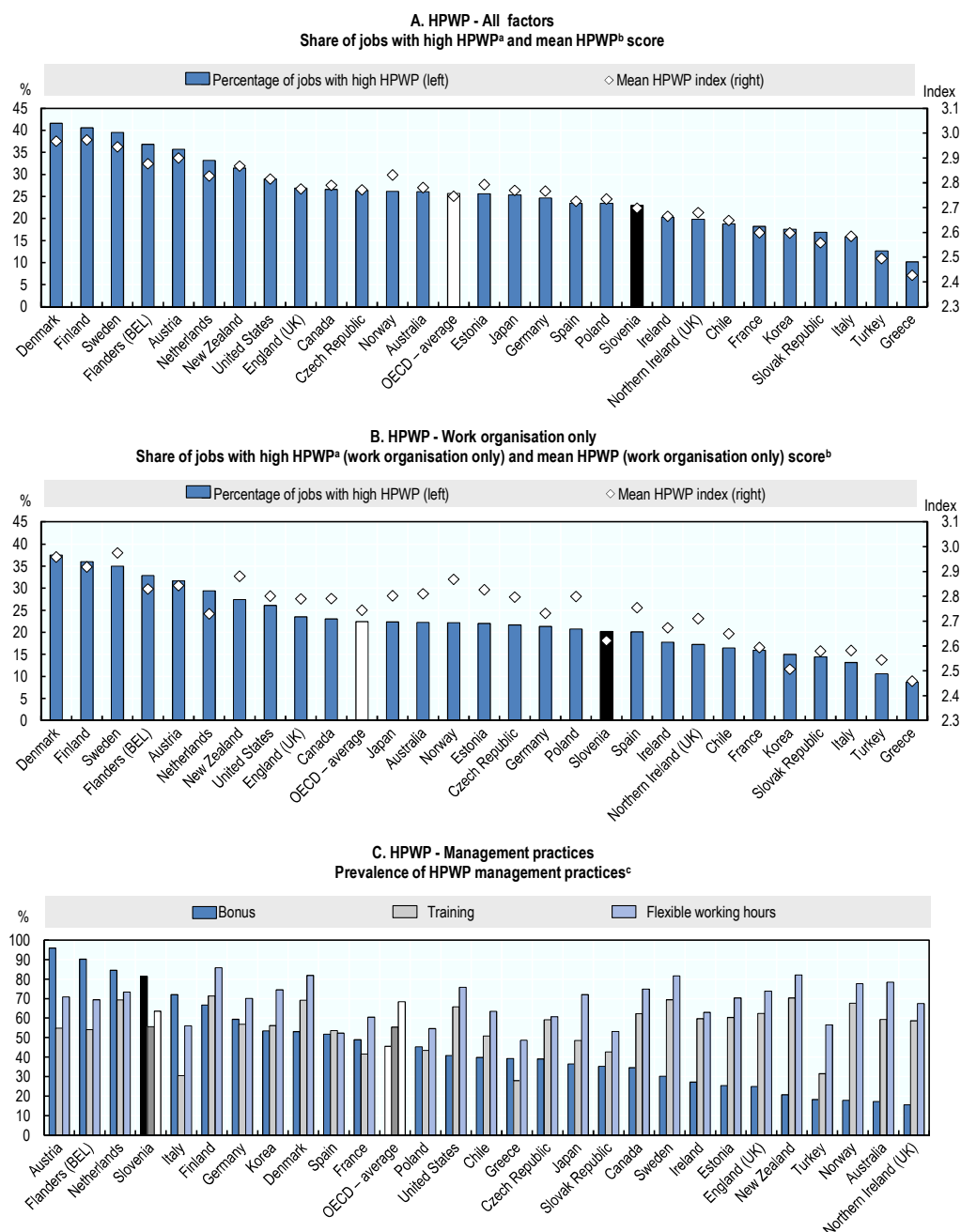
Increasing HPWP in Slovenia's medium and large enterprises could yield significant productivity gains. In Slovenia, as firm size increases, the prevalence of HPWP decreases. This contrasts with patterns observed across the OECD, in which HPWP are more widespread in micro, medium and large firms than they are in small firms (of 11 to 50 employees). While the adoption of HPWP in micro-firms may reflect their need to remain highly flexible (for start-ups in particular), small and medium-sized firms often lack financial resources for bonuses and/or providing training opportunities (OECD, 2016a).

Several initiatives under way in Slovenia can help to expand use of HPWP. These include Competence Centres for Human Resources Development; Lifelong Career Guidance for Companies and Employees and Slovenia's ongoing public administration reform under the Public Administration Development Strategy 2015–2020 (Box 17).

By adopting more HPWP, Slovenia's firms – including medium and large firms – could potentially increase skills use and productivity. OECD countries have adopted several measures for propagating HPWP, which could also be adopted in Slovenia (Box 18). In a few cases, these programmes make a clear reference to HPWP, but in most instances, they refer more generally to changes in organisational practices that overlap significantly with the components of HPWP (OECD, 2016a).

The background of most interventions is the recognition that many firms, if offered expert advice and encouragement to adopt more effective managerial practices, can better utilise existing skills and reap gains in productivity as a result. Many of these initiatives have focused on raising awareness of the benefits of better skills use, and presenting HPWP as a win-win option for both employers and workers so that possible resistance can be overcome.

Figure 35. Relatively few firms in Slovenia are adopting HPWP
High-Performance Work Practices, by type of practice, 2012, 2015



Note: a) Share of workers in jobs where the summary HPWP is above the top 25th percentile of the pooled distribution.

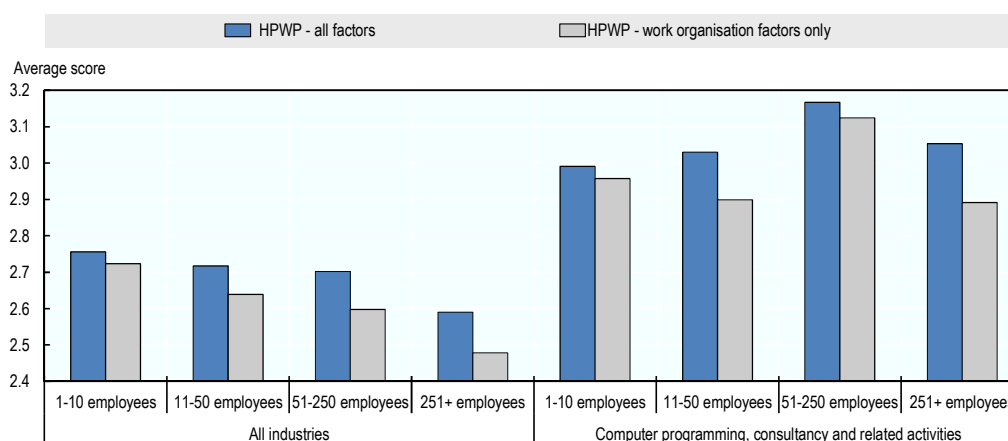
b) Average value, across jobs, of the HPWP index. The HPWP index is a sum scale of all subcomponents (Panel A) or summing the scales of the work organisation subcomponents only (Panel B).

c) Share of workers receiving bonuses (bonus), having participated in training over the previous year (training) or enjoying flexibility in working hours (flexible working hours).

Source: OECD (2016a)), *OECD Employment Outlook*, OECD Publishing, Paris, http://dx.doi.org/10.1787/empl_outlook-2016-en.

Figure 36. Relatively few large firms in Slovenia are adopting HPWP

Average HPWP score by firm size and industry, 2012, 2015



Source: OECD calculations based on OECD (2017) *OECD Survey of Adult Skills database (PIAAC)* (2012, 2015), OECD, Paris, www.oecd.org/skills/piaac/ (accessed March 2017)

Countries have also focused on disseminating good practice and sharing expert advice. Critical in this respect is the identification of role models. Because it is unrealistic to expect government to help every firm to improve its work organisation and job design, initiatives have often supported the development of HPWP in a limited number of businesses and then used these for demonstration effects.

However, a one-size-fits-all approach is unlikely to work, which underlines the importance of developing supportive expertise and creating opportunities for knowledge transfer. At the same time, countries can develop diagnostic tools to help companies identify bottlenecks and measures that will promote a better use of the skills of their workforce.

Tax policy can also be leveraged to incentivise and support firms to adopt HPWP, especially considering that some firms may not have the financial capacity to promote workplace innovation.

A firm's ability to implement and benefit from HPWP will depend to a large extent on the quality of its managers to implement changes in work practices in a productive way. Low management skills can be a bottleneck for workplace innovation. Policies that seek to promote the development of HPWP may need to be complemented with management skill development programmes.

When resources are scarce, it is also important to make sure that interventions are well targeted. In particular, because smaller employers are less likely to implement these practices and may find it more difficult or costly to adopt them, it is important to target interventions to small and medium enterprises (SMEs) with growth potential.

Box 17. Initiatives in Slovenia that strengthen HPWP in workplaces

Competence Centres for Human Resources Development

The Slovene Human Resources Development and Scholarship Fund (*Javni sklad*) supports Competence Centres for Human Resources Development. The centres seek to encourage strategic human resource (HR) development, adaptation of employees' skills to meet the challenges arising from the increased competition due to globalisation, changes in technology and economic trends, collaboration of enterprises on HR, and development of competency models for sectors, among other things. The programme has involved an expenditure of EUR 7.75 million, supporting 19 sectoral partnerships and 300 companies, and helped to empower company HR departments and experts (which were severely cut after the global financial crisis), and an increase in investment in HR by the companies after projects were concluded. Such programmes are well suited to supporting HPWP in Slovenian workplaces.

Lifelong Career Guidance for Companies and Employees

Javni sklad supported a Lifelong Career Guidance for Companies and Employees programme, which sought to provide comprehensive HR support to companies. Project activities in companies revealed the importance of the role of the human resources department and its intent of becoming a strategic partner for management. *Javni sklad* co-operated with companies through the programme by awarding grants through calls for applications and by organising a series of expert workshops.

Companies decided which activity to carry out based on their needs and the needs of their employees. Employees were included in various profiling exercises, based upon which personal and professional career plans were to be developed. Afterwards, the employees were included in training related to personal and career development and attainment of "soft" skills related to positive communication, stress management, innovations at work, motivation and contemporary leadership. Many companies decided to set up basic personnel processes or upgrade them by developing a competence model. The programme involved grants of EUR 5.3 million between 2011 and 2015 and involved more than 21 000 employees and 370 companies.

Public Administration Development Strategy 2015–2020

Slovenia's Public Administration Development Strategy 2015–2020 defined key strategic objectives for professionalism and development of professional competence and employee innovation; responsive, effective and efficient operation of user-oriented public administration; efficient use of human resources and the system of flexible management of employees using mechanisms of responsibility. To achieve the objectives, the Ministry of Public Administration began to carry out the operation "Effective management of employees", with projects to:

- establish an information system for effective management and employee development;
- establish a competence model: determination and assessment of competences; and
- train employees in key identified areas.

Source: Government of Slovenia, 2015, Public Administration Development Strategy 2015-2020.

Box 18. Practices promoting more effective skills use in Finland and Australia**Finland**

The Finnish Workplace Development Programme from 1996 to 2010 was designed to boost productivity and quality of working life by developing and making full use of staff know-how and innovative power in Finnish workplaces. A novel feature of the programme was that workplace development was seen as an integral component of the Finnish national system of innovation.

The programme supported the development of human resources and helped organisations to reform their modes of operation by:

- **supporting workplace-initiated projects;**
- **creating and maintaining co-operation networks to disseminate and build knowledge and competence;**
- **increasing international information exchange;**
- **accelerating initiatives at workplace level; and**
- **boosting the use of research in improving the quality of working life.**

Sustainable results have been achieved at the company and organisational level, learning networks have been enhanced between different institutions related to innovation and workplace development, and the programme enjoyed a very high legitimacy among key stakeholders, including the social partners.

Australia

As part of efforts to highlight and promote best practice, Skills Australia undertook a set of case studies to identify what practices were being used to achieve effective skills utilisation in the 11 companies studied (Skills Australia, 2012). These practices covered five major areas:

- **leadership and management (including the need for effective change management and forward planning);**
- **culture and values;**
- **communication, consultation and collaboration;**
- **good HR practices; and**
- **employee motivation.**

Sources:

Skills Australia (2012), *Better use of skills, better outcomes: A research report on skills utilisation in Australia*, Department of Education, Employment and Workplace Relations (DEEWR), Canberra, <https://docs.education.gov.au/documents/report-better-use-skills-better-outcomes-research-skills-utilisation-australia-may-2012>.

OECD (2016a), *OECD Employment Outlook*, OECD Publishing, Paris, http://dx.doi.org/10.1787/empl_outlook-2016-en.

Acknowledging current institutions and initiatives in Slovenia, as well as good practice examples from across the OECD, Slovenia's Competence Centres for Human Resources Development (or other sectoral bodies) could establish knowledge brokers to collect and distribute information on HPWP and guide firms on how to implement these practices. In addition, employer associations could publicly recognise organisations exhibiting HPWP, such as designing systems and organising their workplaces, to make the best use of the skills of their workers.

The extent to which skills are used in Slovenian workplaces can also be affected by a range of external factors. Labour market institutions that increase the cost of labour and promote collective bargaining are typically positively associated with skills use at work across OECD countries (OECD, 2016a). However, while these results apply for OECD countries on average, it is not known whether they hold true for Slovenia. Also, labour market institutions that increase the costs of employment can undermine labour activation and employment, a current issue in Slovenia (Challenge 3).

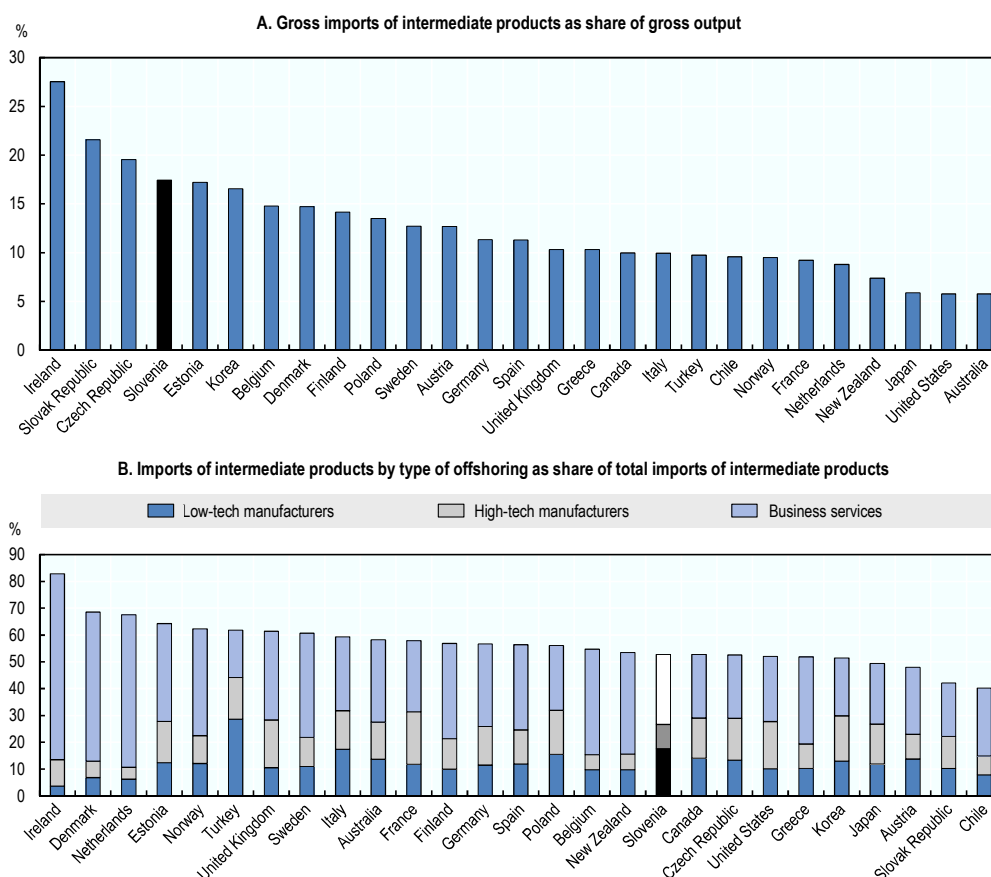
The offshoring behaviour of Slovenian firms also influences employees' tasks and skills use. Industries in which production is offshored to countries with low labour costs (so-called low-technology offshoring) use information-processing skills more intensively than industries that retain low-technology production. This may be due to a shift of domestic activities towards more valuable cognitive tasks such as those involved in the research, innovation, design and marketing phases of production (OECD, 2016a). However, when high-skilled tasks are offshored, this is negatively associated with use of information-processing skills at work.

Slovenia has one of the highest rates of offshoring in the OECD, and this is relatively concentrated in low-tech manufacturers (Figure 37). Offshoring may be having a positive impact on skills use in Slovenia's smallest enterprises (with fewer than 50 employees). As noted earlier, smaller firms in Slovenia use skills more frequently than the country's large firms. While not a perfect proxy for offshoring, small firms in Slovenia accounted for 20% of the country's total industry import value in 2013 (a higher share than all OECD countries except Bulgaria and France) (OECD, 2016c).

