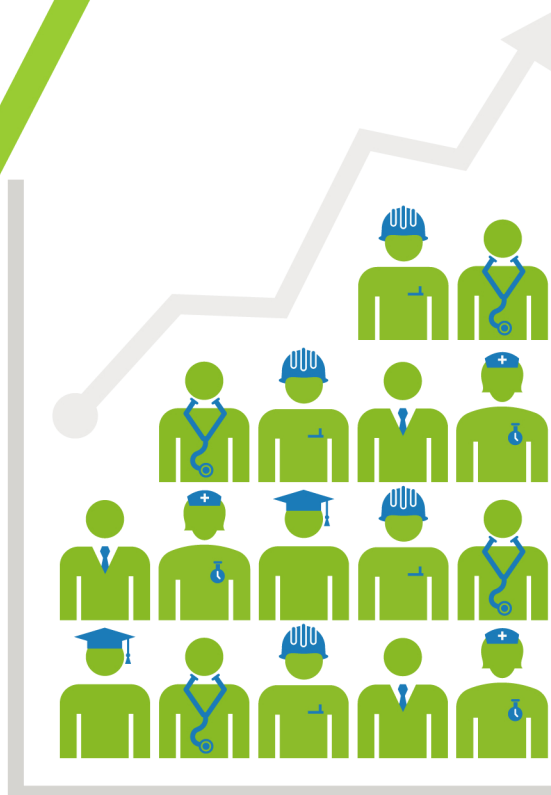


OECD Skills Strategy Diagnostic Report

Austria

2014



OECD Skills Strategy

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



In what way?

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.



Developing relevant skills

Activating skills supply

Strengthening skills systems

Contributes to economic prosperity

Contributes to social cohesion

Putting skills to effective use

**BUILDING AN EFFECTIVE
SKILLS STRATEGY FOR AUSTRIA**

**CHALLENGES FACING
AUSTRIA'S SKILLS SYSTEM**

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FOREWORD

Skills drive economic growth and influence how those benefits are shared within societies. In countries where large proportions of adults have poor skills, it proves difficult to introduce productivity-enhancing technologies and new ways of working. This, in turn, stalls innovation and improvements in living standards.

Skills affect more than just earnings and employment. New data from the Survey of Adult Skills (PIAAC) show that in all countries adults with lower literacy proficiency are far more likely than those with better literacy skills to report poor health, to perceive themselves as objects rather than actors in political processes, and to have less trust in others. In other words, we cannot develop fair and inclusive policies and engage with all citizens if a lack of proficiency in foundation skills prevents people from fully participating in society.

Yet skills are only valuable when they are supplied to the labour market and used effectively, and some countries are far better than others in making good use of their talent. Overall, OECD analysis and data suggests that countries can – and should – do better in matching the demand and supply of skills.

The OECD Skills Strategy provides a useful framework for countries to build effective and integrated skills policies that develop relevant skills, activate skills supply and make effective use of skills. Countries who are most successful in activating their skills potential share a number of features. They provide high-quality lifelong learning opportunities, both in and outside school and the workplace. They develop education and training programmes that are relevant to students and flexible, both in content and in how they are delivered. They make information about education and career pathways easy to find and understand, and they provide recognition and certification of competencies that encourage learners of all ages to keep learning.

Austria is one of the first countries to undertake a collaborative project with the OECD with the aim of applying the OECD Skills Strategy in practice. This diagnostic report identifies 14 skills challenges for Austria which were distilled from two interactive diagnostic workshops held with a range of stakeholders. It marshals a wide array of relevant OECD evidence, including Austria's results from the Survey of Adults Skills (PIAAC), to shed further light on these challenges. Finally, it offers some concrete examples of how other countries are tackling similar skills challenges.

We hope that this report will contribute to Austria's ongoing commitment to setting meaningful goals, measuring progress against the world's leading skills systems, and fostering constructive policy dialogue on skills between government, employers, trade unions, and people of all ages. As ever, the OECD stands ready to contribute to these efforts to design and implement better skills policies for better jobs and better lives.



Andreas Schleicher

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OECD

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This diagnostic report on Austria's skills system is part of a series of country projects within the OECD programme of work on "Building effective national and local skills strategies".

The OECD is grateful to the Austrian national project team which was coordinated by Veronika Haschka and Daniela Herta at the Federal Chancellery and included representatives from the Ministry of Education and Women (formerly the Ministry of Education, the Arts and Culture), the Ministry of Labour, Social Affairs and Consumer Protection and the Ministry of Science, Research and Economy (formerly the Ministry for Economy, Family and Youth). This inter-ministerial project team funded the project work, worked closely with the OECD team and was responsible for organising workshops with stakeholders. Members of the inter-ministerial project team included: Jürgen Horschinegg, Andrea Schmölzer and Bernhard Chabera from the Ministry of Education and Women; Robert Jellaszitz and Johannes Schweighofer from the Ministry of Labour, Social Affairs and Consumer Protection; and Alexander Hölbl from the Ministry of Science, Research and Economy.

The OECD team also wishes to thank everyone who took part in the diagnostic workshops held in Vienna in the course of 2013. Their insights and discussions during the workshops have both driven the process and shaped this diagnostic report. We would also like to thank the many people who gave generously of their time to answer our many questions regarding Austria's skills system.

While the diagnostic report draws upon data and analysis drawn from the OECD, the Austrian authorities and other published sources, any errors or misinterpretations remain the responsibility of the OECD team.

The OECD Skills Strategy team is co-ordinated by Joanne Caddy (Directorate for Education and Skills). The lead author for this report was Simone Stelten (Directorate for Education and Skills). Deborah Roseveare (Directorate for Education and Skills) provided thought leadership and strategic oversight for the project.

The Austria Skills Strategy country project and diagnostic report drew upon the input and feedback of a broad cross-directorate OECD team, including: Willem Adema, Kristine Langenbucher, Thomas Liebig and Christopher Prinz from the Directorate for Employment, Labour and Social Affairs; Lucy Pyne from the OECD's Local Economic and Employment Development Programme; Bert Brys and Pierce O'Reilly from the Centre for Tax Policy and Administration; Rauf Gonenc from the Economics Department; Christian Reimsbach-Kounatze from the Directorate for Science, Technology and Industry; and Corinne Heckmann, Shinyoung Jeon, Ineke Litjens, Pauline Musset and David Valenciano from the Directorate for Education and Skills. Louise Binns and Florence Wojtasinski (Directorate for Education and Skills) provided support for project management and the layout of this report.

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EXECUTIVE SUMMARY

Why a Skills Strategy? Better skills, better jobs, better lives

Skills have become the key driver 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 OECD Skills Strategy provides countries with a framework to analyse their strengths and weaknesses as a basis for taking concrete actions according to three pillars that comprise a national skills system: 1) developing relevant skills from childhood to adulthood; 2) activating the supply of skills on the labour market, and 3) using skills effectively in the economy and society. An effective Skills Strategy ensures policy coherence across the three pillars while strengthening the enabling conditions of effective governance and financing, which underpin the skills system as a whole.



Participation of the Austrian Government and stakeholders

The OECD is working with countries to support the development of effective skills strategies at the national and local level. Putting the OECD Skills Strategy's integrated paradigm into practice requires whole-of-government collaboration across ministries and government levels, as well as co-operation with and among stakeholders, such as education institutions, social partners and civil society.