The government and social partners should monitor whether Slovenia's labour market institutions and other factors (like offshoring practices) are encouraging firms to make full use of employees' skills and, if not, devise appropriate responses.

Figure 37. Offshoring by low-tech manufacturers may be contributing to skills use

Offshoring, in terms of imports of intermediate products, by type of offshoring



Note: Low-technology manufactures are defined as sectors covering ISIC Rev.4 codes 12-18, 58, 31-33 (equivalent to ISIC Rev.3 codes 15-22 and 36-37); Business services include ISIC Rev.4 codes 45-47, 95, 49-52, 79, 53, 61, 64-66, 68, 77, 62-63, 69-75, 78, 80-82 (equivalent to ISIC Rev.3 codes 50-74); and High-technology manufactures include ISIC Rev.4 codes 20-21, 26, 30 (equivalent to ISIC Rev.3 codes 24, 30, 32-33, 35).

Source: OECD (2016), *OECD Employment Outlook 2016*, (Figure 2.14),

http://dx.doi.org/10.1787/empl_outlook-2016-en.

Several other external factors could influence the extent to which skills are used at work. For example, supplying students, firms and policy makers with good information on skills needs could support more informed skills choices, helping to reduce saturation in some fields/occupations and, by extension, enhancing skills use in the workplace (OECD, 2016a; see Challenge 8). Validation of non-formal and informal learning could also strengthen skills use at work by informing firms about the actual skills possessed by workers and reducing mismatch and inefficient use of available skills (Challenge 2).

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CHALLENGE 6: USING SKILLS FOR ENTREPRENEURSHIP AND INNOVATION

Key messages

- Highly skilled people are central to Slovenia's innovation system and entrepreneurial success, including in strategic industries like green technology.
- Slovenia devotes a relatively high and growing share of its financial and human resources to research and development (R&D), but this is not systematically resulting in innovation.
- In the business sector, innovation funding and outcomes are concentrated in a small number of large firms, with small and medium enterprises (SMEs) and the services sectors lagging far behind.
- The innovation performance of universities and public research institutions is mixed, with relatively high publication rates but low international collaboration.
- The contributions of the higher education sector to innovation may be hindered by comparatively low higher education expenditure on R&D, weak remuneration and evaluation systems, and institutional fragmentation.
- Slovenia has yet to fully implement its research and innovation and higher education strategies for the period 2011-20, which include comprehensive and ambitious measures to boost the country's innovation performance.
- Slovenians are relatively pessimistic about entrepreneurial opportunities and the education system's success in developing entrepreneurial attitudes and skills.

Stakeholder perspectives

- In National Skills Strategy workshops, participants raised concerns about the disconnect between the country's high-quality R&D activities and its mediocre performance in commercialising innovations.
- Many pointed to a lack of entrepreneurial spirit in Slovenia, and the education system's mixed success in developing entrepreneurial attitudes and skills.

Recommended areas for action

- Strengthen efforts to implement the reforms to Slovenia's innovation system proposed in its *Research and Innovation Strategy of Slovenia 2011-20* and the *National Higher Education Programme 2011-20* (NHEP).
- Improve opportunities, skills and attitudes towards entrepreneurship.

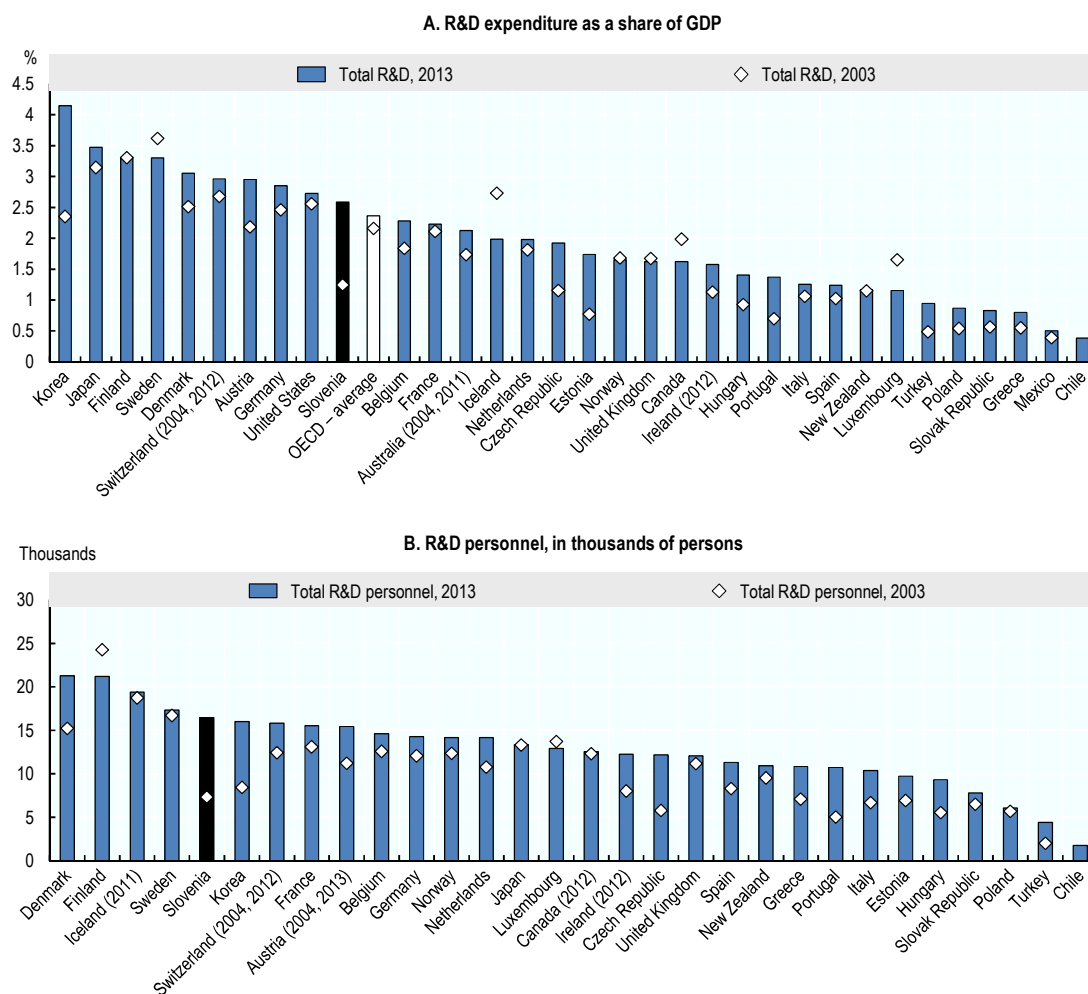
Skilled people are the driving force of Slovenian innovation

Skilled workers, entrepreneurs, universities and research institutes are central to a country's innovation system. Highly skilled workers are needed to conduct research that can lead to innovations for commercialisation as new products and services. They also embody the know-how needed to adopt, adapt and implement innovations and new technologies in the workplace, thereby boosting profits, productivity and growth. Strong basic cognitive and social and emotional skills are needed in the general workforce to facilitate the adoption of new technologies and work processes. Partnerships between universities/research centres and firms are essential to transfer new knowledge and train the highly skilled workers and entrepreneurs that firms need to innovate and grow. Entrepreneurship behaviours and skills are needed to encourage individuals to take the risks that are needed to bring new ideas to market. The education system drives entrepreneurship by helping to develop an entrepreneurial mind-set and providing practical competences and skills needed to start and grow new ventures.

Slovenia's innovation performance

Slovenia is devoting a high and growing share of its national wealth and highly skilled people to innovation. Its expenditure on R&D is close to the OECD average and has grown substantially (Figure 38, Panel A). Slovenia has a high share of R&D personnel (researchers, technicians and support staff) in the total workforce, and this share has grown faster since 2003 than in any other OECD country (Figure 38, Panel B).

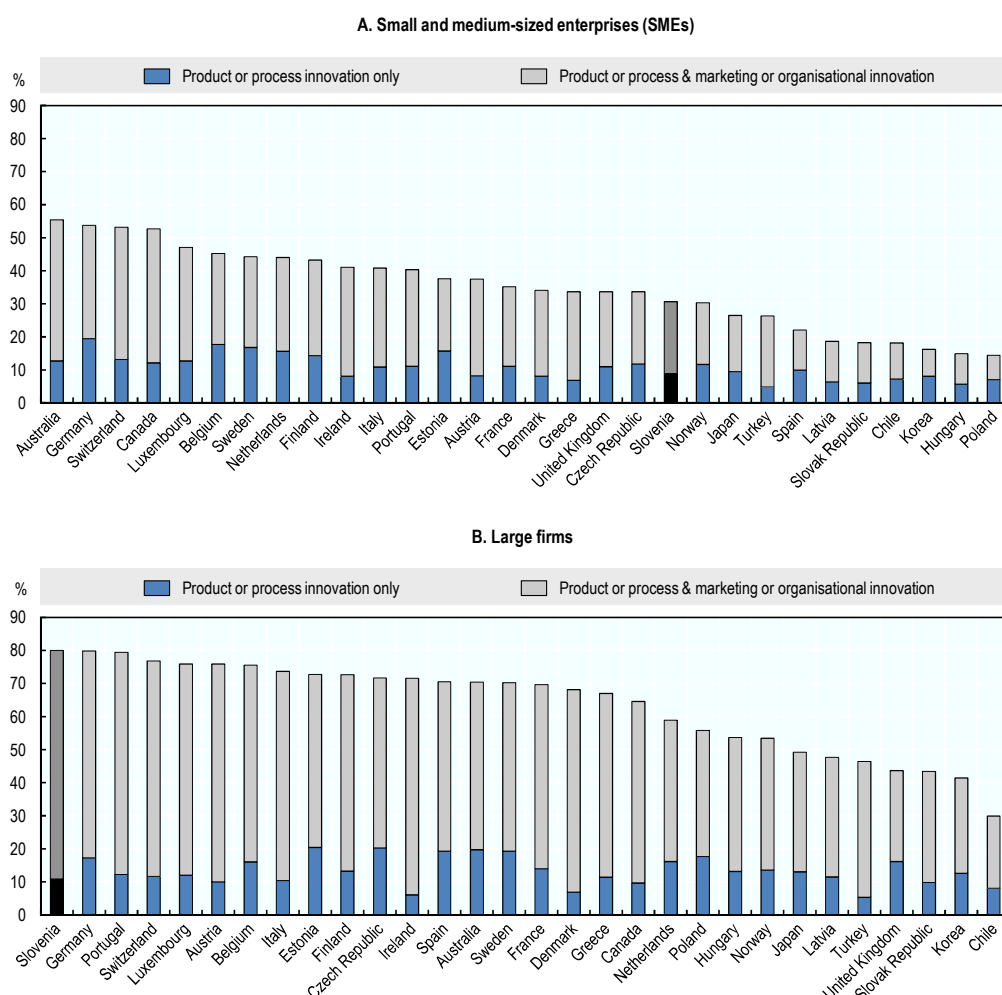
However, investment in research has not clearly translated into tangible output. The number of trademarks that Slovenian firms applied for over the 2010-12 period was well below the OECD median, as was the number of applications for triadic patents – patents applied for at the European Patent Office, the Japan Patent Office and the US Patent and Trademark Office (OECD, 2016). Large firms in Slovenia report introducing more innovations than in any other OECD country. Yet small and medium enterprises (SMEs) – 99% of Slovenia's firms – have relatively low innovation performance, resulting in one of the largest firm-size-gaps in innovation activity in the OECD (Figure 39).

Figure 38. Slovenia is devoting significant financial and human resources to R&D

Source: OECD (2015a), OECD Science, Technology and Industry Scoreboard 2015: Innovation for Growth and Society, http://dx.doi.org/10.1787/sti_scoreboard-2015-en.

Figure 39. SMEs and large firms show very different innovation performance

Share of firms that reported undertaking product and/or process innovations, by firm size, 2010-2012



Source: OECD (2015), *OECD Science, Technology and Industry Scoreboard 2015: Innovation for Growth and Society*, based on Eurostat, Community Innovation Survey (CIS-2012) and national data sources, (June 2015), Figure 4.4.1, http://dx.doi.org/10.1787/sti_scoreboard-2015-en.

The concentration of business R&D spending in a small number of large firms is unlikely to facilitate innovation across firms and sectors. Business enterprise expenditure on R&D (BERD) in Slovenia (2% of GDP) is above the OECD average, and increasingly occurring in SMEs (OECD, 2015a). However, BERD remains concentrated in a small number of large firms – two pharmaceutical firms in particular – and is relatively low in the services sector (OECD, 2016). BERD has also declined significantly in high-tech manufacturing, a sector of strategic importance in Slovenia's Smart Specialisation Strategy and for Slovenia's transition to a green economy.

Slovenia has introduced ambitious strategies to improve its innovation performance, and to better capitalise on its highly skilled R&D workforce (Box 19). However, implementation of these strategies is still incomplete, due to financing and legislative challenges.

Box 19. Slovenia's strategic objectives for innovation

The Research and Innovation Strategy of Slovenia 2011-2020 (RISS)

The RISS aims to establish a modern research and innovation system, which will contribute to increased knowledge, address societal challenges and raise value added. The OECD (2012) concluded that the RISS provides a solid basis for realising a long-term agenda for reform, helping to restructure the Slovenian innovation system.

For Slovenia's public research Institutes (PRIs), reforms call for closer links to universities, higher mobility, strengthening of autonomy and leadership, and the promotion of co-operation with industry. The quality of applications and research is to be raised to encourage scientific excellence. Future policies are to allow for more research infrastructure and more stable arrangements, and better business infrastructure, mainly in the "e"-realm. Knowledge transfer strategies include technology transfer offices (TTOs) and spin-offs and increased mobility of young researchers. International co-operation is to be stepped up, with Slovenian actors participating in ambitious transnational programmes. International inward and outward mobility of people will be supported. The aim is for 60% of public funding to go to collaborative R&D projects between the public and private sectors, which, along with tax incentives, should help accelerate private R&D investments. The RISS also provides a comprehensive support package for start-ups and an array of measures to help innovative companies grow faster.

The National Higher Education Programme 2011-2020

The National Higher Education Programme (NHEP) provides a bridge between the diagnosis of the shortcomings of Slovenia's higher education system and the projected needs of a knowledge-intensive economy and society. It aims to: redefine the requirements for the establishment and operation of different types of higher education institutions; enable fully autonomous decision making with respect to institutions' internal organisational structure; enhance co-operation between higher education institutions and public research organisations; and enhance co-operation between higher education institutions and the economic and public sectors. Among the specific measures proposed to achieve these goals are provisions for the reciprocal mobility of staff among higher education institutions and public research institutes and harmonisation of the wage system and conditions of advancement for non-administrative staff at higher education and public research institutes.

The OECD (2012) concluded that the NHEP would help to ensure that Slovenia has the human resources required to become a high-performing, knowledge-intensive society. However, it also concluded that the Plan needs to be more specific about means and ends and how various goals might be achieved in practice, and should address the missing elements of formal or informal "bridges" between universities and industry.

To implement the RISS and NHEP, legal documents are currently being prepared in Slovenia, including a new (or significantly amended) Research and Development Act, Higher Education Act and Slovenia's Smart Specialisation Strategy.

Box. 19 Slovenia's strategic objectives for innovation (cont'd)**S4: Smart Specialisation Strategy**

The S4 seeks to spur R&D innovation in priority sectors of comparative advantage, to enable Slovenia to become a technology leader in those sectors. The S4 concentrates a portion of public funds in priority areas; and established Strategic Research Innovation Partnerships to facilitate system-wide and long-term co-operation of stakeholders and government in priority areas, and develop area-specific action plans.

Slovenia's Programme of Measures to Promote Entrepreneurship and Competitiveness (2007-13) set out the policy for SMEs and entrepreneurship.

Sources:

OECD (2016), "Slovenia", in *OECD Science, Technology and Innovation Outlook 2016*, OECD Publishing, Paris. DOI: http://dx.doi.org/10.1787/sti_in_outlook-2016-85-en;

OECD (2012), *OECD Reviews of Innovation Policy: Slovenia 2012*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264167407-en>.

Contributions of skills and higher education to innovation in Slovenia

The higher education system is an important component of a country's innovation system. Universities contribute to research and innovation in a number of ways. First, they provide individuals with high levels of basic cognitive and social and emotional skills, which allow them to adopt and adapt to new technologies and work processes. Second, they train the highly skilled researchers that firms need to conduct their own research and adopt new innovations. Third, universities conduct basic and applied research that can eventually be commercialised in a variety of ways.

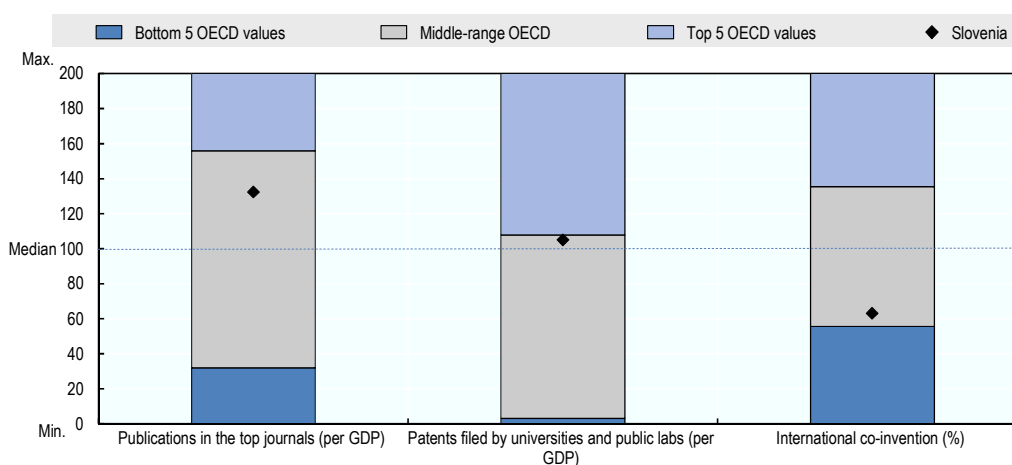
Slovenian tertiary institutions could be doing more to ensure that firms have access to the skilled workforce they need to innovate and grow. A workforce with a good mix of cognitive, social and emotional, and discipline-specific skills is needed to drive innovation. The differences in countries' capacity to help the population achieve the right mix of skills can help to explain cross-country differences in export performance (OECD, 2017). The percentage of young adults in Slovenia with tertiary education is growing steadily, and the share of Slovenian tertiary graduates who have completed their studies in a science, technology, engineering and mathematics (STEM) fields exceeds the OECD average (OECD, 2015a). However, the mean cognitive skill level of young tertiary graduates (aged 25-34) in Slovenia is lower than the OECD average. Additionally, there are concerns that many young adults in Slovenia are not developing the strong social-emotional skills that employers need (see Challenge 1).

Slovenia trains a large number of highly skilled researchers. Approximately 2% of all 25-44 year-olds in Slovenia hold a doctorate degree, above the OECD average of 1% (OECD, 2015b). An above-average share of these doctorate holders has completed studies in a STEM field (OECD, 2015a).

The innovation performance of Slovenia's universities and public research institutions is mixed (Figure 40). While they have a relatively high share of publications in the most influential 25% of the world's scholarly journals (per GDP), Slovenian involvement in international co-invention is relatively low.

Figure 40. The public R&D sector's innovation performance is mixed

Normalised index of innovation performance relative to median values in the OECD, for Slovenia's universities and public research institutes, 2014

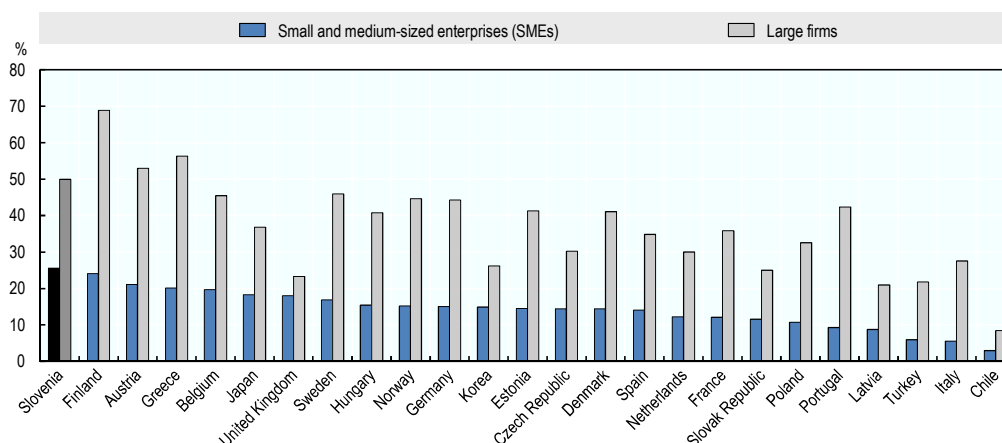


Source: OECD (2016). "Slovenia", in *OECD Science, Technology and Innovation Outlook 2016*, OECD Publishing, Paris. DOI: http://dx.doi.org/10.1787/sti_in_outlook-2016-85-en.

Overall, collaboration and partnerships on innovation between higher education and the private sector is strong in Slovenia. Active participation in joint innovation projects is a key conduit for innovation-related knowledge flows between the public research sector and businesses. Slovenia has the highest rate of SME collaboration in innovation with higher education or research in the OECD, and the fourth-highest rate for large firms (Figure 41). Direct funding of public research by industry – in the form of grants, donations and contracts – aims to influence the scope and orientation of public research, generally steering it towards more applied and commercial activities. Business-funded R&D in the higher education and government sectors is among the highest in the OECD (OECD, 2015a). Still, more can be done to further improve collaboration in a number of areas.

Figure 41. Public and private innovators collaborate quite frequently

Firms collaborating on innovation with higher education or research institutions, as a share of product and/or process-innovating firms in each size category, 2010-2012



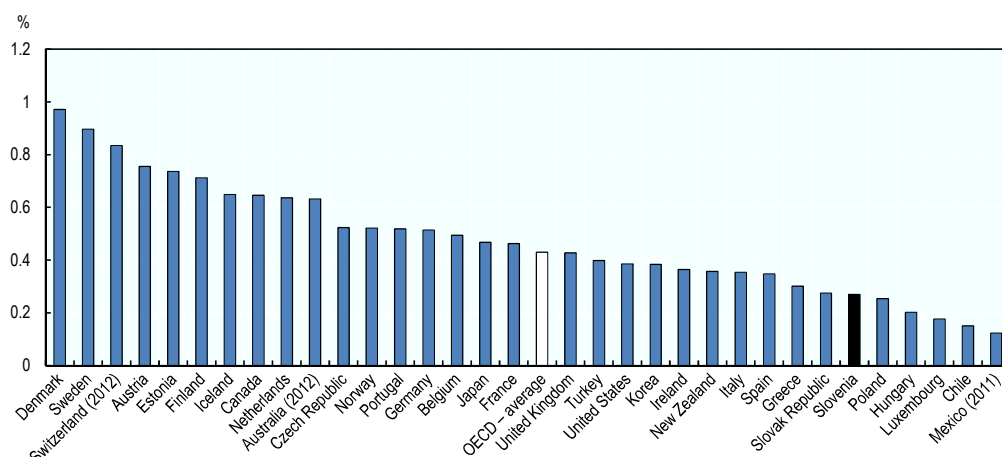
Source: OECD (2015a), *OECD Science, Technology and Industry Scoreboard 2015: Innovation for Growth and Society*, OECD Publishing, Paris, www.dx.doi.org/10.1787/sti_scoreboard-2015-en.

Barriers to increased contributions from skills and higher education

Comparatively low higher education expenditure on R&D (HERD) may help to explain the uneven contributions of higher education institutions to innovation in Slovenia (Figure 42). Low investment in HERD limits the potential of higher education to make contributions to Slovenia's innovation system.

Figure 42. Universities and research institutes spend relatively little on R&D

Higher education expenditure on R&D, as a share of GDP, 2013



Source: OECD, Main Science and Technology Indicators Database, (June 2015), https://stats.oecd.org/Index.aspx?DataSetCode=MSTI_PUB.

Researchers in Slovenia's universities and research institutes do not benefit from a strong system of remuneration and career progression (OECD, 2012). This may inhibit even greater collaboration and labour mobility between higher education and the private sector. The staff of university and public research organisations are covered by the generic Civil Servants Act, which leaves the sector only limited freedom to develop flexible and attractive remuneration and entitlement plans and career paths. Career models in universities and PRIs have created barriers to hiring people with industry experience. Public researchers who move between sectors risk losing remuneration, entitlements or career status, which limits their career prospects.

Implementation of several important elements of the NHEP 2011-20 remains incomplete. The NHEP includes provisions for the reciprocal mobility of staff among higher education institutions and public research institutes and the harmonisation of the wage system and conditions of advancement for non-administrative staff at higher education and public research institutes. As of 2016, legal documents were still being drafted, including a new (or significantly amended) Research and Development Act, as well as a Higher Education Act and Smart Specialisation Strategy (OECD, 2016). Successfully implementing these provisions would more closely align Slovenia's public research system with those evolving across EU and other market-oriented economies, and help ensure that Slovenia has the human resources required to become a high-performing, knowledge-intensive society (OECD, 2012).

Overall, universities and research institutions do not appear to face strong accountability for producing marketable innovations. Unlike many innovation systems in the region, Slovenia's research institutes have not had oversight from a National Academy of Sciences, and have instead developed as distinct, often mono-disciplinary organisations. The sector is more focused on enhancing academic reputations in these areas than on contributing to other national or commercial objectives. In particular, bibliometric indicators such as publications and citations have been a predominant measure of academic research performance (OECD, 2012). Reliance on these indicators does not provide incentives to consider projects of relevance to, or in collaboration with, industry and other non-academic stakeholders in the innovation system.

Slovenia's RISS 2011-20 called for a new system of institutional evaluation to support more performance-based institutional funding of PRIs. The latest report on the implementation of the RISS notes that Slovenia still needs to institutionalise evaluation practices (OECD, 2016). With effective accountability mechanisms in place, Slovenia could consider giving more autonomy to PRIs and university researchers, leaving universities greater flexibility to hire people, to structure their employees' careers, to freely organise curricula, to have the authority to use block funds according to their strategies, to structure their boards and to elect their leaders, to own their premises, etc. (OECD, 2012). Autonomy in these respects could help facilitate improvements in innovation performance (OECD, 2015c).

Linkages among Slovenia's research institutes are not strong, which limits the ability to produce multidisciplinary research. The public research sector in Slovenia consists of four universities and 15 research institutes with their own specialisations. A multidisciplinary approach in scientific research was previously restricted by the discipline-oriented allocation of R&D funding (OECD, 2016). The policy reforms announced in the 2011 RISS to strengthen these research linkages have suffered substantial delays in

implementation, mostly due to frequent changes in the governance structure and embedded fragmentation of research institutes (EC, 2016). Some progress has been made, and the Slovenian Research Agency has set up the Interdisciplinary Research Council to evaluate and allocate public funds for atypical or multidisciplinary or interdisciplinary research, earmarking 10% of public funds for such research projects (OECD, 2016).

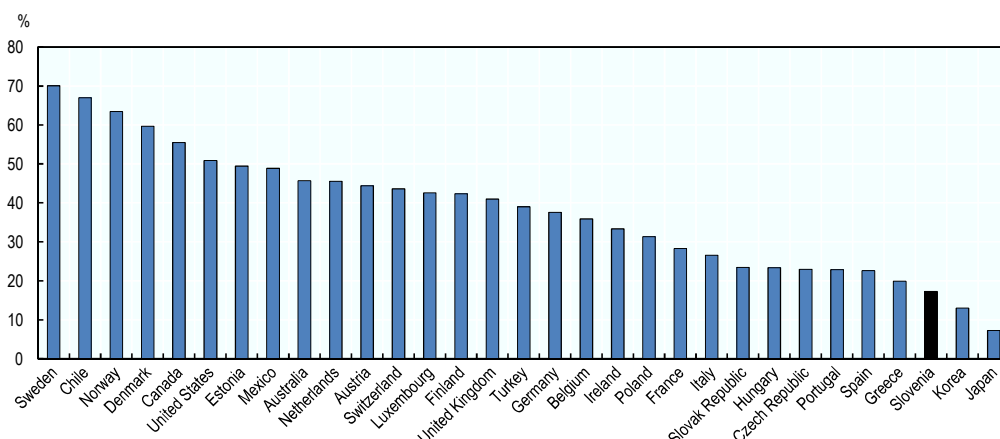
Contributions of education to entrepreneurship

Skills and the education system drive entrepreneurship in two important ways. First, the entrepreneurial mind-set can be built through education, including through teaching strategies, course content, learning environments and learning outcome assessments, to promote entrepreneurship in the general sense. Second, the practical competences and skills needed to start and grow new ventures can also be built. For example, training can be offered to people who are motivated, or who have already decided, to start their own business (OECD, 2013).

Stakeholders in Slovenia repeatedly referred to a lack of an entrepreneurial culture and spirit in Slovenia. They cited a general scepticism towards entrepreneurs, which may partly be a legacy of the negative attitude towards private self-employment during Slovenia's communist past. Indeed, Slovenians are among the most pessimistic people in the OECD about the perceived opportunities for using their skills in entrepreneurship (Figure 43).

Figure 43. Slovenians are relatively pessimistic about entrepreneurial opportunities

The share of adults (18-64 year-olds) who report that they see good opportunities to start a business in the area where they live, 2014



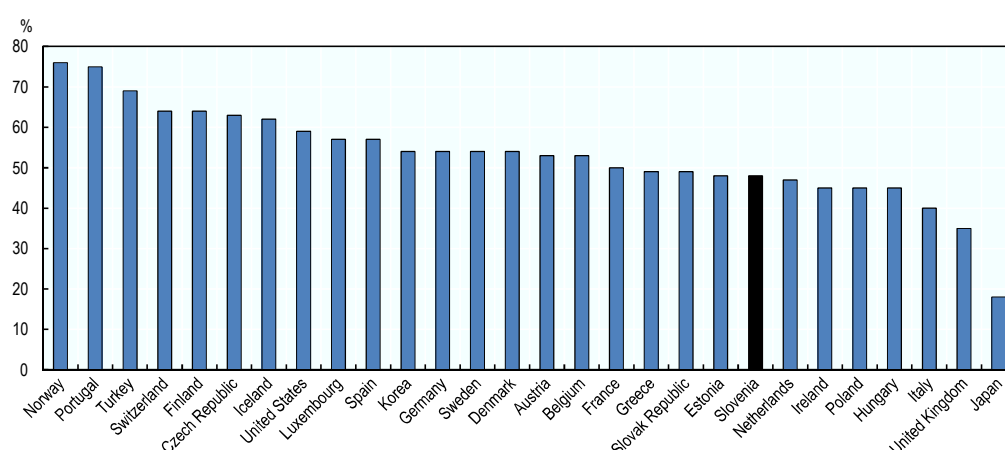
Source: OECD (2015), *Entrepreneurship at a Glance 2015*, http://dx.doi.org/10.1787/entrepreneur_aag-2015-en.

Slovenians are less likely than their peers in other countries to consider that the education system offers them the skills they need to succeed as entrepreneurs. In a 2012 survey, a relatively low share of Slovenia's adults agreed that their school education had helped them develop an entrepreneurial attitude (Figure 44). This survey also found that a low percentage believed that school education provided them with the skills and know-how to run a business (OECD, 2013).

Opportunities for receiving entrepreneurship education in schools, universities and research institutions in Slovenia are still scarce, despite the gradual phasing-in of entrepreneurship studies into the school system through pilot projects since 2008 (OECD, 2011a). Entrepreneurial dynamism could be encouraged by strengthening entrepreneurship education in schools, so that it encourages creativity and entrepreneurial drive (OECD, 2015c).

Figure 44. Relatively few Slovenians are developing an entrepreneurial attitude at school

Share of adults who agree that school helped them to develop a sense of initiative and entrepreneurial attitude, 2012



Source: OECD (2013), *Entrepreneurship at a Glance 2013*, OECD Publishing, Paris, http://dx.doi.org/10.1787/entrepreneur_aag-2013-en.

Addressing Slovenians' concerns about developing entrepreneurial skills, and the underlying factors that cause them to be pessimistic about entrepreneurial opportunities and careers, will be important to help increase their willingness to devote their skills to entrepreneurial endeavours. Slovenia has a number of key programmes and agencies seeking to achieve these improvements (Box 20). In addition, the government agency SPIRIT Slovenia seeks to create an environment in which enterprising and innovative individuals bring their ideas to fruition (Box 21).

Box 20. Entrepreneurship education initiatives in Slovenia

Slovenia has undertaken a range of short-term entrepreneurship education initiatives to develop skills and positive attitudes for entrepreneurship. Continuity in effective entrepreneurial programmes will be important in achieving these objectives.

The extracurricular *Ustvarjalnost, Podjetnost, Inovativnost* (UPI) course supported the development of entrepreneurship and innovation, in courses delivered by mentors specifically trained in entrepreneurship education. It ran from 2010-2012 in Slovenian primary and secondary schools, and was Slovenian policy makers' first co-ordinated step towards a systematic approach towards innovation and entrepreneurship education. The activities engaged 1 135 primary school pupils, showed a positive impact on the creativity, flexibility and entrepreneurial skills of students, and affected students' choice of secondary education.

EnterYOUTH was a bilateral entrepreneurship training project developed between partner organisations from Slovenia and Croatia. The project ran between 2014 and 2015, with a budget of over EUR 200 000. The main aim of the initiative was to promote and support the acquisition of entrepreneurial skills by secondary and higher education students, and also young unemployed people who intended to start a business at some point in their career. The project engaged local firms and helped create new partnerships, and reached 200 young people.