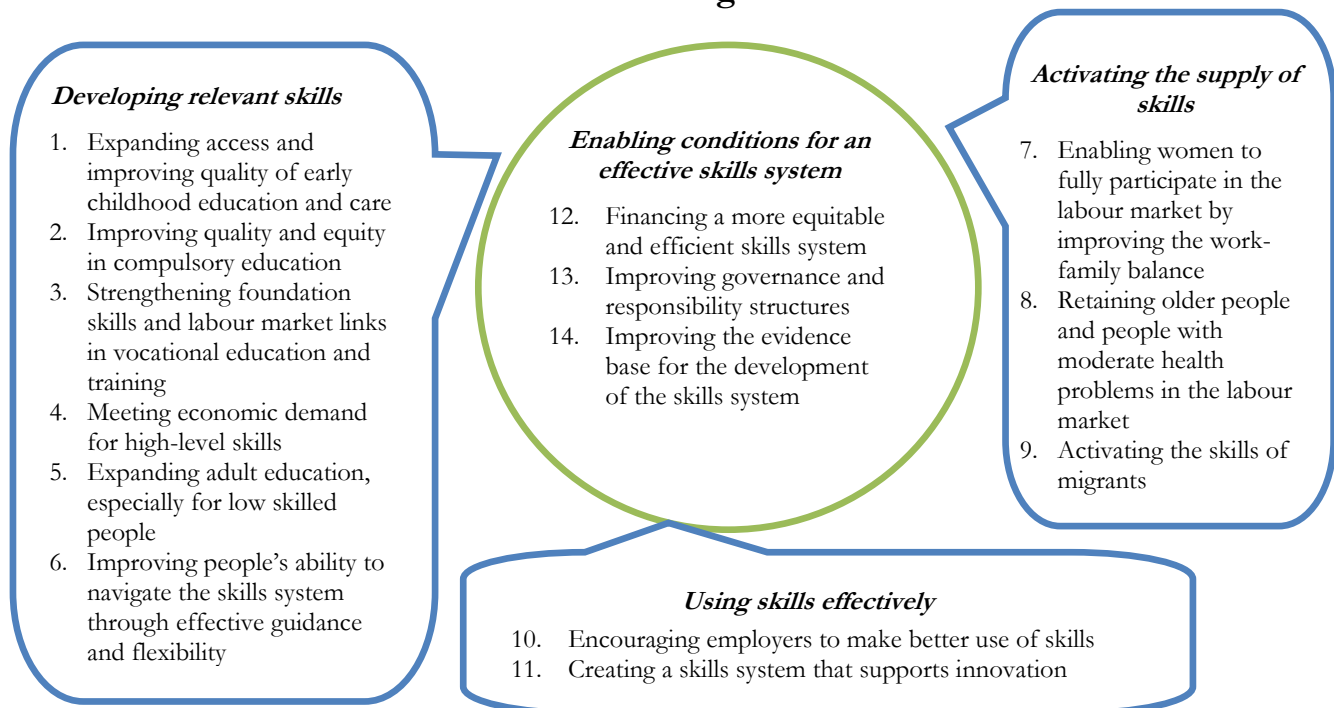
The project on “Building an effective Skills Strategy for Austria” involves an inter-ministerial project team coordinated by the Federal Chancellery (BKA) with the Ministry of Education and Women (BMBWF), the Ministry of Labour, Social Affairs and Consumer Protection (BMASK) and the Ministry of Science, Research and Economy (BMWFW). Stakeholders were involved in national diagnostic workshops held in April and June 2013 in Vienna. Participants were drawn from the Federal Chancellery, nine federal ministries (responsible for: education, labour, economy, finance, health, research and science, transport, integration and women), representatives from the *Bundesländer*, the Economic Chamber, the Chamber of Labour, firms, and researchers.

Austria's skills challenges in a comparative perspective

This diagnostic report identifies 14 skills challenges for Austria. The project and this report build on both the insights from workshops as well as latest international comparative analysis from OECD and national sources. The report provides cases illustrating how other countries have tackled similar challenges, which can be used as input to potential policy options on how to tackle these challenges. This report presents the results of the “diagnosis” phase, rather than offering concrete recommendations for Austria. Yet it represents a solid basis for a future “action” phase which would involve Austrian stakeholders. The challenges are described under each of the main pillars of the OECD Skills Strategy. The first 11 challenges refer to specific outcomes across the three pillars of developing, activating and using skills. The next three challenges refer to the “enabling” conditions which strengthen the overall skills system. Success in tackling these skills challenges will boost performance across the whole skills system.

All of these challenges are strongly interlinked. The interlinkages are identified throughout the report at the end of each challenge. Failure to look beyond policy silos will have implications, especially for specific groups in Austria. For example, if young people fail to acquire strong foundation skills (Challenges 2 and 3), they run the risk of being trapped in lower educational and employment pathways (Challenge 5, 6 and 8), or facing difficult labour market transitions (Challenge 6), and difficulties in using their potential effectively in the workplace (Challenge 10). Low skills levels are not only associated with weak labour market outcomes but also with a higher likelihood of facing health problems, relying on social benefits and becoming inactive (Challenges 7-9). Overall, the more people who are trapped in this vicious cycle, the greater the negative impact on both economy and society with consequences for Austria's ability to embark effectively on new areas of growth and innovation (Challenge 11).

14 skills challenges for Austria



Developing relevant skills:

- 1. Expanding access and improving quality of early childhood education and care (ECEC):*** Despite the rise in participation from less than 8% in 2000 to more than 20% in 2012, enrolment of under 2-year-olds remains low in Austria compared to the OECD average of 33% in 2010. Limited hours of services also contribute to low levels of participation. Higher levels of enrolment would be especially helpful for children with a migrant background, or language problems, to improve transitions to primary schooling. Austria is making progress towards ensuring high nationwide quality standards, yet more needs to be done to help ECEC staff develop the skills needed to implement the new quality framework, such as providing language support.

2. **Improving quality and equity in compulsory education:** 15-year-old students in Austria perform below the OECD average in reading, around average in science and above average in mathematics. Austria needs to do more to strengthen equity in education. Low performance is strongly related to students' socioeconomic status and migrant background, more so than in other OECD countries. Only 6% of students with low socio-economic status belong to the top quarter of students from all countries, compared to 13% of the student population in the best performing countries.
3. **Strengthening foundation skills and labour market links in vocational education and training:** According to the Survey of Adult Skills, about a third of VET-graduates aged 16–29 years-old score below the international average for VET graduates, at about level 2 (out of 5) on the literacy scale. In practice, this means that they were not able to understand dense and lengthy texts. Low results were found particularly among graduates from apprenticeships, mediocre results among graduates from VET schools (BMS), while good results were found among graduates from VET colleges (BHS). Graduates with low-level foundation skills are less prepared to acquire new skills and adapt to a changing skills demand. Austria's VET system can build upon its strengths to provide more advanced skills and respond better to skills trends, such as the need for solid ICT-skills in all occupations.
4. **Meeting economic demand for high-level skills:** Austria's tertiary graduation rate (tertiary-type A) has increased from 10% in 1995 to 35% in 2011 but is still below the OECD average of 39%. Yet the supply of tertiary-educated people is lower, as international students comprise 15% of all enrolments but only a sixth of them stay in Austria after graduation. Supply may fall short, especially for graduates in science, who are in high demand. Ten per cent of new entrants choose to study sciences in Austria, which is within the OECD average, but may be low considering the relatively scarce overall tertiary supply. In addition, national studies suggest that the quality of higher education needs to be improved as there are substantial shortcomings in student satisfaction with the learning environment, especially at academic universities which also see high dropout rates (35% compared to 30% OECD average in 2011).
5. **Expanding adult education, especially for low-skilled people:** According to the Survey for Adult Skills, the foundation skills levels of adults in Austria are below average in literacy, above average in numeracy and around average in problem solving in technology-rich environments. People with high levels of foundation skills are found to participate most in both job-related and non-job related adult education, while participation rates are lowest amongst people with low-level foundation skills.
6. **Improving people's ability to navigate the skills system through effective guidance and flexibility:** Austria offers many educational pathways, but lacks a comprehensive lifelong learning guidance system that can draw upon up-to-date labour market information. Gaps in the provision of career guidance and low upward-mobility have a particularly negative impact on the educational and employment careers of disadvantaged people, such as those with a migrant background and low socio-economic status.

Activating skills supply:

7. **Enabling women to fully participate in the labour market by improving the work-family balance:** In Austria, motherhood makes inactivity and part-time work more likely than in most other OECD countries. Prolonged durations of part-time work are associated with lower career prospects, lower earnings, and fewer opportunities to participate in training. The part-time salary rate for women is lower in those Austrian *Bundesländer* with better access to early childhood education and care, especially for under 3-year-olds. Yet even when childcare options are available, Austria's employment policies and the tax system encourage women to work part-time instead of full-time.

- 8. *Retaining older people and people with moderate health problems in the labour market:*** Austria still has the second lowest effective retirement age in the entire OECD, for both men (58.5 years) and women (58 years). Recent reforms of the invalidity pension could lead to rapidly rising unemployment of older people with partial work capacity. In order to better retain older workers and to stop the outflow of their skills in the future, efforts will be needed to better integrate older (unemployed) people and people with partial work capacity into the labour market.
- 9. *Activating the skills of migrants:*** International migration accounts for a third of new entrants into Austria's working-age population. But migrants have far lower labour market outcomes than native-born Austrians. The children of immigrants aged 20-29 are four times more likely to be both low-educated and neither in employment nor in education and training (NEET) than their native-born counter-parts. At all ages, highly educated first- and second-generation immigrants are penalised most in terms of whether they are in skills-adequate employment. Only 55% of highly-educated immigrants are employed in high-skilled jobs compared to 70% of their highly-educated native-born peers.

Using skills effectively:

- 10. *Encouraging employers to make better use of skills:*** In Austria, people reported below average use of numeracy, problem solving and computer use at work (OECD, 2013h). This raises the question whether workplaces in Austria are prepared for the digitalisation of the economy. In addition, Austrians encounter severe skills mismatches on the job with respect to both the use of information-processing skills and skills related to their field of study. The skills of women, older workers and people with a migrant background are used least effectively on the job.
- 11. *Creating a skills system that supports innovation:*** Looking ahead to 2020, Austria's economic strength is projected to continue to be rooted in vocationally oriented medium-level skills. However, growth rates for occupations that currently require tertiary degrees are projected to accelerate, especially in areas of science and technology. Areas of high potential include ICT intensive sectors, green innovation and health.

Strengthening Austria's skills system:

- 12. *Financing a more equitable and efficient skills system:*** In Austria, the complex fiscal equalisation system, which distributes public funding across government levels, hinders the capacity of policy makers and civil servants to steer the skills system. Austria faces challenges in how to better allocate funding to underdeveloped areas of the skills system. For example, adult education is largely financed and provided by the public employment service (PES), which only reaches the unemployed. Yet only 5% of the low-skilled are unemployed, while most are in employment (62%) or inactive (33%) and cannot be reached by the PES. Employers' investments in training largely benefit high-skilled members of the population.
- 13. *Improving governance and responsibility structures:*** Austria has a highly complex skills governance system, with shared responsibility between various ministries and agencies as well as levels of government, characterised by strong social partner involvement. This has generated a relatively inclusive and stable policy process with a high degree of ownership among social partners. However, the system is fragmented and inflexible, and strategic steering measures, which involve all relevant actors to improve coordination and deliver better skills outcomes, are lacking.
- 14. *Improving the evidence base for the development of the skills system:*** Austria faces the challenge of generating and using data with the view to evaluate the effectiveness and efficiency of its skills policies. While most federally-funded programmes are regularly evaluated, programmes of the

Bundesländer have received far less scrutiny. Tackling local skills challenges and evaluating pilot projects requires disaggregated data coupled with capacity building at the regional and institutional level.

How this diagnostic report can be used

This report represents both an output of the diagnostic phase and an input to the broad policy area of skills development and deployment. Of equal importance are the ‘intangible’ assets generated through inter-ministerial cooperation and the process of stakeholder engagement. There are many possible ways to use the results of this project, including raising public awareness by encouraging the social partners and government to use this diagnostic report to foster a broader public debate about the skills challenges facing Austria today.

No country could be expected to tackle all challenges simultaneously. A possible next step could be to decide which challenges should be tackled first. The ultimate aim would be to go beyond diagnosis to develop concrete plans for action. Ideally, this process would continue to include all relevant skills actors.

This diagnostic report will have served its purpose if it contributes to fostering a common understanding of the challenges ahead. It will have accomplished an even greater goal if it stimulates readers to go from analysis to action. For only by investing in strengthening Austria’s skills system today will we be able to deliver better skills outcomes for Austria’s people in the future. The OECD stands ready to help in this endeavour.

OVERVIEW

Austria is one of the first countries to undertake a collaborative Skills Strategy project with the OECD. This report provides a comparative analysis of 14 skills challenges identified across Austria's skills system in the following four areas:

- I) Developing relevant skills from early childhood to adult education.
- II) Activating the supply of skills of all target groups, including women, migrants and older workers.
- III) Using skills effectively in the economy.
- IV) Strengthening skills system governance, including effective financing.

The analysis brings together quantitative and qualitative analysis from across the OECD and other sources, and the results of two interactive diagnostic workshops held in 2013, in Vienna, with over 60 stakeholders from 9 federal ministries, social partners, research institutes and the OECD. While this report aims at providing a comprehensive overview of the core issues, the analysis can only represent a selection of skills issues which were identified as most relevant by Austrian stakeholders and OECD analysis. The interlinkages between each of the challenges are identified throughout this report.

Box 1. How Austrian stakeholders see Austria in the future

Workshop participants were asked to formulate newspaper headlines to express goals for the Austrian skills system in 5 and 20 years time.

Newspaper headlines in 2018:

- Nationwide access to early childhood education and care in Austria
- All children in Austria have good German language skills when they start school
- Best employment outcomes: Austria is leading OECD countries
- Early retirement is history: Older workers stay longer in the labour market
- Ideologisation of education politics is over: Federal level and Länder agreed after competence disputes

Newspaper headlines in 2023:

- Best education outcomes: Austria leads in OECD country rankings
- Austria overcame its skills gaps - integration and activation of women and migrants have been key to success
- Austria's gender pay gap is history
- Austria has the highest GDP per capita, equal opportunities and the most equitable education system says OECD
- Skills Strategy celebrates its 20th birthday and better cooperation across the skills system

Source: Scoping and Diagnostic Workshops, Vienna 2013.

Austria's 14 skills challenges

I. Developing relevant skills:

1. *Expanding access and improving quality of early childhood education and care*

Research shows that the availability of high quality early childhood education and care (ECEC) is vital to achieve at least two policy goals: *i)* laying a solid foundation for later skills development especially for disadvantaged children, and *ii)* reconciling care responsibilities and careers. Achieving these twin policy goals will require:

- **Improving ECEC enrolment rates** especially for under 3-year-olds: Despite the rise in participation from less than 8% in 2000 to more than 20% in 2012, when compared to an OECD average of 33% (2010) enrolment of 0-2 year-olds remains low in Austria. In contrast, Denmark, Iceland and the Netherlands have enrolment rates of 56% to 66% for this age group.
- **Increasing hours of services:** In Austria, limited hours of services are reflected in low intensity of participation. In 2008, under 3-year-olds participated in ECEC for an average of 19 hours per week. In countries with more extended ECEC services, such as Denmark and Iceland, children attend for an average of 34 and 36 hours per week respectively.
- **Ensuring good transitions of children with a migrant background into primary schooling:** According to national studies, up to 80% of immigrant children are not enrolled in ECEC. Language screening does not start before the age of 4 or 5. However, laying a solid foundation for German language skills development before the age of 5 could contribute to a good transition of these children into primary schooling.
- **Ensuring high, nationwide quality standards and improving the education and training of ECEC staff:** In Austria, quality standards for ECEC services differ by *Bundesland*. Austria has undertaken steps in the right direction with its first nationwide curriculum for 5-year-olds. However, other countries have curricula in place for children at even earlier ages. Implementation of the new quality framework will be hampered as long as education and training of ECEC staff does not provide the necessary skills, for example to effectively teach the German language to children.

2. *Improving quality and equity in compulsory education*

High-performing education systems combine equity with quality. This is not the case in Austria where - according to the Programme for International Student Assessment (PISA) - average skills levels of 15-year-old students coexist with an above-average impact of the socio-economic status of students on their performance. Improving quality and equity in compulsory education will require:

- **Improving educational quality and reducing the share of low-performing students:** 15-year-old students in Austria perform below the OECD average in reading, around average in science and above average in mathematics. The share of low performing students in reading corresponds to the average of OECD participating countries, and in mathematics it is slightly lower than average.