Other programmes with similar goals have included the Company Programme, Our Community, and Training for the Entrepreneurial-Hearted and the Brave.

The Institute of the Republic of Slovenia for Vocational Education and Training has set up the Opening Doors project (*Vrata odpiram sam*), co-funded via the European Structural Funds and the state budget. The project encourages young people to become self-employed and promotes an entrepreneurial mind-set and innovation among young people and their teachers.

Sources: TechnopolisGroup (2015), *Entrepreneurship Education in Slovenia*, commissioned by the European Commission, Directorate-General of Education and Culture, EC/EACEA/Eurydice (2016), *Entrepreneurship Education at School in Europe*, Eurydice Report, European Commission, Publications Office of the European Union, Luxembourg, EC (2015), *Education and Training: Monitor 2015*, Directorate-General for Education and Culture, European Commission, Publications Office of the European Union, Luxembourg.

Box 21. The Public Agency for Entrepreneurship, Internationalization, Foreign Investments and Technology, or SPIRIT Slovenia

SPIRIT Slovenia, set up in 2013, aims to create an environment in which enterprising and innovative individuals bring their ideas to fruition. SPIRIT co-ordinates and monitors support for companies in Slovenia, including the e-VEM “one-stop-shop” for entrepreneurship promotion, university incubator services, and supporting activities in the area of technology development and innovation. SPIRIT provides:

The Slovenian Innovation Forum: a two-day business event to identify and realise entrepreneurial and innovation synergies at the national level, including key players in the innovation environment, such as excellence centres, competence centres and development centres of the Slovenian economy.

The European SME Week: an EC campaign held simultaneously in 37 European countries. SPIRIT Slovenia is the national co-ordinator of European SME Week in Slovenia. Its goals are to promote the notion that entrepreneurship is a way of boosting employment, identify possible entrepreneurs, promote entrepreneurial activity and business networking, and strengthen the positive image of entrepreneurs in the media.

Information portals and handbooks: The Entrepreneurship Portal (Podjetniški portal – www.podjetniski-portal.si) is a tool for communicating information about entrepreneurship.

Source: www.spiritslovenia.si/en/spirit-slovenia/entrepreneurship-innovation-technology-development/.

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CHALLENGE 7: INCLUSIVE AND EFFECTIVE GOVERNANCE OF THE SKILLS SYSTEM

Key messages

- Slovenia's performance in developing, activating and using skills depends on relevant actors and policies working together as a coherent, mutually reinforcing skills system.
- Collaboration across ministries, between levels of government and with stakeholders is critical for ensuring that policies are coherent, effective and efficient.
- Ministries are not collaborating to the fullest extent possible – in part reflecting the limited role played by the centre of government and reliance on informal modes of co-ordination.
- Municipalities play a relatively limited role in the policy process, reflecting a centralised policy approach and funding and capacity constraints at the local level.
- Existing mechanisms for engagement with stakeholders are not successfully motivating stakeholders to support decisions, and appear to be undermined by citizens' low levels of policy knowledge and confidence in government.
- Capacity and incentives for evidence-based policy making and effective public engagement could be strengthened.

Stakeholder perspectives

- Stakeholders observed that ministries too often work independently of each other and municipalities are largely left out of the policy-making process.
- They also noted that public engagement does not occur at all stages of the policy process.
- There is a lack of effective partnerships between government and social partners to support implementation of skills policies.
- Some participants noted that weak evidence-based policy making and evaluation is undermining skills policies.

Recommended areas for action

- Evaluate the government's performance in engaging stakeholders, to learn from experience and improve future practice.
- Make greater efforts to overcome ministries' tendency to work in silos and encourage inter-ministerial co-ordination and collaboration.
- Increase engagement of local levels in skills policy making and implementation and facilitate tailored responses at the local level.
- Boost public sector capacity and incentives for conducting effective stakeholder engagement and evidence-based policy making.

Inclusive and effective governance is essential for a successful skills system

The importance of inclusive and effective governance is growing. Skills issues are increasingly complex, interdependent and multidimensional. Developing and implementing coherent, effective and efficient skills policies requires horizontal collaboration across ministries, vertical collaboration between ministries and municipalities, as well as the engagement of stakeholders in the development and implementation of policy. Effective governance is built on effective, evidence-based policy making, including robust evaluation processes.

Stakeholders participating in the National Skills Strategy workshops observed that public engagement in the development of skills policy does not occur at all stages of the policy process in Slovenia, and is often undertaken too late in the process. They also noted a lack of effective partnerships between government and social partners in carrying out skills policies. Participants commented that ministries tend to work independently of each other and that municipalities are often not effectively engaged during the policy-making process. Some noted that weak evidence-based policy making and evaluation has had a negative effect on the quality of skills policies.

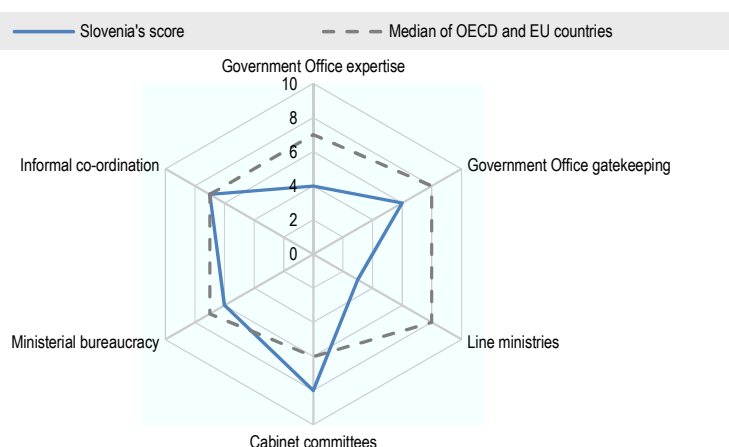
Collaboration between ministries

Slovenia has several mechanisms in place to ensure that ministries collaborate effectively with each other. The Government Rules of Procedure require the internal consultation of relevant ministries before the presentation of draft legislation and regulations to the government (OECD, 2015b). In addition, ministries are obliged to send all ordinances, secondary legislation, laws, etc., to the Government Office for Legislation prior to submission to the government (OECD, 2016b).

However, the ministries do not appear to be co-operating and collaborating to the fullest extent possible. According to the Bertelsmann Foundation's Sustainable Governance Indicators (SGI), Slovenia is ranked 33rd out of 41 OECD and European Union countries on inter-ministerial co-ordination (BF, 2016a). This reflects relatively low performance in several areas (Figure 45). The role of the Centre of Government ("Government Office") in co-ordinating and preparing skills and other policies is relatively weak. For example, Slovenia's Government Office for Legislation is focused on technical and drafting issues. It has no central policy-planning unit and does not evaluate or ensure the policy coherence of line ministries' policy proposals. Informal co-ordination between coalition party leaders and among civil servants is relatively strong (BF, 2016b), but the effectiveness of civil servants in co-ordinating policy proposals ("Ministerial bureaucracy") is ranked below the OECD median. Informal co-ordination should complement and not replace formal co-ordination mechanisms. On the other hand, Slovenia's cabinet committees do play a relatively effective role in policy negotiations.

Figure 45. Slovenia's ranking on several areas of inter-ministerial co-ordination is low

Scores given by national experts on a scale of 1 (lowest) to 10 (highest), 41 OECD and EU countries



Source: Bertelsmann Foundation (2016a), Sustainable Governance Indicators 2016, www.sgi-network.org/2016, (accessed on 17 November 2016).

Inter-ministerial co-ordination in Slovenia is complicated by the fragmented nature and limited capacity of the centre of government. Effective centres of government can help leaders cope with the complexity of modern government, ensuring that decisions are not *ad hoc*, imprudent or inconsistent, and that policies are evidence-based, strategic and consistent (OECD, 2015c). While Slovenia's Centre of Government comprises eight bodies, there is no Central Office responsible for bringing together information to provide whole-of-government oversight and advice to the Prime Minister or other government members (OECD, 2012). Instead, such functions as policy co-ordination and strategic planning are split between the various members of the Centre of Government (OECD, 2015a).

Slovenia's Centre of Government could potentially play a stronger role in ensuring a coherent, whole-of-government approach to skills. Its size is relatively small and its impact modest. The level of influence exercised by the Centre of Government over line ministries and its ability to encourage or enforce their co-operation is moderate (OECD, 2015a). Yet this limited role cannot be ascribed to the country's size or that of its public administration. For example, Estonia has a Strategy Unit in the Government Office that co-ordinates policy agendas across the public administration and ensures coherence between sector strategies and horizontal strategic documents. Its role also includes developing methodologies for strategic impact assessment and providing financial support for ministries and non-government organisations for research and analyses on cross-cutting issues (OECD, 2011a).

More generally, Slovenia's public administration may lack the incentives and capacity to take a whole-of-government approach to skills policy. The OECD's 2012 *Public Governance Review* of Slovenia recommended promoting a culture of collaboration in the public administration. This could include embedding collaboration within individual performance assessments; encouraging networks between staff to facilitate trust, relationships and more organic consultation; starting consultation earlier; encouraging positive relationships between the centre and line ministries; and better utilising the political

level to overcome barriers to co-operation on specific issues (OECD, 2012, p. 31). Many of these ideas were incorporated in Slovenia's Public Administration Strategy (Challenge 5, Box 17).

Strengthening the capacity of Slovenia's public sector to tackle the skills challenges facing the country will require new solutions. These could include pooling talent and creating multidisciplinary management teams to strengthen collaboration on policy issues that require both the expertise of multiple ministries or public bodies, and their co-operation in implementing specific policy actions. Slovenia has several examples of innovative approaches to policy making. These include task forces and inter-ministerial teams to deliver key strategies (e.g. the National Development Strategy) and projects (such as the work with the OECD on this National Skills Strategy country project). For example, an inter-ministerial committee of political and technical representatives was formed to oversee implementation of Slovenia's Smart Specialisation Strategy (S4) (Box 22).

Box 22. Spotlight on Slovenia: Working group for the Implementation of the S4

Slovenia's Smart Specialisation Strategy (S4) aims to strengthen the competitiveness of the economy by enhancing its innovation capacity, diversify existing industries and service activities, and boost growth of new and fast-growing industries and enterprises.

An Implementation Working Group was established at the national level within two months following the approval of the S4 in order to establish close, operational and smooth co-operation supporting the implementation. The working group includes representatives of ministries directly participating in the implementation. The group is headed by the State Secretary of the Government Office responsible for development with State Secretary of the Ministry responsible for science and State Secretary of the Ministry responsible for economy acting as deputy heads of the working group. The three State Secretaries constitute the working group's chairmanship.

The working group is responsible for inter-ministerial co-ordination of implementation at the strategic and substantive level, by taking into account the competences of each participating institution. In addition to the government, which makes decisions relating to the S4 and amendments, the working group monitors and guides delivery of the strategy at the political level and thus ensures that the findings and recommendations made at a lower governance levels are achieved.

Source: Government of Slovenia, (2015), *Slovenia's Smart Specialisation Strategy S4*, www.svrk.gov.si/fileadmin/svrk.gov.si/pageuploads/SPS_predstavitev/S4_dokument_2015_oktober_eng_clean_lekt.pdf.

Collaboration between the central government and municipalities

Effective co-ordination between the national government and Slovenia's 212 municipalities can underpin better design and implementation of skills policy. Ensuring that municipalities have sufficient capacity and resources will be critical to the success of policies. Giving municipalities appropriate levels of autonomy and flexibility can help them adapt skills policies to local needs.

Slovenia's municipal governments have input in skills policy insofar as they are responsible for kindergartens, primary and lower secondary ("basic") schools and adult education. Their mandate includes responsibility for all local public affairs and gives them some autonomy in implementing national legislation. Municipalities are highly reliant on central government transfers, having only a limited tax base of their own. Almost 40% of municipality expenditure goes to education in Slovenia, roughly double the EU-28 average for subnational governments (OECD, 2016a).

Co-operation and collaboration on skills issues between the central government and municipalities could be increased. In the SGI 2016, Slovenia ranks below the median for OECD and EU countries in its provision of funding, discretion and accountability to municipalities. According to national experts, the central government does not sufficiently fund municipalities for the tasks it requires them to perform, limiting their capacity to exercise their constitutional discretion in implementing legislation (BF, 2016b). The central government is generally effective in ensuring that municipalities meet minimum national standards, but does not ensure high performance. Stakeholders in National Skills Strategy workshops noted that municipalities do not currently have a substantive role in the development of national skills policies.

Ensuring that skills policies achieve their objectives will require that municipalities have sufficient funding, administrative capacity, oversight and accountability. Many municipalities lack the administrative capacity or funding to implement policies effectively (OECD, 2011b; BF, 2016b). The absence of a regional level of government has made it harder to overcome issues of scale, or to facilitate co-operation between municipalities. Slovenia also lacks a regional body to co-ordinate employment, skills and economic development policies (OECD, forthcoming). Slovenia will need to determine what role the local level has in a strengthened skills system, and create the conditions to carry out this role successfully.

Engagement and partnerships with stakeholders

Governance arrangements that engage all segments of society in the policy cycle – agenda setting, the design of solutions and implementation – can help ensure that skills policies achieve their intended results. Potential measures include information sharing, consultation and formalised partnerships when involving stakeholders upstream (in planning and decision making) and downstream (in delivering programmes). Engagement with stakeholders on skills issues can generate valuable input for evidence-based policy making, providing information on needs, solutions and impacts that would otherwise be overlooked (OECD, 2015a). Engagement can also raise public commitment for implementing policies and secure broad ownership of the outcomes, while increasing accountability (OECD, 2009). Inclusive governance will be particularly important for Slovenia, in order to overcome the low levels of trust and confidence in government (OECD, 2016c), which can undermine effective skills policies.

Slovenia has a strong tradition of engagement with trade unions and employer organisations through the Economic and Social Council (ESC), which governs industrial relations, conditions of work, labour legislation, social rights and employment policy, and other broader economic and social issues. It also has increasingly advanced mechanisms for broader public consultation (Box 23). Political authorities and civil servants are required to consult with stakeholders on all proposed primary laws and subsidiary regulations. For

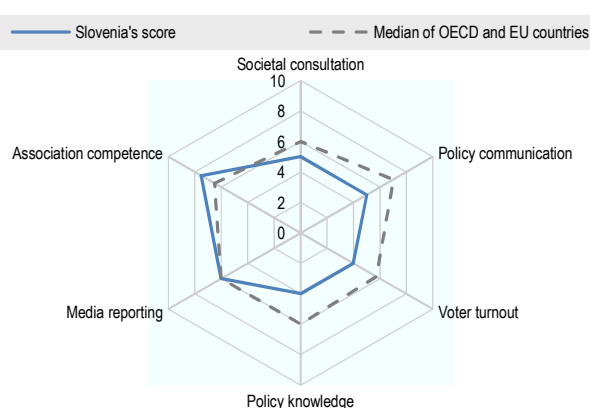
major regulations, officials engage with stakeholders to better understand policy problems and possible solutions (OECD, 2015a). All draft legislation is published online for 30 to 60 days to solicit public review and comment, and ministries must justify their decisions if they do not accept comments (OECD, 2016c). Furthermore, the national government is assisted by advisory councils and *ad hoc* structures such as working groups and consultative groups composed of different stakeholder representatives. The National Council, Slovenia's second chamber of parliament, with representatives of employers, employees, farmers, crafts and trades, independent professions, non-commercial fields and local interests – can comment on proposed legislation (OECD, 2012; Eurofound, 2015).

However, Slovenia's performance in stakeholder engagement is relatively weak by international standards in a number of areas (Figure 46). National experts consider that by comparison with 26 other OECD and EU countries, the extent of the government's consultation with stakeholders is limited. Government communications with the public have sometimes lacked coherence, undermining a shared vision for skills and other policies (BF, 2016a; b). Stakeholders are often consulted only after a decision on policy direction has been made, which limits the influence of their input (OECD, 2012).

Stakeholders may also lack capacity to engage effectively with government (Figure 46). According to national experts, the quality of media analysis of government decisions is comparable with the OECD median, while business and other associations' competence in formulating policy is relatively high (BF, 2016b). However, citizens are generally not very knowledgeable about government policies ("Policy knowledge"). This may partly reflect the fact that adults in Slovenia – about one-third – have low levels of literacy proficiency (Challenge 2). Some participants in National Skills Strategy workshops noted that only a small number of stakeholder groups in Slovenia are professionalised (that is, having a full-time employee), and that smaller groups often lack the time and resources for engagement. Resourcing is indeed an important factor in explaining the types and level of activity undertaken by interest groups (Fink-Hafner et al., 2016; 2015). Voter turnout at the latest election was lower in Slovenia (54%), than in about three-quarters of OECD countries (OECD, 2016c).

Figure 46. Government and citizens are not engaging effectively enough

Scores given by national experts on a scale of 1 (lowest) to 10 (highest), 41 OECD and EU countries



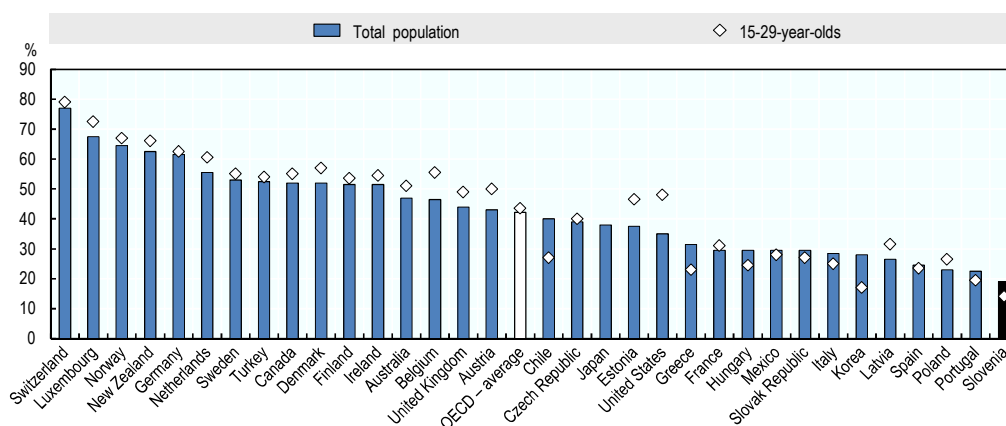
Source: Bertelsmann Foundation (2016a), Sustainable Governance Indicators 2016, www.sgi-network.org/2016.

Although the ESC has been the main mechanism for engagement on major policy issues in Slovenia, it has faced major setbacks in recent years. The social partners in Slovenia signed the latest social agreement in 2015, after six years of contention. However, by the end of 2015, all four employer organisations had withdrawn from the agreement, citing amendments to the minimum wage (Lužar, 2016). Social dialogue is gradually being re-established. The government, trade unions and employer organisations reached a consensus on changes to the ESC in December 2016. These aim to increase the effectiveness of the ESC and the importance of social dialogue in the decision-making process. New rules increase competences of social partners on strategic issues and systemic legislation (EC, 2017).

Low levels of confidence in the national government are impeding effective stakeholder engagement. Slovenians have lower levels of confidence in their national government than citizens of all other OECD countries (Figure 47). This reflects several factors – the economic crisis, frequent changes of governments, controversies and corruption allegations surrounding political leaders, and inadequate public communication about reforms and their impact (BF, 2016b). To help restore confidence, the government has improved the regular co-ordination of ministers on crucial projects and of public relations officers, establishing a single system of communication with the public and harmonisation of state web portals (OECD, 2016c). Low levels of confidence in Slovenia's government not only highlight the challenge ahead for inclusive skills governance, but amplify its importance. Slovenia has undertaken several recent efforts to boost engagement with stakeholders on various issues (Box 23).

Figure 47. Slovenians have low confidence in their national government

Share of people reporting they have confidence in national government by age, average 2014/2015



Source: Gallup World Poll (www.gallup.com) extracted in January 2016.

Box 23. Spotlight on Slovenia: Efforts to boost online engagement with stakeholders

Several online tools have been developed in Slovenia to encourage citizens, businesses and civil society organisations to participate actively in decision-making processes involving public services.

The IT-supported procedure for drafting legislation (ITDL) created standardised software for ministries and agencies, providing the public with easy online access to regulations in the drafting process. This has opened up public debate on regulations for periods of 30 to 60 days.

In 2009, the Government Communication Office launched a portal, predlagam.vladi.si ("I suggest to government.si"), that allows citizens to submit and discuss new ideas in an open forum, and express support for other ideas by voting. Within the first year, the portal had 2 987 registered users, generating 1 201 proposals, 7 021 comments and 11 521 votes; 251 of these proposals were submitted to the competent government agency for review. The government prepared 276 responses to the original 235 proposals. On average, the response time was 23.9 days. In 11 of these cases, the ministry responsible took positive action to resolve the problem.

To reduce the administrative burden, the government has introduced a number of digital solutions to engage businesses. The Stop the Bureaucracy Portal is intended as a single point of contact to accept, consider, adjudicate and publish content related to regulatory burden reduction and better regulation. Through the web portal, users may submit proposals to the relevant authorities to eliminate administrative burdens and simplify procedures. Through the BusinessSOS Portal, business entities can electronically report specific problems they have with concrete procedures. The competent authority is required to prepare and publish an appropriate response within 15 days.

Source: OECD (2016c), *Society at a Glance 2016: OECD Social Indicators*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264261488-en>.

Slovenia also has some innovative examples of effective engagement with stakeholders, providing models for future engagement on skills policies. The National Development Strategy process is one of many examples of the country's ability to encourage public engagement to facilitate forward thinking and planning (Box 24).

Box 24. Spotlight on Slovenia: Preparing the National Development Strategy

The Government of the Republic of Slovenia initiated the process of preparing its National Development Strategy for 2030, guided by the Vision of Slovenia 2050. The Government Office for Development and European Cohesion, with the Office for Macroeconomic Analysis and Development (IMAD) and the Ministry of Finance (MF), began this effort in 2015.

Slovenia has successfully worked on a new, nationally shared Vision of Slovenia 2050. This provides a common reference point for developing a new National Development Strategy 2030, anticipating society's needs, global shifts and international commitments. This vision is now being translated into action. Strategic conversation processes involving whole-of-government and wider stakeholders helped to identify relevant strategic orientations and goals.

Since the project is highly multidisciplinary, the OECD was also brought in for its expertise in the area of strategic foresight, economic analysis and the measurement of well-being. The complex interdisciplinary project, following modern practices of developed countries, was based on an all-inclusive process and active communication with various stakeholders.

The government initially set up an interdepartmental project working group to co-ordinate the nation-wide process of preparing a National Development Strategy with a clear vision for Slovenia's future. The Future Group is comprised of 14 leaders in various fields. Task groups have been advising on the process and the nomination of the participants for public workshops to help draft the basic elements of the Vision of Slovenia 2050. A group of co-ordinators from ministries are working together to prepare the strategy together.

In spring 2016, the project team held a series of events, including an open dialogue with individuals, businesses and organisations on what they wanted for Slovenia by 2050. These were held in Radenci, Postojna, Velenje, Otočec, Bled, Ljubljana, Maribor and Brdo and included more than 360 stakeholders.

This process resulted in the creation of the Vision of Slovenia 2050 and a process report, and has now moved on to a strategic planning phase. The National Development Strategy will provide a new framework for national development, based on the principles of sustainable development and linked to the commitments made in the United Nations' 2030 Agenda for Sustainable Development. Slovenia will implement the 17 Sustainable Development Goals (SDGs) on a national level by incorporating them into National Development Strategy, rather than designing a separate, parallel process.

Source : <http://slovenija2050.si/>

Slovenia has some promising examples of partnerships between stakeholders that are achieving positive skills outcomes. Microsoft has partnered with various education institutions to promote 21st century learning. This has helped transform and modernise teaching practices, improving students' performance (Box 25).

Box 25. Spotlight on Slovenia: Partnership between Microsoft and educational institutions

ITL Research was a multi-year global research programme designed to investigate the factors that promote the transformation of teaching practices and the impact those changes have on students' learning outcomes in a wide range of country contexts. The first instance in Slovenia, involving ITL Research and partners in educational research, was conducted at Zavod Antona Martina Slomška.

The 1:1 pedagogy pilot in Slovenia involved 14 schools, following the principles of ITL Research. The project demonstrated that developing an education agenda for the 21st century involves far more than simply providing students with a low-cost computing device. Central to the success of these projects was a holistic approach bringing together systems architecture, applications, content, training, services and clear definition of outcomes that can be measured and supported by all stakeholders.

Furthermore, the first primary Microsoft Innovative School in Slovenia, the OŠ Dobje primary school, received the Slovenian National Education Institute's prestigious Kumerdej Award, recognising outstanding innovation in education.

Source: *Microsoft*, (2016), <https://education.microsoft.com/GetTrained/ITL-Research>.

As in other OECD countries, Slovenians are demanding greater transparency and accountability from their government. As governments develop new ways to inform and include the public in policy making, it is important to evaluate whether they are effective. The Survey of Engagement in Estonia provides a potential example for Slovenia (Box 26).

Box 26. Estonia's Survey of Engagement

Estonia's Survey of Engagement in Government Agencies made it possible to collect feedback from internal and external stakeholders on consultation and participation in government decision making. The information collected was used to identify areas where improvements or changes to existing processes and practices could be made. One of the key findings is that engagement should start at the concept stage, before policy or legislation is fully developed.

More specifically, the survey found that while engagement practices increased between 2004 and 2010, a greater proportion of stakeholders are consulted at later stages (32% in 2004 and 47% in 2010), when the policy/legislation has been developed and uploaded on to the e-Law system for external consultation. Stakeholders report that although they feel more engaged with and connected to the administration, they do not feel that they have actual influence as a result of this consultation (41.4% of stakeholders reported that the information they provide is "rarely" used – a figure that did not change between 2004 and 2010).

Estonia plans to follow up with a survey of engagement practices in two to three years to monitor results. This will assess the extent to which engagement is effective and embedded in the culture of public administration, and to also determine any increase in the capacity of civil society to engage with the public administration and government. The scope of the survey can also be widened to include the views not only of organised groups, but of citizens.

Source: OECD, (2011a), *Estonia: Towards a Single Government Approach*, *OECD Public Governance Reviews*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264104860-en>.

Evidence-based policy making in Slovenia

Participants in the National Skills Strategy workshops stated that evidence-based policy making, especially the evaluation of skills and other policies, is generally lacking in Slovenia. Regulatory Impact Assessments (RIAs) are obligatory for all primary laws and subsidiary regulations. However, the quality of impact assessments varies, and the analysis is often only qualitative and/or incomplete, with no quality control from independent bodies (OECD, 2015a).

Systematic monitoring and evaluation of policy impact is lacking, for skills and other policies. Primary laws, for example, do not include "sunsetting" clauses forcing their impacts and value to be reviewed, and periodic evaluation is only mandatory for some primary laws (OECD, 2015a). In practice, this means that skills policies in Slovenia, in contrast with those of several other OECD countries, often fail to take full account of the achievement of goals, of actual versus predicted impacts or of unintended consequences. Inclusive and effective governance in Slovenia will require a renewed effort to embed evidence-based policy making and evaluation into policy practice. The capacity of the public sector in this respect should be a major focus of the ongoing public administration reforms.

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CHALLENGE 8: ENABLING BETTER DECISIONS THROUGH IMPROVED SKILLS INFORMATION

Key messages:

- Individuals, firms and countries all lose out when employers do not have the skills they need.
- While Slovenia has relatively low skills mismatches today, keeping them low will become increasingly difficult as digitalisation, technological change and globalisation continue to transform the world of work.
- Effectively assessing, anticipating and disseminating information on changing skills needs can help countries minimise skills mismatches over time.
- Slovenia lacks a comprehensive skills assessment and anticipation (SAA) system.
- While Slovenia is improving its SAA system, it will be important to ensure that information is comprehensive and well disseminated, to maximise its impact.

Stakeholder perspectives:

- Stakeholders participating in skills strategy workshops observed that only limited information on current and future skills needs is readily available.
- They further noted that some valuable skills assessment exercises have been discontinued.
- Career guidance services are perceived to lack good SAA information.
- Many pointed out that Slovenia does not have a user-friendly online “one-stop-shop” for SSA information typical in many high-performing countries.

Recommended areas for action

- Develop a more comprehensive and robust skills assessment and anticipation system.
- Ensure that information about current and future skills is effectively disseminated to different users.

Quality skills information is the foundation of an effective skills system

Effectively assessing, anticipating and disseminating information on changing skills needs can help countries develop the skills that are or will be needed in the world of work. Well-informed individuals can develop more relevant skills in tertiary education (Challenge 1) and during adulthood (Challenge 2). This helps them to find jobs for which they are well matched, securing higher wages and better job satisfaction (OECD, 2016c). Employers, equally, can make better decisions on using the skills of their employees (Challenge 5). High-quality, accessible information on current and anticipated skills needs helps all stakeholders to co-ordinate their efforts and helps policy makers develop and evaluate which skills policies work (Challenge 7). Ongoing changes in the world of work (see Introduction) amplify the importance of systems and tools to assess and anticipate the changing needs for skills in the economy.

Participants in the National Skills Strategy project reported that the skills assessment and anticipation (SAA) information produced in Slovenia is limited. Notwithstanding publicly available national statistics, useful information on current and future skills needs is in short supply. The Public Employment Service of Slovenia (ESS) no longer publishes a comprehensive list of occupations in shortage, as noted by several participants. People are left to rely on other sources, such as career guidance, but the quality of advice is limited by the lack of SAA information. Slovenia does not have the sort of user-friendly online “one-stop-shop” for SAA information that exists in many OECD countries.

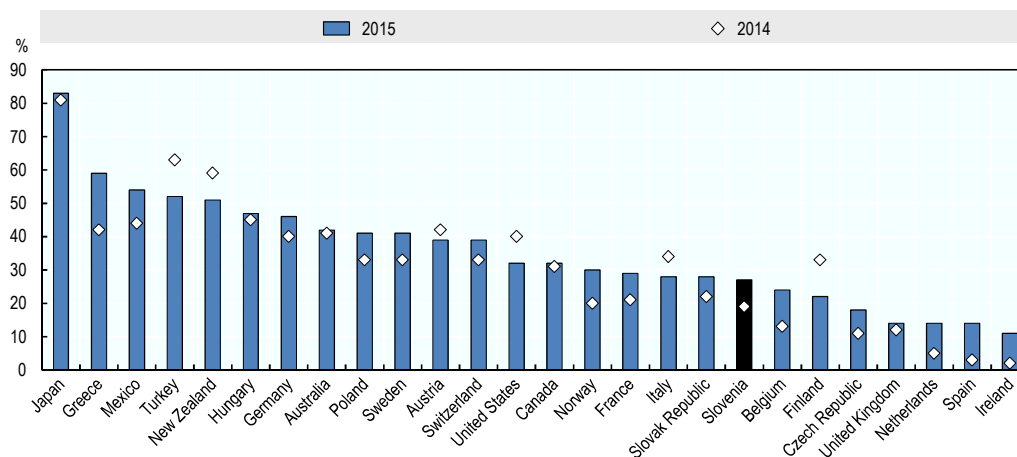
Skills mismatches and shortages in Slovenia

About 27% of employers in Slovenia report difficulties filling jobs, which is relatively low by international standards (Figure 48). According to CEDEFOP, Slovenia has a shortage of health, ICT, and science and engineering professionals (Challenge 1). More generally, Slovenian employers are relatively dissatisfied with the socio-emotional and technical skills of recent university recruits (Challenge 1). Several regions in Slovenia appear to show imbalances between the skills that are available and those that are in demand (Figure 50).

Qualification, skills and field-of-study mismatches are all less common in Slovenia than in most OECD countries (Figure 49, Box 27). As in other countries, field-of-study mismatches are more prevalent than other types of mismatches. However, in Slovenia, the estimated wage penalty for workers who are mismatched by field or literacy skill levels is small and statistically insignificant (OECD, 2016c).

Figure 48. Relatively few businesses in Slovenia report skills shortages

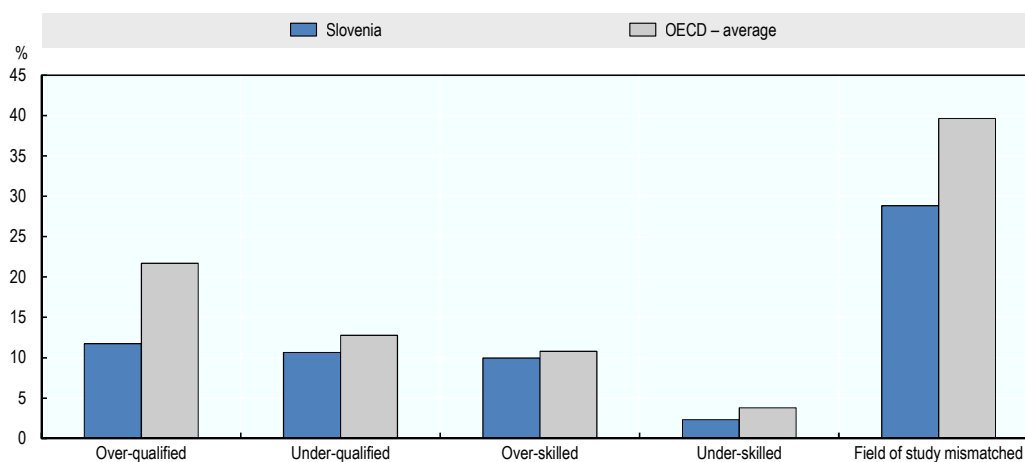
Share of businesses with ten or more employees reporting difficulties filling jobs, 2014-2015



Source: Manpower Group (2015), *2015 Talent Shortage Survey*, www.manpowergroup.com/talent-shortage-2015 (accessed November 2016).