- **Targeting disadvantaged students, in particular students with a migrant background:** In Austria, only 6% of students are resilient compared to 13% of the student population in the best performing PISA countries. Resilience refers to students in the bottom quarter of the PISA index of economic, social and cultural status who perform in the top quarter of students from all countries and economies. A migrant background has an above average impact on performance of 15-year-olds in Austria, while only about a third of the performance gap between students with and without an immigrant background can be explained by the lower socio-economic background of students with an immigrant background.
- **Reducing the gender gap:** Between 2003 and 2012, Austria experienced the largest increase in the gender gap in mathematics skills among all countries. The gender gap is, at 22 points that boys score higher than girls, about twice as large as the OECD average of 11 points. At the same time, girls outperform boys in reading and this gap of 37 points is similar to the international average. There are also large gender gaps in the career interests of 15-year-olds. Fifteen per cent of boys (OECD average: 18%) and 3% of girls (OECD average: 7%) plan a career in engineering or computing. This divergence is also reflected in the actual career choices in vocational education and training (VET) and in higher education.
- **Improving the professional development of teachers:** The OECD's Teaching and Learning International Survey (TALIS) shows that teachers in Austria participate less in professional development and receive less support through induction and mentoring than teachers in other OECD countries. At the same time, almost half of Austria's teachers reported the need for better professional development, especially to deal with student discipline and behaviour problems and students with special learning needs.

3. Strengthening foundation skills and labour market links in vocational education and training

VET is the main upper-secondary skills development pathway in Austria, where - unlike in most other countries - VET graduates comprise the majority of the workforce. This underscores the importance for Austria to ensure that VET students acquire skills relevant for both today's and tomorrow's labour market by:

- **Improving the teaching of foundation skills, particularly in apprenticeships, and providing targeted support for low-performing students:** According to the Survey of Adult Skills, about a third of VET graduates score below average at about level 2 on the literacy scale, which is low for people having completed upper secondary education. There is a large spread of performance among graduates from different VET-tracks in Austria with particularly low mean results measured for graduates from apprenticeships. In contrast, graduates from VET colleges (BHS) have about the same mean performance as graduates from academic upper secondary schools (AHS). Graduates from intermediate VET-schools (BMS) have mediocre results. Graduates with low foundation skills levels are less prepared to acquire new skills and adapt to a changing skills demand.
- **Better linking vocational education and training to economic demand:** If Austria wants to create a skills system that better promotes innovation and to maintain its strong focus on VET, the VET system will have to provide more advanced skills and respond better to skills trends, such as ICT-skills (see Challenge 11). It is questionable to what extent the currently fragmented VET governance structure is able to steer the system strategically in a more innovation-oriented direction (see Challenge 13).

4. Meeting economic demand for high-level skills

The quality and relevance of tertiary education indicates a country's capacity to equip future workers with advanced and specialised knowledge and skills. If Austria wants to promote a more innovative economy, it needs to ensure the sufficient supply of high-skilled people who can compete with graduates from top international universities. To do so requires:

- **Ensuring the supply of enough graduates with relevant high-level skills:** Austria's graduation rate (tertiary-type A) increased from 10% to 35% between 1995 and 2011. However, the OECD average doubled during the same period from 20% to 39%, leaving Austria still below the OECD average. International students comprise 15% of all higher education enrolments in Austria. Yet only a sixth of them stay after graduation, compared to a third in countries such as Canada and France.
- **Enhancing the attractiveness of science-related subjects:** Future skills demand is projected to rise particularly steeply in the case of high skilled scientists. Supply may fall short especially for graduates in sciences, who are in high demand. Ten per cent of new entrants choose to study science in Austria, which is within the OECD average, but may be low considering the relatively low overall tertiary supply.
- **Reducing drop-outs, particularly at academic universities:** Austria's academic universities had a completion rate of 65% in 2011 (OECD-average: 70%) compared to 90% in Japan and Turkey and about 80% in Australia, Denmark and the United Kingdom. In contrast to academic universities, the drop-out rate is lower at *Fachhochschulen* (23%). High drop-out rates at academic universities can be a result of student dissatisfaction with the curriculum or with the quality of teaching, as indicated by the 2012 student survey conducted by the Austrian Institute for Social Research and Consulting.
- **Ensuring high quality learning environments:** Austria's dramatic increase in student numbers enrolled in tertiary education has not been accompanied by a proportional increase in teaching staff. Between 2007 and 2011, the number of students enrolled increased by 22% while the number of professors only increased by 4% and the number of tutors dropped by 12%. A recent survey of the Austrian SORA institute, on teaching quality in higher education, suggests substantial shortcoming in student satisfaction with the learning environment, especially at academic universities.

5. Expanding adult education, especially for low skilled people

In ageing societies individuals need to stay in employment and remain active in all areas of their lives for longer. Adult education is ever more relevant to provide everyone, especially the low skilled, with solid foundation skills, so that they are prepared for further learning. According to the Survey for Adult Skills, the foundation skills levels of adults in Austria are below the OECD average in literacy, above average in numeracy and around average in problem solving in technology-rich environments. Tackling this requires:

- **Increasing participation rates in adult education:** According to the Survey of Adult Skills, 49% of Austrian adults participated in further education or training during the last 12 months, compared to 52% for the international average and over 65% in Denmark, Finland, the Netherlands and Sweden. People with high levels of foundation skills are found to participate most in both job-related and non-job related adult education, while participation rates are lowest for people with low-level foundation skills. An international comparison shows this gap is pronounced in Austria. Adult education also differs significantly by age in Austria, with 25-34 year olds participating the most and 55-64 year-olds participating the least. This is not the case in most Nordic countries, where older people participate significantly more than younger cohorts. Low-skilled adults in Austria tend to have the following characteristics: low formal educational background, older, inactive or working in an elementary

occupation. According to the Survey of Adult Skills only about 5% of those with the lowest proficiency level are unemployed, while most are in employment (62%) or inactive (33%).

- **Ensuring that adult education and training reaches those who need it the most:** In Austria, adult education does not effectively reach the low-skilled who need it most. Participation has favoured mainly two groups - high-skilled people and the unemployed, although 95% of low-skilled people are not unemployed (on the financing and the provision of adult education in Austria see Challenge 12). Most low-skilled people are in employment in Austria. But employers provide little adult education for low-skilled employees. The proficiency gap is particularly wide in Austria between people in elementary occupations and those in skilled occupations, which is due to the very low skills level of people in elementary occupations. Only one out of ten workers in an elementary occupation in Austria has solid skills in problem-solving, compared to about every third in Finland, the Netherlands and Sweden.

6. Improving people's ability to navigate the skills system through effective guidance and flexibility

Skills systems need to provide people with relevant information in decision processes and allow for mobility between different educational levels and pathways. Gaps in the provision of career guidance and low upward-mobility have a particularly negative impact on the educational and employment careers of disadvantaged people, such as people with a migrant background, low educational attainment and low socio-economic status. Addressing this challenge requires:

- **Providing lifelong educational/career guidance:** Austria has a very complex skills system with many educational pathways, which raises the importance for people to understand their options well. Yet Austria lacks a comprehensive lifelong learning guidance system. For families with young children, there is no consistent guidance with regard to early childhood education and care or primary and lower secondary education, which would be beneficial particularly for disadvantaged families. Students in either VET or tertiary education, and adults, could benefit from access to better information on the labour market outcomes and the requirements of educational programmes and occupational areas.
- **Ensuring that guidance builds on up-to-date labour market information:** Educational and career guidance services cannot be depended upon to have up-to-date information about the diversity of jobs available, realistic job profiles, requirements and labour market outcomes. Better access to such information is a key requirement for educational choices to better respond to economic demand.
- **Raising the flexibility of educational pathways:** Austria's initial education system selects students early on by performance and the system does not allow for effective upward mobility between educational tracks and programmes. Whilst the opportunity to move educational tracks or programmes is possible, it is rarely taken advantage of. For example, the percentage of apprentices continuing with higher education has decreased from 5.5% in 1994/1995 to 2.2% in 2010/2011.