Figure 49. Qualification, literacy and field-of-study mismatch

Share of mismatched workers, by type of mismatch



Source: OECD Survey of Adult Skills (PIAAC) (2012, 2015).

Box 27. Measuring qualification, skills and field-of-study mismatches in the *Survey of Adult Skills*

Qualification mismatch arises when workers have an educational attainment that is higher or lower than that required by their job. If their education level is higher than that required by their job, workers are classified as overqualified; if the opposite is true, they are classified as under-qualified. In the OECD Survey of Adult Skills, workers are asked what the usual qualifications, if any, would be for acquiring their job if they were to apply today. The answer to this question is used as each worker's qualification requirement and compared to their actual qualification, to identify mismatch. While biased by individual perceptions and period or cohort effects, self-reported qualification requirements along these lines have the advantage of being job-specific rather than assuming that all jobs with the same occupational code require the same level of qualification.

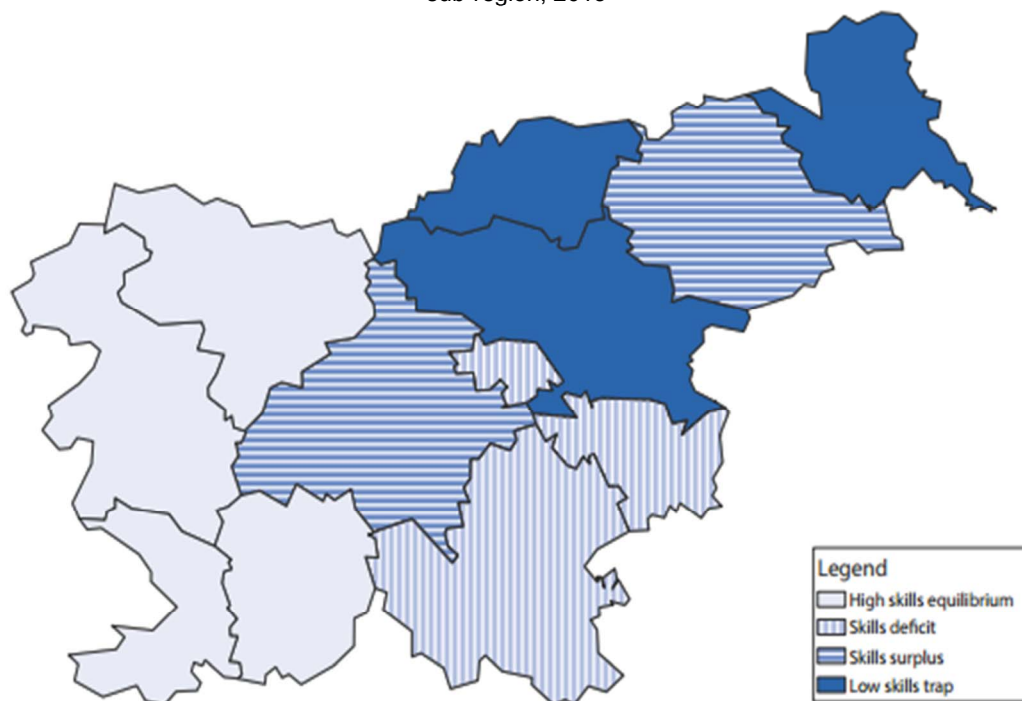
Skills mismatch arises when workers have a level of skills that is higher or lower than that required by their job. If their skill level is higher than required by their job, workers are classified as over-skilled; if the opposite is true, they are classified as under-skilled.

Field-of-study mismatch arises when workers are employed in a field other than what they specialised in. The matching is based on a list of occupations (at 3-digit of the ISCO classification) that are considered an appropriate match for each field of study. Workers who are not employed in an occupation that is considered a good match for their field are counted as mismatched (see OECD, 2016b for further information on the methodology used to calculate mismatches).

Source: OECD (2016b), *Getting Skills Right: Anticipating and Responding to Changing Needs*, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264252073-en>.

Figure 50. Skills supply and demand is imbalanced in some Slovenian regions

Skills supply (percentage of those with post-secondary education) versus skills demand (the percentage of medium- and high-skilled occupations and gross value added per worker), by sub-region, 2013



Source: OECD (2016a), *Job Creation and Local Economic Development 2016*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264261976-en>.

Having relatively low levels of skills shortages or mismatches today is no guarantee that Slovenia will have the skills it needs to prosper in the future. The world of work is undergoing significant transformation from digitalisation, technological change and globalisation (see Introduction). Slovenia is actively seeking to reorient economic activity towards certain high value-added sectors, as outlined in the Smart Specialisation Strategy. The cognitive, socio-emotional and discipline-specific skills that people have today may not be those that are most needed in the future.

Current skills assessment and anticipation activities in Slovenia

Slovenia has two main ongoing skills assessment activities. First, the Public Employment Service of Slovenia (ESS) conducts a representative employer survey every six months. Employers are asked to report expected changes to employee numbers by occupation, potential recruitment difficulties, and skills lacking among employees. This information is used to prepare a short online report, *Employment forecast* (*Napovednik zaposlovanja*), identifying 20 high-demand occupations and 10 common skills gaps (ESS, 2017). Second, the Ministry of Labour, Family and Social Affairs identifies vocational occupations that have shortages as part of the Scholarships Policy (2015-19). This draws on data on educational activity, ESS registrations and labour market data, as well as on the perspectives of social partners and youth (CEDEFOP, 2016).

Unlike most OECD countries, Slovenia relies almost exclusively on employer surveys to assess skills needs (Table 4). While useful, employer surveys are prone to several biases, including employers explaining their recruitment difficulties as shortages, when they in fact reflect unattractive wage offers (Shah and Burke, 2005). As all SAA methods have disadvantages, successful systems make use of a combination of quantitative and qualitative methods (CEDEFOP, 2008; OECD, 2016b).

Furthermore, Slovenia's methods for assessing skills needs lack sectoral or regional coverage (Table 5). National, economy-wide assessments risk overlooking important details (Shah and Burke, 2005), and limit capacity for targeted skills policy responses (OECD, 2016b). For example, while evidence points to an overall shortage of health professionals in Slovenia, this is limited to certain specialities and regions (CEDEFOP, 2016). Finally, Slovenia has no comprehensive and co-ordinated system to anticipate skills needs (CEDEFOP, 2017; Andersen, T. et al., 2010).

Table 4. Slovenia is focused on skills needs at the national level

National, regional and sector levels covered in skills assessment and anticipation systems

	National	Regional as part of the national	Independent regional	Sector as part of the national	Independent sector
Australia	X	X	X	X	X
Austria	X	X		X	
Belgium (Flanders)			X		X
Belgium (Wallonia)			X		X
Canada	X		X		X
Chile			X		X
Czech Republic	X	X		X	
Denmark	X	X		X	X
Estonia	X			X	
Finland	X	X	X	X	X
France	X	X	X	X	X
Germany	X	X		X	X
Greece	X				X
Hungary	X	X			X
Ireland	X	X		X	X
Italy	X	X		X	
Japan	X	X			
Korea	X	X		X	
Netherlands	X	X		X	
Norway	X	X	X	X	X
Poland	X	X			
Portugal	X	X		X	
Slovak Republic	X	X		X	
Slovenia	X	X			
Spain	X	X	X	X	
Sweden	X	X	X	X	X
Switzerland	X				X
Turkey	X	X		X	
United States	X	X	X	X	X

Note: For Slovenia, the results reflect the responses of the Ministry of Labour, one employer organisation and one union confederation.

Source: OECD (2016b), *Getting Skills Right: Anticipating and Responding to Changing Needs*, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264252073-en>.

Table 5. Slovenia relies almost solely on employer surveys to assess skills needs

Methods and tools used in skills assessment and anticipation systems

	Employer surveys	Surveys of workers or graduates	Quantitative forecasting models	Sector studies	Qualitative methods	Labour market information system	Other
Australia	X	X	X	X	X	X	X
Austria	X	X	X	X	X	X	X
Belgium (Flanders)		X	X	X	X	X	
Belgium (Wallonia)				X	X	X	X
Canada	X	X	X	X	X	X	X
Chile	X			X	X	X	
Czech Republic			X	X			
Denmark	X	X	X	X	X		
Estonia			X				
Finland	X		X		X	X	
France	X	X	X	X	X	X	
Germany	X	X	X	X	X	X	X
Greece	X			X		X	
Hungary	X				X		
Ireland			X	X		X	
Italy	X	X	X	X			
Japan	X	X		X		X	X
Korea	X	X		X	X	X	
Netherlands	X		X	X	X	X	
Norway	X	X	X	X	X	X	X
Poland		X				X	
Portugal	X	X		X	X	X	
Slovak Republic						X	
Slovenia	X						X
Spain		X		X	X	X	
Sweden	X	X	X	X	X	X	
Switzerland							
Turkey	X	X		X	X	X	
United States		X	X		X	X	X

Note: For Slovenia, the results reflect the responses of the Ministry of Labour, one employer organisation and one union confederation.

Source: OECD (2016b), *Getting Skills Right: Anticipating and Responding to Changing Needs*, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264252073-en>.

A number of international and private organisations assess and anticipate skills needs in Slovenia and other countries (Box 28). The standardised methodologies and definitions used by these initiatives allow Slovenia's skills needs to be compared internationally. However, these efforts typically provide information at a high level of aggregation, sometimes overlooking differences between regions, occupations or sectors.

Box 28. Skills assessment and anticipation: examples of international exercises

Talent Shortage Survey (Manpower): ManpowerGroup surveyed more than 41 700 hiring managers in 42 countries to identify the proportion of employers having difficulty filling positions, which jobs are difficult to fill, and why. Based on this, the top ten jobs employers in Slovenia are having difficulty filling are Skilled Trades, Labourers, Engineers, Drivers, Sales Representatives, IT Personnel, Doctors and other Non-Nursing Health Professionals, Technicians, Restaurants and Hotel Staff and Sales Managers (Manpower, 2015). Employers were also asked about the impact talent shortages have on their organisations and what steps they are taking to address them. The survey is conducted on an annual basis.

Skill supply and demand forecasts (CEDEFOP): CEDEFOP skill supply and demand forecasts provide comprehensive information on future labour market trends in Europe. Forecasts provide a concise outlook on employment trends for sectors, major occupational groups and qualifications. They also show labour force trends for age groups and qualifications up to 2025. The forecasts act as an early warning mechanism to help alleviate potential labour market imbalances and support different labour market actors in making informed decisions.

European Skills and Jobs (ESJ) survey (CEDEFOP): The CEDEFOP ESJ survey is a state-of-the-art survey of adult employees (aged 24-65) in all 28 member states of the European Union, collecting information on the match of the skills of EU workers with the skill needs of their jobs. The survey was carried out using quota sampling by the survey company Ipsos and network partners in the EU-28 member states between 7 March and 26 June 2014. In total, 48 676 respondents from different demographic groups took part, either by telephone (9 154 employees) or online (39 522 employees). The survey asked respondents a series of questions designed to assess the extent to which skills are seen to be important and also the extent to which their skills (as a whole, but also focused on 11 specific skills, including foundation, technical and generic skills) are at the level needed to do their job. The key contribution of the new survey is that it takes a longitudinal perspective, with some of these questions asked several times, referring to different time periods, enabling the dynamic analysis of skill mismatch of EU employees.

Sources:

Manpower (2015), 2015 *Talent Shortage Survey*, www.manpowergroup.com/talent-shortage-2015 (accessed November 2016),

CEDEFOP (2015a), “Forecasting skill demand and supply, 2013-2025”, www.cedefop.europa.eu/en/events-and-projects/projects/forecasting-skill-demand-and-supply,

CEDEFOP (2014), *European Skills and Jobs Survey (ESJS)*, European Centre for the Development of Vocational Training (database), www.cedefop.europa.eu/en/events-and-projects/projects/european-skills-and-jobs-esj-survey.

Reliable information on skills needs can strengthen learning and career choices. Slovenia has a rich network of career guidance services in schools, university career centres, the ESS and businesses (Euroguidance, 2015). It also has a comprehensive electronic platform providing details on formal and non-formal learning opportunity for adults (<http://pregled.acs.si/>). In 2013/14, the platform included more than 200 providers and 4 000 adult education programmes, including all officially recognised programmes (EC, 2015). A high-quality SAA information system would help improve Slovenia's career guidance and learning information systems.

Improving skills assessment and anticipation in Slovenia

The ESS is developing new forecasting methods with European Social Fund funding (2016-2022) to better match labour demand and supply. This includes assessing the skills of those in the labour force and employers' skills demands. This new "matching engine" is expected to allow more efficient placement in ESS services and improve skills forecasting (CEDEFOP, 2017). Furthermore, Slovenia's Records and Analytical Information system (eVŠ) will be upgraded to collect and monitor data on the employment outcomes of graduates, providing new evidence on labour market needs in Slovenia (government of Slovenia, 2015). The Career Platform for Employees was a pilot project including many elements of SAA (Box 29).

Box 29. Spotlight on Slovenia: Career platform for employees

(Pilot project ran from 1 January 2015 to 30 November 2015)

The project Career Development Platform sought to fill a gap in long-term skills forecasting, and help employers and their staff identify and respond to skills gaps. It involved substantive input from business representatives, government ministries and agencies, academics and others, to cover three main areas:

1. Long-term forecasting

A long-term (5 to 7 years) skills forecasting model was established, including different types of skills and knowledge (e.g. technical, technological, business, etc.). The aim was to help ensure each sector and company had the skills it needs, and facilitate more effective human resource development in businesses.

2. New initiative on career guidance

A model long-term career plan for individuals was developed that supports individuals and their employers to identify and address gaps in skills, taking into account the forecasts of the necessary skills over 5 to 7 years. The individual career plan is supported by a wide range of tools that help individuals in terms of career management and identification of future skills gaps.

3. Development of skills

Based on the long-term forecast of skills needs and gaps, it is important to ensure the timely development of new education and training programmes, the modernisation of overall education/training, including advanced knowledge. Given the fact that it is a long-term forecasting of skills requirements, the present model provides information to adapt the existing system of education, from primary school to university.

The overall platform facilitates the timely hiring and training of employees in accordance with developments in manufacturing technologies, changing business processes and models, and new applications of ICT. The pilot project was fully developed and tested in the field of electronic and electrical engineering. The model was also successfully transferred to machine manufacturing and metal industries, and glassmaking. Several ministries have been discussing the potential extension of the pilot project to other sectors.

Slovenia requires a robust skills information system that draws upon the strengths of multiple approaches and provides assessments over different time periods and greater geographic and occupational granularity (Tables 6 and 7).

Table 6. A broad approach to SAA helps overcome methodological limits

Advantages and disadvantages of skills anticipations methods and tools

Approach	Advantages	Disadvantages
Forecast-based projections and quantitative models at the national level	Comprehensive (typically, covers all sectors), consistent, transparent and explicit	Data demanding, costly; not everything is quantifiable and may give a false impression of precision/ certainty
Surveys of employers asking about skill deficiencies and skill gaps	Direct "user/ customer" involvement. Easy to set up and carry out	May be very subjective and inconsistent, with too much focus on marginal and ephemeral situations
Focus groups/round tables, Delphi style methods, scenario development	Holistic (considers a broader range of factors than just economic) Direct "use/customer" involvement	Can be non-systematic, inconsistent, and/or subjective
Sectoral/ occupational / regional studies and /or observatories (using both quantitative & qualitative evidence)	Holistic (for the sector). Partial (ignores other sectors). Strong on sector and other specific labour market dynamics	May introduce inconsistency across sectors

Source: Adapted from Wilson et al. (2004) in OECD (2016b), *Getting Skills Right: Anticipating and Responding to Changing Needs*, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264252073-en>

Table 7. Effective SAA systems cover all time horizons

Skills assessment, forecast and foresight exercises

Exercise	Use	Time frame
Skills assessment	Informs about current imbalances, short-term skills needs, shortages and mismatches within job-matching activities aimed at bringing current supply and demand of skills better in line in the labour market	Current/ short-term
Skills forecast	Given projections about growth by industry, occupations and regions, informs about future skills requirements, shortages and likely mismatches. Usually based on quantitative estimates it can complement these projections with qualitative information. Forecast results are meant to provide general indications about future trends in skill supply and demand in the labour market.	Future/ medium to long-term
Skills foresight	Provides a framework for stakeholders concerned with skills-related issues to jointly think about the future in a structured and constructive way aiming at identifying resources, their uses as well as limitations and bottlenecks for all the stakeholders involved. Foresight promotes the development of a policy vision and its translation into policy action by mobilizing stakeholders to participate in the process through common vision-building and priority-setting processes.	Future/ long-term

Source: OECD (2016b), *Getting Skills Right: Anticipating and Responding to Changing Needs*, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264252073-en>

A more detailed approach to SAA could involve assessing the knowledge and skills required for specific occupations (Box 30).