7. Enabling women to fully participate in the labour market by improving the work-family balance

Should Austria decide to implement policies in order to foster convergence among male and female labour market participation, the country will significantly increase the size of its labour force, which would in turn boost GDP. Effective supply of the skills of women to the economy will be vital for Austria to cope with its rising dependency ratio. This requires timely answers to the following policy challenges:

- **Improving access to ECEC:** In Austria, motherhood results more often in inactivity or part-time work than in most other OECD countries. Prolonged durations of part-time work are associated with lower career prospects, lower earnings, and fewer opportunities to participate in training. The part-time salary rate for women is significantly lower in Austrian *Bundesländer*, which provide better ECEC

access, especially for under 3-year-olds. In addition to the issue of ECEC access, the quality and financing of childcare influence employment decisions (see Challenges 1 and 12).

- **Raising the participation of men in parental leave:** Only when care responsibilities are shared between parents will there be a chance for equal employment opportunities. In Austria, the ratio of fathers to mothers taking parental leave has slightly increased in the past years, but this was driven by a decline in the total number of leave cases. Take-up for men remains on a low level. In 2011, about 136 000 women took parental leave compared to 6 000 men. At the same time, taking parental leave does not seem to harm men's careers in the same way it appears to affect women's.
- **Encouraging women to return to employment after parental leave:** Austria's average maximum parental leave duration is well below the OECD average. In Austria, the parental leave system allows leave-takers to stay out of employment beyond the employment-protected period. This can ultimately lead to women losing their jobs. Long leave periods come with a high risk of skills loss and diminishing labour market attachment.
- **Increasing financial incentives to work full-time:** Until the child's seventh birthday, parents have the right to work part-time when they are employed in a company with more than 20 employees. The Austrian tax system additionally provides strong incentives for one spouse to work part-time. Staying in part-time work for a long period likely has a negative career effect for many women.

8. Retaining older people and people with moderate health problems in the labour market

Austria still has the second lowest effective retirement age in the entire OECD, for both men (58.5 years) and women (58 years). After the introduction of reforms of the early retirement scheme, the proportion of those who retire based on this scheme declined, but at the same time the proportion of those retiring based on the invalidity pension has increased. Recent reforms of the invalidity pension may lead to rapidly rising unemployment of older people with partial work capacity. In order to better retain older workers and to stop the outflow of their skills in the future, measures will be needed in:

- **Re-integrating (older) unemployed people with partial work capacity into the labour market:** The Austrian Government has recently tightened eligibility to early retirement in the invalidity pension, in order to better integrate those with moderate health problems but partial work capacity. Implementation depends on the capacity of the public employment service (AMS) to cater for an increasing number of two difficult and overlapping groups: *a)* older workers who may be less employable because of outdated skills and low demand by employers and *b)* people with reduced work capacity due to health problems. Among both groups, low skilled people will likely be overrepresented.
- **Preventing (older) unemployed people with health problems from becoming too distant from the labour market:** Employers can help avoid, and reduce, many of the potential future barriers to employment participation. This includes the early promotion of both skills and health, to avoid premature labour market exit. Austria has started launching initiatives to improve the health-related employability of older workers, such as consulting services on health at the workplace ("*fit2work*") and better streamlined occupational medical examinations ("*Gesundheitsstraße*").

9. Activating the skills of migrants

In Austria, international migration accounts for a third of new entries into the working-age population. The growing number of native-born offspring of immigrants will be entering the labour market in the next years as the share of native-born children of immigrants, aged 15-24, will more than double by 2020. In order to activate the high potential of the large proportion of migrants who are working-age or approaching working-age, Austria will need to take steps in:

- **Better integrating migrants into the labour market:** Migrants (both first and second generation) encounter higher unemployment and inactivity than native Austrians, particularly when they are from lower-income countries. Gaps compared to native Austrians are largest for women of all ages. The 20-29 year-old children of immigrants are four times more likely to be both low-educated and neither in employment nor in education and training (NEET) than the children of native-born Austrians. While employment rates of the male native-born children of immigrants are relatively favourable by international comparison, employment rates of female native-born children are particularly unfavourable, with 14% belonging to the low-educated NEET group (OECD average: 10%). As discussed in Challenges 2 and 6, children of immigrants are overrepresented in the lower educational tracks. This partly explains differences in labour market outcomes, and highlights the importance of better integrating people with a migrant background into the system of lifelong learning, also as a means for better employment integration.
- **Improving the recognition of foreign qualifications:** At all ages, highly educated first and second generation immigrants are penalised most compared to native Austrians. Only 55% of highly-educated immigrants are employed in high-skilled jobs compared to 70% of the highly-educated native-born. To a large extent, these disparities can be explained by complex processes for the recognition of foreign qualifications.

III. Using skills effectively:

10. Encouraging employers to make better use of skills

The extent to which employers make good use of the skills of their employees determines the productivity and profitability of economies. Effective skills utilisation builds on sustainable approaches to human resource management and workforce development. This requires:

- **Improving the quality of workplaces and workplace learning:** According to the Survey of Adult Skills, workers in Austria make little use of the skills they need for work-based learning - learning at work and influencing skills (instructing, teaching or training others).
- **Improving ICT use at work:** People in Austria report a lower use of computers and ICT-skills at work than elsewhere. This raises the question if workplaces and workers in Austria are well-prepared for the digitalisation of the economy.
- **Creating a better match between people's skills and the requirements of their jobs:** According to the Survey of Adult Skills, Austria has the largest proportion of people who are over-skilled in literacy and numeracy (their proficiency score is higher than that corresponding to the 95th percentile of self-reported well-matched workers) (Austria 18%; OECD average: 10%). Eighteen percent of those who are over-skilled consider themselves to be under-qualified. At the same time, over a third of workers in Austria hold jobs in areas unrelated to their field of study (European Working Conditions Survey 2005). This challenge is particularly relevant for three target groups:
 - **Women:** Austria has a significant gender gap in the use of skills at work, with men using their skills more effectively. For example, the gender gap in the use of problem-solving skills in technology-rich environments is three times as large in Austria as in Germany. This pattern seems to be linked to career choices and occupational characteristics. For example, women are more likely to work part-time which is associated with over-qualified work.
 - **Migrants:** In Austria, foreign-born workers are far more likely to be over-qualified than their native counterparts. The odds ratio of 2.4 is the fifth highest among the 19 countries with available data.

- **Older workers:** Despite the fact that young people are more proficient in problem solving within technology-rich environments, youth report lower use of ICT than prime-aged and older workers. This finding underlines the necessity to invest more in the ICT skills of prime-aged and older workers (see Challenge 5) but it also raises the question if the strength of youth, as well as older workers, are used effectively, and if workplaces are flexible enough to adjust to the changing strengths and weaknesses of workers as they are ageing.

11. Creating a skills system that supports innovation

Countries need to develop the right skills mix to boost their capacity to innovate. Working towards a better skills match requires at least three aspects: First, adequate information and transparency in the system so that people can make informed education and career decisions (Challenges 6 and 14); second, the system needs to encourage flexibility, upward mobility and adult education (Challenges 5 and 6); and third, it requires effective cooperation between research, industry, government, education institutes and those involved in developing and updating education programmes and curricula – both formal and work-based (Challenges 2-5 and 13). If Austria wants to develop a workforce that engages more productively in innovation, occupational trend analyses suggest that Austria will need to take steps in:

- **Strengthening Austria's capacity to adapt to rapidly changing labour markets:** Today, occupations require higher levels of foundation skills, including problem-solving skills in ICT-rich environments, among others. The skills system needs to encourage people to improve and use their foundation skills throughout life as a basis for effective lifelong learning of more specialised skills.
- **Engaging more in innovation and ensuring that people have the relevant high-level skills:** Occupational demand projections draw a similar picture of Austria's medium and long-term skills demand. In the medium term, i.e. up to 2020, Austria's economic strength is projected to continue to be rooted in vocational medium-level skills. In the long term, accelerating growth rates are expected for occupations that currently require tertiary degrees. Austria's potential to increase the share of high-skilled and high valued-added jobs is expected to be linked to employment particularly in science and technology, which plays a key role in innovation. The greatest employment gains are projected to be among physical, mathematical and engineering science professionals and technicians as well as life science and health professionals.
- **Promoting innovation and high skilled employment in Austria's production sector:** The extent to which Austria will be able to maintain its competitiveness in the production sector in the long run will depend on several factors. These include achieving a higher degree of innovation in order to capitalise on specialised high quality products. Projections agree that this would result in substantial shifts towards more high-skilled employment in the production sector.
- **Embarking on new growth areas, such as ICT and green innovation:** As economies become more digital, demand increases for ICT-related skills. In Austria, both the share of ICT-related occupations and the share of ICT-specialists are much lower than in countries such as Finland, Sweden, and the United Kingdom. In Austria, there is also room to strengthen the potential of green innovation, among others. For example, the share devoted to energy and the environment in government budget appropriations for research and development is in the bottom third of OECD countries.