Box 30. Anticipating future skills needs in Canada and New Zealand**Canadian Occupational Projection System**

Employment and Social Development Canada (ESDC) uses the models of the Canadian Occupational Projection System (COPS) and the National Occupational Classification to develop projections of future trends in the numbers of job openings and job seekers by occupation at the national level. The projections make it possible to identify occupations that may face labour shortage or labour surplus conditions in the medium term. Such projections help the government design immediate policy intervention (e.g. identify migration opportunities or develop short-term worker training schemes) as well as long-term policy orientations (e.g. develop apprenticeship programmes in certain fields). The latest projections span the 2015 to 2024 period.

Projections were developed for 283 occupational groupings that cover the entire labour force. Users can search for summaries of projection results by occupation or industry; detailed projection results by occupation or industry, including information on the factors that are expected to influence occupational labour markets, such as demographics, labour force participation rates by age group and level of education; and synthesis documents covering the major components of the projections, i.e. the economic scenario, the industrial breakdown of economic activity, job openings by occupation, job seekers by occupation and projected labour market conditions by occupation.

This information is available from both the COPS website or from the Job Bank, a one-stop portal for job search and learning and labour market information. Job Bank provides an interactive experience for users, tailoring the information to users' interests. Additionally, through a modernised Job Bank, the enhanced Job Match service of Job Bank for Employers strengthens the role that Job Bank plays in providing detailed and timely labour market information.

New Zealand

The Ministry of Business, Innovation and Employment presents yearly employment forecasts by industries, broad occupational and skill groups, based on a Computable General Equilibrium model developed by Business and Economic Research Ltd. The latest report includes employment forecasts until 2024. The employment projections are guided by the macroeconomic outlook from the New Zealand Institute of Economic Research's Consensus Forecasts, covering exports, imports and consumption growth for the 2016-19 period. The projection for the long term (2019 to 2024) is informed by longer-term regional and trading partner economic growth projections made by international agencies. These forecasts offer ministries medium- and long-term policy advice on immigration policy settings and priority setting for tertiary education and industry training.

Sources:

Employment and Social Development Canada,

<http://occupations.esdc.gc.ca/sppc-cops/w.2lc.4m.2@-eng.jsp>.

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<http://www.oecd.org/skills/nationalskillsstrategies/buildingeffectiveskillsstrategiesatnationalandlocallevels.htm>.

OECD, (2016b), *Getting Skills Right: Anticipating and Responding to Changing Needs*, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264252073-en>

Ministry of Business, Innovation and Employment (2015), *“Medium to long-term employment outlook: looking ahead to 2024”*, Ministry of Business, Innovation and Employment, www.mbie.govt.nz/info-services/employment-skills/labour-market-reports/forecasting/medium-long-term-employment-forecasts/looking-ahead-to-2024.

Finally, disseminating skills assessment and anticipation information in a user-friendly format will be integral to the success of a more comprehensive SAA system in Slovenia. Participants in the National Skills Strategy workshops claimed that current information on skills needs in Slovenia is typically limited to short online documents or more complex datasets. This may be sufficient for policy makers but not for the diverse needs of the others in the skills system. Many high-performing countries have created online portals to disseminate high-quality information on skills needs (Box 31).

Box 31. Examples of labour market information tools in Finland, Canada and other OECD countries

Finland ForeAmmatti

ForeAmmatti (www.foreammatti.fi) is an online web portal where jobseekers can find up-to-date information on the number of open vacancies per profession, where those jobs are located, what skills employers demand and how intense the competition is today and will be in the future. There is labour information on around 200 professions regionally, the number of vacancies in the past 12 months, average salary in the profession, the number of unemployed per profession per region and also a forecast of the labour market situation (currently up to 2017). It also shows the number of unemployed per profession.

Canada Job Bank

The Canadian job bank website (www.jobbank.gc.ca) is administered by the government of Canada and provides information in French and English on jobs, career paths, employer resources and job market trends, nationally as well as provincially. The homepage interface provides a search function to look for jobs in specific locations, functions to set up job alerts, analysis of top advertised jobs and job search safety tips. Employers and job seekers can create a personal account that keeps track of their postings or searches. Career paths can be explored according to occupation, education programme, wages, outlook and skills. The job market trends are updated constantly with news feeds.

Other OECD countries

Examples of good practice include:

- Italy: Eduscopio (<https://eduscopio.it/>)
- UK: Skills Route (www.skillsroute.com/)
- US: Pathsource and Uvisor(www.pathsource.com/start) and (www.uvisor.com/)
- North America: Career Cruising in North America (<https://public.careercruising.com/en/>)

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CHALLENGE 9: FINANCING AND TAXING SKILLS EQUITABLY AND EFFICIENTLY

Key messages

- How and to what level skills are financed has a major role in ensuring access to learning as well as high-quality and efficient skills outcomes.
- Overall, Slovenia spends less on education per student, and as a share of national wealth, than the OECD average. Vocational students in particular are disadvantaged by relatively low funding at the upper secondary and tertiary levels.
- Public debt and population ageing will make financing skills more challenging.
- The financial returns to tertiary education in Slovenia are among the highest in the OECD for individuals and government.
- Yet individuals in Slovenia contribute less to their tertiary education than in three-quarters of OECD countries. Full-time students pay no tuition fees.
- Individuals and firms all have a role in financing skills development.
- Financial support for adult education appears to be insufficient and constraining lifelong learning, including for low-skilled adults (Challenge 2).

Stakeholder perspectives

- During National Skills Strategy workshops, participants noted the challenge of sustainably funding higher education, and questioned whether students and taxpayers are getting a good return on their investment.
- Participants questioned whether financial incentives for adult learning were effective in encouraging participation.
- They also raised concerns about the effects of taxes on incentives to work, and affirmed the importance of the tax system in supporting skills development and labour market outcomes for vulnerable groups (see Challenge 3).

Recommended areas for action

- Ensure that vocational education at all levels receives the financial support needed to help students develop strong general and technical skills.
- Identify financial support that effectively encourages firms and adults to invest in skills, especially for low-skilled adults.

How skills are financed has a major bearing on skills outcomes

How and to what level skills are financed has a major role in ensuring access, quality and efficiency of skills outcomes. The shared role of individuals, employers and the government sector in financing skills investments has received growing recognition, given that they are all beneficiaries of investments in skills. OECD countries face the challenge of maximising the effectiveness and efficiency of public investment, while ensuring that private actors also have incentives to invest in skills. Government spending on skills is best targeted at those who need it most, for skills development that meets individuals' and/or society's needs, and that would not occur without public funding.

In Slovenia, large returns to higher levels of education suggest that demand for skills in the economy will continue to be strong, and that further investments in skills will prove valuable. However, like many OECD countries, Slovenia faces budgetary pressures and the ageing of its population. This means that public financing of skills investments needs to take into account how governments, individuals and employers can share the costs and returns of skills investments (Table 8).

The tax system can also affect the returns to skills for students and governments. Skills investments generate their highest financial returns for individuals and governments when individuals are working to their full potential in the labour market. Taxes can influence the returns for skills and, by extension, the extent to which employers are willing to hire and workers are willing to supply their skills (Challenge 3).

Table 8. Various actors share the financial costs and benefits of skills investments

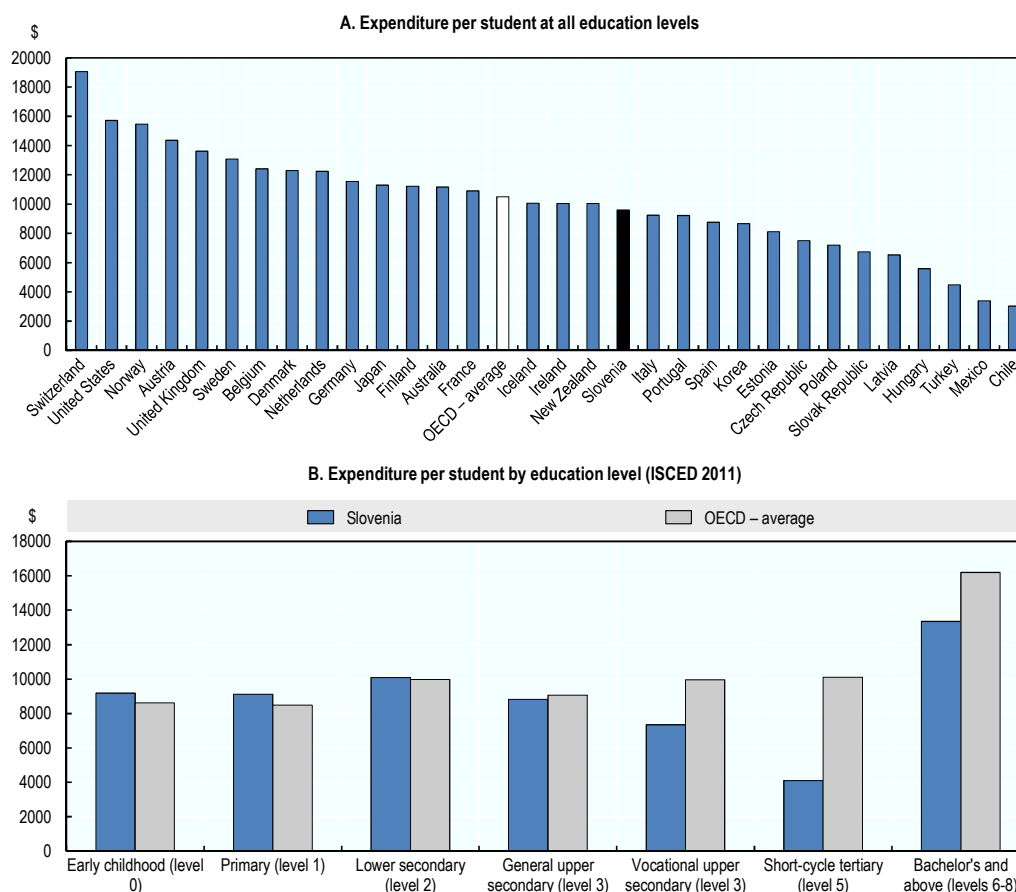
	Government	Individuals	Firms
Costs	<ul style="list-style-type: none"> • Foregone taxes • Education spending • Costs of scholarships and grants to students • Cost of skills tax expenditures for individuals and businesses 	<ul style="list-style-type: none"> • Foregone after-tax earnings during education • Direct costs such as fees 	<ul style="list-style-type: none"> • Payments into training funds • Direct costs such as fees • Reduced employee work time during training
Benefits	<ul style="list-style-type: none"> • Higher taxes after education • Reduced spending on social benefits, including unemployment benefits • Higher economic growth 	<ul style="list-style-type: none"> • Higher after-tax wages • Better employment prospects • Better Social and Health Outcomes 	<ul style="list-style-type: none"> • More productive workforce and higher profits • Potentially reduced social and health expenditure

Overview of skills expenditure in Slovenia

Overall, Slovenia is spending less on education per student than the OECD average (Figure 51, Panel A). Per-student expenditure is relatively high at lower levels of education and relatively low at higher levels of education (particularly vocational upper secondary and short-cycle tertiary as noted in Challenge 1) (Figure 51, Panel B). Slovenia has partially reallocated funding towards tertiary education in recent years. Spending per student in 2013 is lower in primary and secondary education, and higher in tertiary education, than in 2008 (OECD, 2016b). In comparison, across the OECD and EU-22 on average, spending per student in 2013 is higher for all levels of education than in 2008.

Figure 51. Slovenia spends less per student than the OECD average

Annual expenditure per student by educational institutions for all services, in equivalent USD converted using PPPs for GDP, based on full-time equivalents, by public and private institutions in Slovenia, 2013

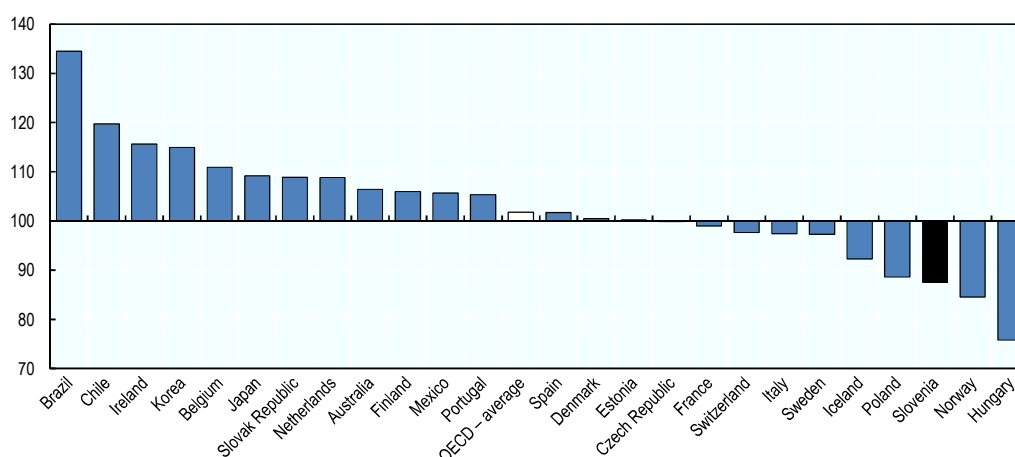


Source: OECD calculations based on data from OECD (2017c).

Spending as a share of GDP is also below the OECD average, and a comparatively small share comes from private sources (for example in the form of tuition fees). Furthermore, in contrast with most other OECD countries, the share of GDP that is spent on education has declined since 2005 (Figure 52). This reflects lower spending at all levels of education, but particularly at the primary and secondary levels.

Figure 52. The share of national wealth Slovenia spends on developing skills has fallen

Changes in public education expenditure as share of GDP
(2005 = 100, 2013 constant prices)



Source: OECD (2016a), *Education at a Glance 2016: OECD Indicators*, <http://dx.doi.org/10.1787/eag-2016-en>.

Financing tertiary education in Slovenia

How tertiary education is financed will help determine the extent to which students are equipped with the right skills for work and life. The financing mix in tertiary education influences the equity of access and quality of student outcomes.

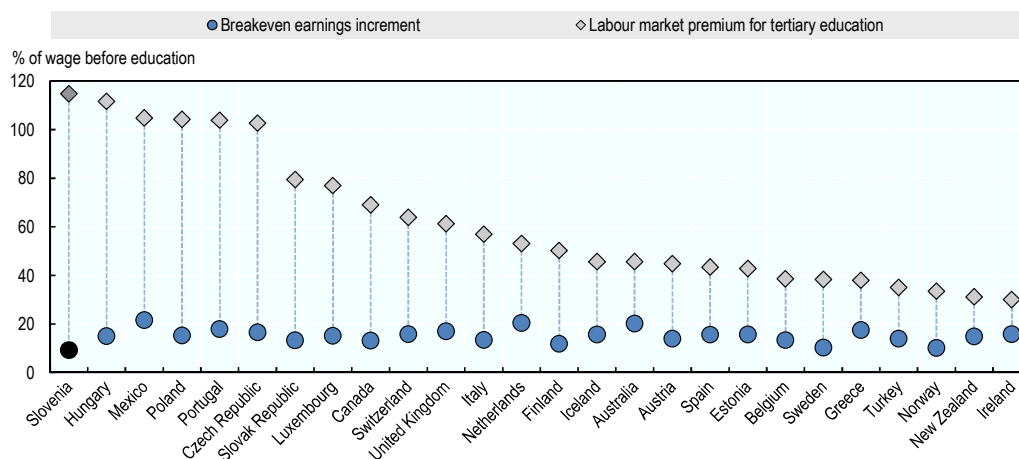
There are no tuition fees for full-time tertiary students in Slovenia. The absence of tuition fees may reduce students' incentives to choose fields of study that yield higher financial returns, both for them and for government. A variety of student scholarships – for the disadvantaged, talented and diaspora, and programmes related to occupations in shortage – help cover students' living and other costs. Overall, 20% of Slovenian tertiary students receive need-based scholarships and 4% receive merit-based scholarships. The size of these scholarships (typically EUR 800-4 000) is high by regional standards (EC et al., 2016). A relatively small share of Slovenian tertiary students report the need to work to fund their living costs (Hauschildt et al., 2016), but 80% of those who do find work.

Slovenian students not only face low costs for tertiary education, they also enjoy among the highest earnings premiums in the OECD. A typical student in Slovenia needs only a small rise in earnings after education to break even – recovering the direct costs, forgone earnings and future income taxes associated with tertiary education. In practice, Slovenian students typically recover their education costs by a larger amount than in any

other OECD country (Figure 53). This suggests that they have capacity to bear a greater share of the costs of tertiary education.

Figure 53. Slovenian students receive a substantial return to tertiary education

Earnings increment necessary to break even on a tertiary skills investment compared to the labour market premium for tertiary education



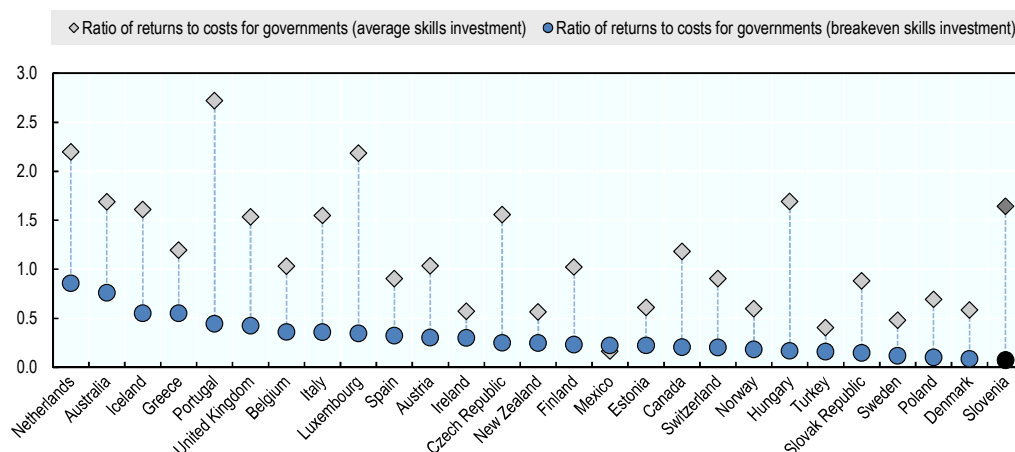
Note: Data are for a 17-year-old single taxpayer with no children, who undertakes a four-year course of non-job-related education, earning 25% of the average wage during schooling. This figure shows results that incorporate tax deductions for direct costs, tax exemptions for scholarship income, and reduced taxes on student wage income. Tax incentives in the personal income tax system are incorporated, but not the social security contribution system. They do not incorporate skills tax expenditures that subsidise parental spending on education or that subsidise firm spending on education. Labour market data are based on the tertiary education premium earned by 15-64-year-olds.

Source: OECD (2017b), "Taxation and Skills", *OECD Tax Policy Studies*, No. 24, OECD Publishing, Paris.

The government typically recoups the costs of educating tertiary students many times over through increased income tax revenue. This reflects the substantial wage premiums for tertiary-educated workers in Slovenia, as well as the relatively high labour income tax burden (see Chapter 3). For a typical tertiary student in Slovenia, the government can expect that for each EUR 1 it spends on a student's education, it would receive about EUR 1.65 in income tax revenue (Figure 54). The returns will be lower if labour market conditions dampen employment growth (see Challenge 3) or if graduates emigrate in search of better working conditions (see Challenge 4).

Figure 54. Tertiary education generates large financial returns for the government

The ratio of expected future income tax revenues to the government's costs of education



Note: Data are for a 17-year-old single taxpayer with no children, who undertakes a four-year course of non-job-related education, earning 25% of the average wage during schooling. This figure shows results that incorporate tax deductions for direct costs, tax exemptions for scholarship income, and reduced taxes on student wage income. Tax incentives in the personal income tax system are incorporated, but not the social security contribution system. They do not incorporate STEs that subsidise parental spending on education or that subsidise firm spending on education. Labour market data are based on the tertiary education premium earned by 15-64-year-olds.

Source: OECD (2017b), "Taxation and Skills", *OECD Tax Policy Studies*, No. 24, OECD Publishing, Paris.

Funding of tertiary education in Slovenia is low by international and historical benchmarks (Figures 51, 52). To the extent that funding pressures limit investments in the quality of Slovenian tertiary education, these pressures could undermine Slovenia's capacity to equip students with skills for work and life, attract highly skilled foreign students and spur innovation. In Slovenia, funding per student is less than half the OECD average for short-cycle tertiary (vocational) education (Figure 51, Panel B), two-year programmes leading to diplomas that accounted for over 10 500 students in 2016/17. This risks perpetuating the skills deficiencies and disadvantages in Slovenian vocational upper secondary programmes for students who continue to higher vocational education (Challenge 1).

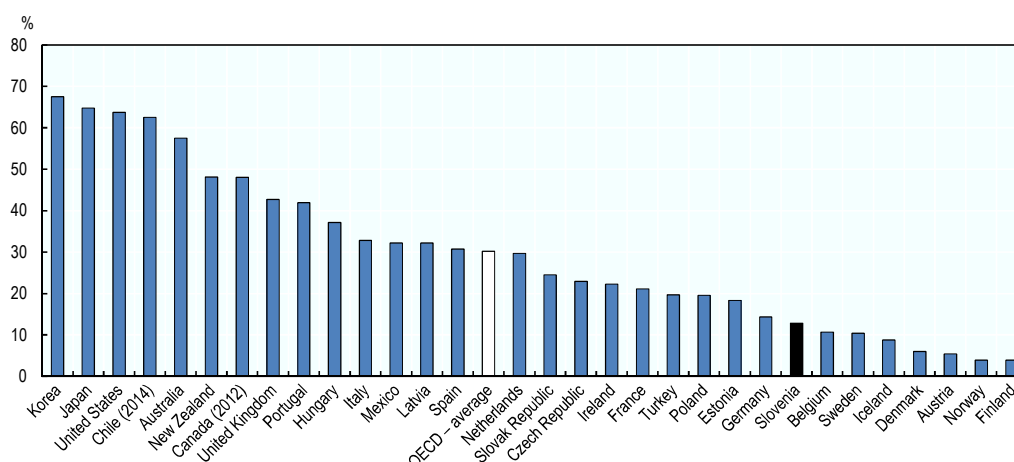
Securing further public financing is a challenge for Slovenia. While improving in 2016, the government budget remains in deficit (1.8% of gross domestic product, or GDP) and public debt is elevated (79.7% of GDP) (SURS, 2017). Moreover, Slovenia's tax-to-GDP ratio is also above the OECD average. This suggests that it may be difficult to finance further public expenditure on education through either tax increases or deficit spending. While the Slovenian government currently earns relatively high returns on funding tertiary education, these may decrease should the emigration of tertiary graduates continue to increase.

As noted earlier, tertiary-educated workers in Slovenia have among the highest earnings premiums over their upper secondary educated counterparts in the OECD. Yet Slovenians bear less of the cost of tertiary education than in about three-quarters of OECD countries (Figure 55). Indeed, full-time students pay no tuition fees. Introducing modest tuition fees in Slovenian higher education is one option for ensuring the long-term financial

sustainability and continuous improvement of the sector. This could be done without negatively impacting participation or access to higher education for disadvantaged students. Expanding needs-based scholarships and/or introducing an income-contingent loan scheme would ensure that fees do not reduce participation, including by disadvantaged youth. Income-contingent loans allow students to contribute to the cost of their education once they have graduated and are earning sufficient income. This facilitates higher private funding for tertiary education – through tuition payments – while protecting access for the disadvantaged (Box 32).

Figure 55. Individuals bear a small share of tertiary education costs in Slovenia

Share of private expenditure on tertiary educational institutions, 2013



Source: OECD (2016a), *Education at a Glance 2016: OECD Indicators*, <http://dx.doi.org/10.1787/eag-2016-en>.

Box 32. The Australian System of Income-Contingent Loans

Income-contingent loans are available to Australian students enrolling in eligible university courses. Repayments are connected to a graduate's ability to pay, rather than to the amount of the loan or its age. If graduates lose their job or take time out from work, no repayments are required if their income is below the repayment threshold.

Source: OECD (2017b), *"Taxation and Skills"*, OECD Tax Policy Studies, No. 24, OECD Publishing, Paris.

Tuition fees could also improve time-to-completion, if it raises the costs to students of failing to complete on time. They could also induce students to choose degrees where the economic returns are highest (Challenge 1). Of course, the effectiveness of this policy is conditional on providing financial support for students, so that student work does not interfere with study. This will require a careful and gradual calibration of fees, scholarship generosity, coverage, and tax support for student work.

Financing adult learning in Slovenia

Due to rapid technological change, globalisation and longer life expectancy, increasing numbers of workers face the challenge of keeping their skills up to date. Low-skilled adults, in particular, need effective support to build their skill levels in workplaces and adult education so as not to be left behind (Challenge 2). However, across the OECD, adult learning often receives less financing than traditional primary, secondary and tertiary education, and financing is often uneven across groups of adults and economic sectors. This is of particular concern given that individuals and firms often lack the incentives and/or capacity to invest in the forms and quantity of adult education that would most benefit the economy and society as a whole (Box 33).

Box 33. Market Failure in Adult Education

Financing markets for adult skills may not deliver the right combination of skills for the economy as a whole. These markets can break down for a variety of reasons.

Highly skilled workers may be poached by other firms after their employer has invested in their training, leaving firms reluctant to invest in human capital.

Second, small and medium enterprises (SMEs) and the self-employed may not invest in formal training to the most efficient extent, due to the high sunk costs involved in training and the potential difficulties in replacing workers during training absences. This can mean that skills investments during adulthood may be less than is socially optimal (Müller and Behringer, 2012; Stone et al., 2008).

Third, biases may exist in the choices of training. The literature suggests that those with low skills are less likely to be trained by their employers (Hansson, 2008), and that women and older workers are also less likely to receive employer training (Bassanini et al., 2007). Women and less well-educated workers are more likely to self-finance their own training.

Fourth, firms and individuals may not internalise the positive spill-overs that more skilled workers may have on the rest of society.

Fifth, credit constraints may exist with respect to skills investments, which may mean that borrowing for human capital investments is not available to the extent that it is for physical capital investments.

Source: OECD (2017b), “Taxation and Skills”, *OECD Tax Policy Studies*, No. 24, OECD Publishing, Paris.

In Slovenia, the government provides some public support for adult learning programmes. As noted in Challenge 2, total public funding for adult education in 2016 was EUR 62 million, which would equate to approximately EUR 150 per low-skilled adult. Expenditure from private sources was significantly higher, estimated at EUR 177 million. While public funding is assured for second-chance secondary education, participation is low. Tender-based funding of other adult education programmes in Slovenia has been discontinuous across regions and over time.

While public funding for adult learning is also available through corporate tax deductions and active labour market programs (ALMPs), the levels of this funding are modest. Employers can write off expenses on training against their tax liabilities. Indeed, Slovenian employees are highly reliant on employers to fund their training (see Challenge 2). However, the size of these deductions is relatively modest. Also, there are many reasons why firms may under-utilise tax support for training, especially for low-skilled, older and temporary workers (Bassanini et al., 2007). Unemployed adults also receive funding for adult learning through active labour market programs. However, Slovenia's investments in ALMPs are relatively low (see Challenge 3).

Furthermore, Slovenia is unusual among OECD countries in that it does not provide significant support to adult skills investment through the personal income tax system. Many OECD countries provide a tax deduction or a tax credit for investment in adult learning for skills investments (Table 2). While Slovenia provides tax support for skills investments at the tertiary level, through reduced taxation of student income and tax relief on scholarship income, no tax support is provided for adults in the personal income tax system. This means that the tax system favours firm-specific skills over general skills (Hidalgo et al., 2014), which may in turn reduce the labour market flexibility of workers and overall productivity in Slovenia.

Table 9. Slovenia does not provide tax incentives to individuals to invest in adult learning

	Tax allowance for direct skills costs	Tax credit for direct skills costs	Student debt relief	Scholarship income tax relief
Provision exists in Slovenia	No	No	No	Yes
Number of OECD countries with provision	21	7	5	28

Source: OECD (2017b), "Taxation and Skills", *OECD Tax Policy Studies*, No. 24, OECD Publishing, Paris.

In summary, many adults are not likely to benefit from the current financing mix for adult learning in Slovenia. Labour market programmes help the registered unemployed, but funding is modest, while tax support for firm-sponsored training primarily benefits workers in larger firms. Low-skilled workers (Challenge 2), self-employed workers, individuals not in the labour force, individuals seeking to change jobs, and those working in SMEs would all benefit from increased access to financial support for adult skills investments. Consideration needs to be given to whether funding for adult learning in non-formal programmes, including those delivered by enterprises, is sufficient. Overall, the financing system for adult learning could be made more comprehensive.

At the firm level, options could include payback clauses, sectoral training funds, social security contribution reductions, train-or-pay schemes, and expanded corporate tax deductions for training. A wide variety of programmes exist across the OECD (European Commission, 2015; Torres, 2012; CEDEFOP, 2008). Some examples include:

- In the Netherlands, **sectoral training funds** financed by a contribution levied on payrolls are used to support adult training. Because these funds exist at the sectoral level, concerns about poaching are less salient for firms; they know they are contributing to the overall skill levels of the labour pool in their sector. It should be noted that these funds may vary in quality and also may not provide individuals with general skills that are needed across the economy.
- Also in the Netherlands, some sectors have experimented with **payback clauses**. A firm finances a worker's training on the condition the worker reimburses the firm if the worker leaves before a certain period. While this insures the firm against poaching, it may also reduce labour market flexibility.
- In Spain, employers who take on and train young people with low skills (even outside the apprenticeship system) are provided with an **employers' social security contribution exemption** for 6 to 24 months. While this can be effective improving employment outcomes for the low-skilled, it may reinforce labour market duality if young workers are retained at the end of training periods.
- In Japan, where SMEs pay employee training costs above a certain limit of their total labour costs, they can claim 8% to 12% in a **tax credit for employee training costs** against their corporate income tax. This targeted support for SMEs may help address the fact that SMEs can face start-up costs in establishing training programmes (e.g. researching a programme, designing a curriculum, searching for a training provider, etc.). However, targeted SME-focused measures can also provide disincentives for SMEs to grow and take on extra workers (OECD, 2015).

In all cases, firm-sponsored training provides an important component of the skills mix from the perspective of both cost and relevance. Ensuring business involvement in training allows them to share in the costs of training, given that they also share in the returns. Moreover, industry involvement in training may ensure the relevance of the training curricula for firms and may thus make training more useful and effective.

At the individual level, options that have been pursued have included tax deductions, refundable or non-refundable tax credits, training vouchers, individual learning accounts, and income-contingent loans. Addressing market failures through individual learning accounts or through sectoral training funds can be costly, but these policies can be designed so that firms and individuals do not underinvest in skills.

- Many OECD countries allow for a **tax deduction for skills expenses**. While these tax deductions have been found to have positive impact on training participation, they are regressive, offering greater benefits to those with higher incomes (Leuven and Oosterbeek, 2006).
- The United States offers **tax credits for adult training** under the Lifetime Learning Tax Credit programme. This credit is not refundable, and is phased out above a certain income level. Relative to tax deductions, tax credits have the advantage of providing the same benefits to those on higher and lower incomes. Refundable tax credits also provide benefits to those who do not have tax liability. Turner (2012) finds that while US tax credits do have a positive impact on skills outcomes, some of the tax credits are captured by universities through tuition increases, which makes university less affordable for students. A competitive market for training providers should address these issues.
- Some OECD countries have experimented with **individual learning accounts**, savings accounts that can be opened by individuals for the purpose of funding future learning activities. They are often tax-sheltered. They can provide incentives for individuals and others such as businesses to contribute to the costs of training, though an individual will usually retain control over the type and timing of training, training provider and amount invested. Such schemes exist in several OECD and partner countries, including the Skills Future programme in Singapore (www.skillsfuture.sg) and the French learning account programme (www.moncompteformation.gouv.fr/).
- The Netherlands has experimented with a training-voucher system in certain sectors. Vouchers have been argued to be less administratively costly than STEs at the personal level (Messer and Wolter, 2009; Müller and Behringer, 2012). However, many of the distributional biases that occur with respect to firm-based training also exist with respect to vouchers: low-skilled workers most likely to benefit from vouchers are also least likely to use them (Schwerdt et al., 2012). Deadweight losses also arise with respect to vouchers: increased government provision of vouchers may crowd out firm spending on skills (European Centre for the Development of Vocational Training, 2009).

By increasing the costs of employing workers and reducing workers' disposable incomes, Slovenia's high SSCs may deter some employers from hiring and adults from working (Challenge 3). This in turn can lower the incentives for individuals to engage in adult learning and develop their skills further. High taxes also make Slovenia a relatively less attractive place to work for the country's own tertiary graduates, and for foreign high-skilled workers, who can earn higher wages abroad (Challenge 4). The emigration of highly skilled workers from Slovenia poses a particular problem for the government, which may receive lower returns on its investments in tertiary education.

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OECD Skills Strategy

Diagnostic Report

Slovenia

Better skills policies help build economic resilience, boost employment and reinforce social cohesion. The OECD Skills Strategy provides countries with a framework to analyse their skills strengths and challenges. Each OECD Skills Strategy diagnostic report reflects a set of skills challenges identified by broad stakeholder engagement and OECD comparative evidence while offering concrete examples of how other countries have tackled similar skills challenges.

These reports tackle questions such as: How can countries maximise their skills potential? How can they improve their performance in developing relevant skills, activating skills supply and using skills effectively? What is the benefit of a whole-of-government approach to skills? How can governments build stronger partnerships with employers, trade unions, teachers and students to deliver better skills outcomes? OECD Skills Strategy diagnostic reports provide new insights into these questions and help identify the core components of successful skills strategies.

This report is part of the OECD's ongoing work on building effective national and local skills strategies.

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- www.oecd.org/skills for OECD work on skills, including country reports on Norway, Austria, Korea, Portugal, Spain, Peru, Mexico and the Netherlands

Further reading

OECD (2016), *Skills Matter: Further Results from the Survey of Adult Skills*, OECD Publishing.
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