IV. Strengthening Austria's skills system:

12. Financing a more equitable and efficient skills system

Given that in international comparison Austria has relatively high per-student education investments, yet only average skills results (PISA and the Survey of Adult Skills), its education investments are not efficient. In Austria, the efficiency and equity of skills policies could be improved by addressing the following financing challenges:

- **Improving the transparency and efficiency of Austria's fiscal equalisation system:** Education policies from ECEC to adult education are very difficult to steer in Austria due to complex (financial) responsibility structures and financial negotiation processes between administrative levels. The lack of transparency is an additional barrier for financial efficiency.
- **Ensuring equitable access to early childhood education and care:** Promoting equity in education in Austria would be boosted with greater investments in ECEC. Austria devotes less public expenditure to ECEC than most other OECD countries. Household expenditure on ECEC is above the OECD average, while tax allowances hardly reach people with low income. The private sector and employers play almost no role in the provision and financing of ECEC services.
- **Fostering equitable outcomes in primary and secondary education:** Funding formula for education do not fully reflect the educational needs of disadvantaged students. In Austria, funding for schools takes certain student characteristics into account but these may not be sufficient. For example, the social background of students is currently not taken into account.
- **Ensuring excellence in higher education:** It is questionable to what extent the current funding for higher education in Austria is both sufficient and effective to ensure high quality. Higher education institutions receive only modest private funding compared to other countries. Austria spends a lower proportion on higher education than most other countries when considering the relative spending devoted to primary, secondary and higher education. In Austria, household funding for higher education, at 2.6%, is far below the OECD average of about 25%.
- **Reaching low skilled people effectively with adult education:** Countries with stronger and more targeted state funding of adult education tend to have higher participation rates of adults with low skills than countries such as Austria, where the state does not strategically invest in adult education for this group. In international comparison, the financing of adult education in Austria is atypical because of the important role of the Public Employment Service AMS, which reaches only the unemployed who account for only about 5% of the low-skilled target group.

13. Improving governance and responsibility structures

Policy coherence requires the coordination of programmes and projects as well as effective cooperation among actors. Austria has a highly complex skills governance system, involving various actors on different levels - national, regional and local – including strong social partner involvement. On the one hand, this has evolved into a relatively inclusive and stable policy process and a high degree of ownership especially among social partners. On the other hand, the fragmented system is relatively rigid, which hinders a strategic orientation and efficient management. Tackling this requires:

- **Streamlining non-transparent responsibility structures and ensuring effective cooperation:** Complex responsibility structures shared between various ministries and agencies on different levels is found in different areas particularly of educational policy in Austria. These complex structures hinder the overall steering capacities of Austria's skills system.

- **Improving service delivery, especially for disadvantaged groups:** In Austria, improving service coordination for various target groups, such as people with migrant background, the unemployed and people with health problems, would be necessary to tackle the interlinked challenges of these disadvantaged groups more effectively.
- **Engaging social partners more effectively:** There is room to expand social partnership initiatives on skills. Social partners could provide important contributions, for example finding strategies to link skills development better to economic demand, to provide lifelong education and career guidance, to extend adult education and to implement better workplace practices for a more effective use of skills.

14. Improving the evidence base for the development of the skills system

The availability of relevant data and rigorous evaluation systems is a prerequisite for both the effectiveness and efficiency of policy design, a requirement for financial controls and for efficient spending. However, the availability of data and evaluations can only be effective if policy processes are designed with a view to incorporating this evidence into decision-making. Compared to other countries with longer traditions of evidence-based policy making, Austria still faces important challenges in generating the relevant data and information necessary to evaluate performance in terms of both effectiveness and efficiency as well as in effectively incorporating this information into its policy processes.

- **Coordinating data collection and better integrating financial data:** Effective data collection must be strategic and maintain high standards of reliability over time across multiple data collectors and geographical regions. For example, statistical offices need to cooperate in order to link different data sources such as education data with workforce data and to enable longitudinal data collection, which can be a very powerful tool in understanding why certain target groups encounter barriers.
- **Strengthening monitoring processes and evaluations:** While most federally-funded programmes are regularly evaluated, programmes of the *Bundesländer* receive far less scrutiny. Particularly when it comes to pilot projects that are often run on regional or local levels, identifying successful examples and the potential for scaling them up depends upon effective evaluation.
- **Building a strategic approach relevant to local and institutional conditions:** The availability of data at the regional and institutional level is only one part of the equation. It is also necessary to build the capacity of all relevant authorities to make use of this information when designing policy and programmes or improving implementation.

From diagnosis to action

Tackling these skills challenges will be vital for Austria to prepare the country for a competitive and innovative future, to strengthen the link between Austria's skills mix and economic development, and to tackle longstanding bottlenecks to the successful development and deployment of the skills of disadvantaged groups, including the low-skilled, women and people with migrant backgrounds. This ambitious agenda is well reflected in the goals of Austrian stakeholders, who participated in the Skills Strategy workshops (see Box 1).

This diagnostic report will have served its purpose if it contributes to fostering a common understanding of the skills challenges ahead. It will have accomplished an even greater goal if it stimulates readers to go from diagnosis to action. The responsibility for maximising Austria's skills potential goes well beyond that of government alone – and will require the active contribution of many stakeholders including social partners, students and teachers. To be meaningful, any future skills policy process should continue to include all relevant skills actors and build on their drive for action.

Austria is well placed to invest in strengthening its skills system today, so it can deliver better skills outcomes for its people and its economy in the future. The OECD is ready to provide support and expertise in developing an appropriate course of action for Austria to achieve these ambitious goals.

I. INTRODUCTION

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 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.

Austria's population has solid educational attainment and the economy is performing well...

Since the 1980s the Austrian social market economy has been among the best performing economies in Europe. At USD 42 132 in 2011, Austria has the seventh highest GDP per capita in the OECD and the fifth highest in the EU (OECD, 2011b). The Austrian economy has been on a very stable path with 1.9 % real GDP growth per year on average over the last ten years. GDP fell by 3.8% during the crisis in 2009 but recovered rapidly in 2010 and 2011. At the same time, at 4.4% in 2012, Austria has one of the lowest unemployment rates across the OECD (OECD, 2013c). High-quality trade-oriented manufacturing, a strong tourism sector and dynamic SMEs are just some of the economy's strengths (OECD, 2013f; Austrian Council, 2013).

Austria's stable economic path has been backed up by relatively high educational attainment by OECD standards. Eighty two percent of the adult population has at least upper secondary education (OECD average: 75%) (OECD, 2013a, Table A1.2a). The skills pool heavily relies on the effective vocational education and training (VET) system, which has allowed for a very practice-oriented approach to human capital development. Indeed, 57% of 25-64 year-olds attained upper secondary VET, compared to only 34% on average among the participating OECD countries. However, only 19% attained tertiary education in Austria, which is low compared to the OECD average of 31% (OECD, 2013a, Table A1.5a, all data for 2011).

Box 2. A snapshot of Austria's lifelong learning system



Austria has a mandatory and free year of kindergarten for 5-year-olds. Afterwards, pupils attend compulsory education for nine years. After four years of primary school education, (ages 6 to 10), pupils attend a general secondary school (*Hauptschule*), a recently created new type of secondary school (*Neue Mittelschule*) or the lower level of a secondary academic school (AHS). Fourteen year olds who choose to complete education after nine years and those who wish to continue with an apprenticeship, attend the pre-vocational year during which pupils are prepared for their transition to vocational life. Students who continue their education at upper secondary level attend secondary academic schools (AHS) or a secondary technical and vocational school or college (BMS and BHS). Upon completion of upper secondary academic or vocational education students take a final exam. The school-leaving certificate thus acquired provides access to higher education. Apprentices can acquire a different certificate (*Lehre mit Matura*), which offers admission to universities.

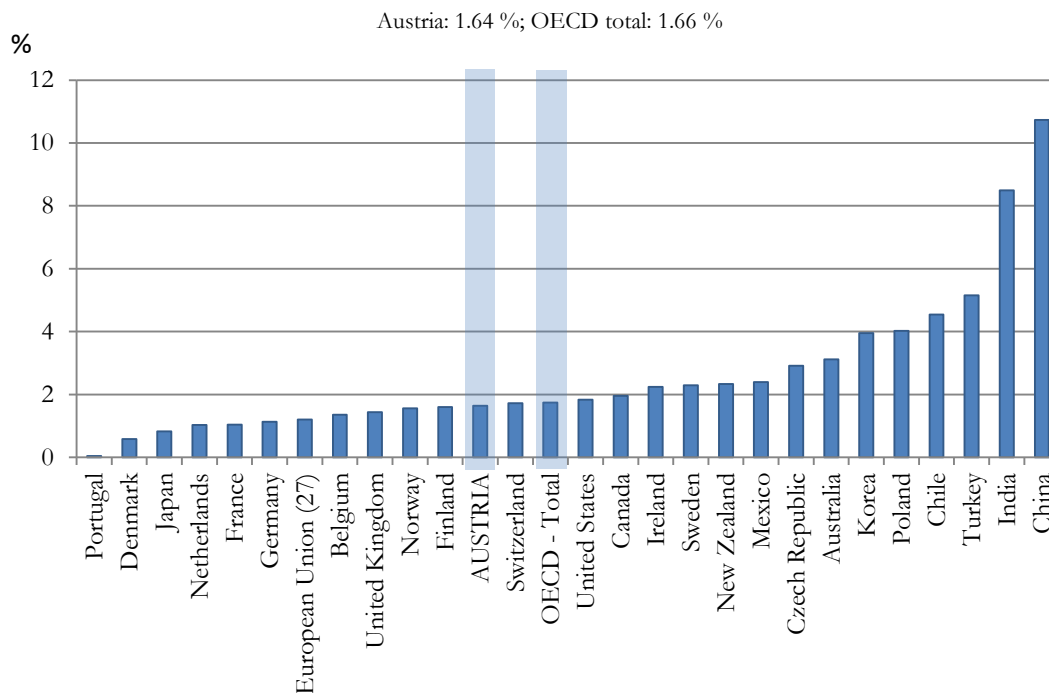
There are different types of higher education in Austria. Tertiary type A comprises academic universities and universities of applied sciences, which both offer Bachelor and Master programmes; PhD programmes are only offered at academic universities. In addition, there is tertiary type B education that includes vocational add-on courses and postsecondary VET courses at VET colleges. Thirty five percent of Austrians graduate from a tertiary-type A programme (OECD average: 40%) for their first time and 12% graduate with a tertiary-type B degree (OECD average: 11%). Adult education is mainly provided by the public employment service, by employers and a few adult education institutions (see Annex 1 with an overview of the Austrian education system).

Sources: BMEIA (2013), <http://www.bmeia.gv.at/en/foreign-ministry/austria/facts-and-figures/education.html>; BMUKK (2013), <http://www.bmukk.gv.at/schulen/bw/index.xml>.

...yet GDP and productivity growth are lagging behind top OECD countries

For a long time, Austria has enjoyed a relatively strong GDP per capita. Yet its average GDP growth rate, generated between the years 2002-2012, is slightly below the OECD average and far below growth rates of countries such as Australia, Poland and Korea (Figure 1). At USD 51.6 per hour worked in 2011, Austria is far less productive than the top performers Ireland, Luxembourg and Norway who reach up to USD 83 per hour worked. Similarly, its average labour productivity declined by 0.4% between the years 2007-2012, while it increased by 0.5% in Germany and Switzerland and up to 1.6% in Turkey (OECD, 2011b).

Figure 1. GDP average growth rate 2002 - 2012



Source: Calculations based on OECD.stats key short-term economic indicators, 2013.

In order to embark upon new growth areas Austria needs to develop the right skills mix

Across the OECD, several fundamental trends are driving the demand for skills. There is a rigid fall in the demand for skills that are needed to carry out routine activities, since these activities can be automated or outsourced to emerging and developing countries. In contrast, demand for more advanced skills is increasing worldwide. In particular the skills needed for analytical and interactive non-routine activities, skills to apply knowledge to new contexts and to work effectively with ICT, as well as the “soft” skills of communicating and collaborating effectively with others. Not only do occupational profiles keep changing but some industries benefit and others lose. Across the OECD the service sector has contributed substantially to economic development and is projected to increase further (OECD, 2013f; OECD, 2009a). In contrast, Austria has recently encountered job losses and structural difficulties in the services sector (see Challenge 11).

High-skills industries are generating a large share of new jobs in OECD countries. ICT has become a key driver of this growth and a basis for many new entrepreneurs and start-ups. New ICT employment is expected to rise in all sectors beyond the ICT sector itself (OECD, 2012m). Tomorrow's work environment will require the vast majority of workers to use their skills in tandem with new technologies (see Challenge 10). In addition, societal and environmental trends are driving economic change and the demand for skills with new opportunities arising in areas such as health, elderly care, energy and green technologies (OECD, 2013t; OECD, 2013u; OECD, 2012m).

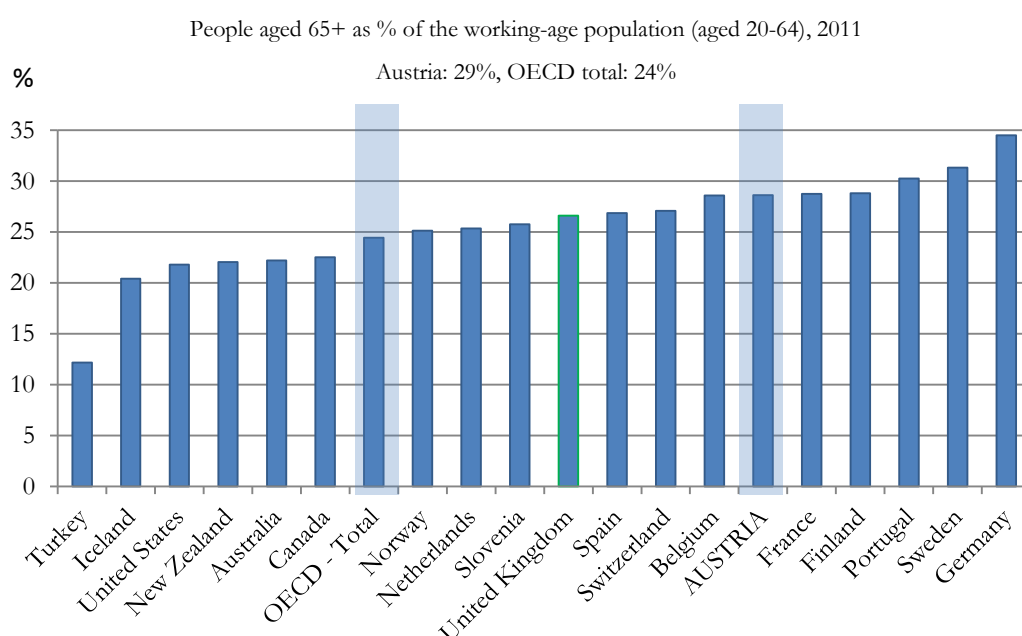
Austria's average skills outcomes for both youth and adults in international surveys, such as PISA and the Survey of Adult Skills (PIAAC), coupled with indications of increasing skills gaps and mismatches, suggests that Austria risks missing opportunities to embark upon new growth areas (see Challenge 11). Policy initiatives, such as Austria's Research, Technology and Innovation (RTI) Strategy, show the political will to encourage more dynamic research, innovation and growth in knowledge-intensive industries. However, the success of such strategies depends upon the capacity of the workforce to acquire and supply the right future-oriented skills mix, as well as the capacity of employers to use people's skills effectively.

Population ageing makes it even more important to improve the skills of the entire population

Austria is ageing faster than most other OECD countries. Already today, 29% of Austria's working-age population are older than 65, compared to the OECD average of 24% (Figure 2). The dependency ratio in 2050 will be more than twice as high as it is today. The number of apprentices could decrease by almost 50% in the next 15 years and Austria's labour force is projected to decline after 2018 (OECD, 2013d).

The skills of the current adult generation will still dominate the skills pool in the medium term, as younger cohorts are much smaller than the current adult generation (adapted from Dohmen, Timmermann, 2010, p. 6). Today, every fourth person in the working-age population is not supplying his or her skills to the labour market. The inactivity rate has decreased from 29% in 2000 to 24% in 2013, but remains on a higher level than in countries such as Iceland, Sweden and Switzerland, with inactivity rates as low as 14%, 19% and 18%, respectively. In light of this fact, it becomes even more important to use the existing skills pool more effectively and to provide effective adult education and training policies.

Figure 2. Old age dependency ratio



Source: OECD Employment Database, 2012c.

How the OECD Skills Strategy can help Austria maximise its skills potential

The OECD Skills Strategy provides countries with a framework to analyse their skills strengths and weaknesses using a three-pillar framework which encompasses: *i*) developing relevant skills from early childhood to adult education; *ii*) activating skills supply on the labour market and *iii*) putting skills to effective use in the economy. An effective skills strategy ensures policy coherence across these three pillars while strengthening the enabling conditions, such as effective governance and financing, which underpin the skills system as a whole.

The main goal for this joint project between the OECD and the Austrian government on *Building an effective Skills Strategy for Austria* is to provide a strategic assessment of the national skills system in Austria and the way skills are developed, activated and used. A better understanding of the issues at stake is needed to design effective skills policies and strategies in order to meet Austria's future skill needs and to improve the match between supply and demand for skills.

Box 3. The concept of “skills”

The OECD Skills Strategy defines skills (or competences) as the bundle of knowledge, attributes and capacities that can be learned and that enable individuals to successfully and consistently perform an activity or task and can be built upon and extended through learning. 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.



Thus, 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 whole lifetime. People need both hard and soft skills that help them to succeed in the labour market and a range of skills that help them to 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, <http://dx.doi.org/10.1787/9789264177338-en>.

Fostering a “whole-of-government” approach to skills

Maximising a country's skills potential requires coordinated efforts across ministries and levels of government. A “whole-of-government” approach to skills is needed to integrate such diverse fields as education and training, labour, economy, tax, local economic development, research and innovation. Each OECD Skills Strategy project is designed to foster greater interaction and exchange among relevant ministries to forge a common understanding of the skills challenges at stake, as a basis for coordinated action.

Austria's national skills strategy project team is coordinated by the Federal Chancellery (BKA) and includes the Ministry of Education and Women (BMBWF), the Ministry of Labour, Social Affairs and Consumer Protection (BMASK) and the Ministry of Science, Research and Economy (BMWFW). This team was responsible for setting the strategic direction for the project and ensuring that the diagnostic phase covered all relevant aspects of the national skills system.

Engaging stakeholders in strengthening the skills system

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. The OECD Skills Strategy underscores the need to look beyond government and build strong partnerships with all actors involved, such as employers, trade unions, training institutions, students and other stakeholders.

Each national project is designed to ensure stakeholder engagement, ownership and build a shared commitment to concrete action. This is achieved by actively engaging with stakeholders throughout the process. In the case of Austria, over 60 participants engaged in two interactive workshops - a scoping workshop on 24 April 2013 and a national diagnostic workshop on 10 June 2013. Workshops involved the Federal Chancellery, nine federal ministries (responsible for education, labour, economy, finance, health, research and science, transport, integration and women), the Chamber of Labour, the Chamber of Economics, representatives from the *Bundesländer*, employers and researchers.

The workshops consisted of structured small group discussions among participants speaking in their native language and a series of exercises. Through their active participation in these events, Austria's skills stakeholders have played a central role in identifying the main challenges faced by the national skills system and their input has shaped this diagnostic report.

Mobilising comparative data and international experience

Each national project takes a tailor-made approach to fit with the country's own domestic policy agenda and priorities while ensuring that the process is anchored in the OECD Skills Strategy framework. Working in close partnership with the national project team, the OECD mobilises its multidisciplinary expertise, comparative data and policy insights from other countries. These resources include:

- The OECD Skills Strategy framework and diagnostic toolkit to structure the analysis and workshops.
- The design and delivery of interactive workshops which maximise discussion among diverse participants to forge a shared understanding among stakeholders of the skills challenges currently facing Austria, and that generate concrete written outputs.
- Relevant OECD comparative data to highlight how Austria fares in relation to other OECD member countries on a number of important skills dimensions.
- A multidisciplinary team of OECD staff drawing on expertise from across the relevant OECD directorates (education and skills; labour and social policy; local economic development; taxation; economics; science, technology and innovation).
- An external, independent perspective with which to create a 'level playing field' for all actors in the skills system and foster constructive dialogue aimed at generating solutions.

Box 4. New skills data from the 2013 Survey of Adult Skills (PIAAC)

The results of the 2013 Survey of Adult Skills (a product of the Programme for the International Assessment of Adult Competencies, or PIAAC) were released on 8 October 2013. Austria is one of the 24 countries and regions to have participated in the first round of the survey and this report draws upon those results as part of the OECD's comparative data and analysis.



This unique survey was designed to provide insights into the availability of some of the key skills in society and how they are used at work and at home. A major component of the survey was the direct assessment of a select number of skills that are considered to be "key information-processing skills", namely literacy, numeracy and problem solving in technology-rich environments. This direct measure of skills was supplemented with in-depth background information from each survey respondent. In this way, the Survey of Adult Skills provides new insights into the skills people have in Austria today, how they use them and the impact that a person's background can have on skills development throughout life.

Source: OECD (2013c), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing, <http://dx.doi.org/10.1787/9789264204256-en>.

Drawing upon diverse sources of information when developing a skills diagnosis

This diagnostic report draws upon three main sources of information: input from workshops with stakeholders, OECD comparative data and relevant country case studies from other OECD countries.



Austria's stakeholders

First, input from a diverse set of stakeholders who participated in the workshops. Indeed, the set of skills challenges identified by the stakeholders constitutes the 'backbone' of this report.



OECD comparative data and analysis

Second, the wealth of OECD comparative data and analysis which serves to shed light on the challenges identified by stakeholders, placing Austria's challenges in a broader international context. Each section examines one skills challenge and provides international comparative data from OECD sources, including PISA 2012 and the Survey of Adult Skills (PIAAC).



Country case studies

Third, the report features a selection of concrete cases to illustrate how other OECD member countries have tackled similar challenges in their own contexts.

How stakeholders rate the performance of Austria's skills system

Stakeholders held diverse views about the range of challenges currently facing Austria's skills system. Workshop design aimed at encouraging all stakeholders to express their views and to generate a 'long list' of challenges through group discussion, which was then captured on posters (see Figure 4).

While many of these skills challenges are long-standing and well known to all participants, the exercise also generated new insights into how different stakeholders perceived or formulated them. Workshop participants also had clear views on the many strengths of Austria's current skills system. Working in small groups, they drew up an impressive and varied list of the main strengths of Austria's skills system (see Figure 3). Participants agreed that this was a strong basis on which to build future success.

Figure 3. Stakeholder views on the strengths of Austria's skills system

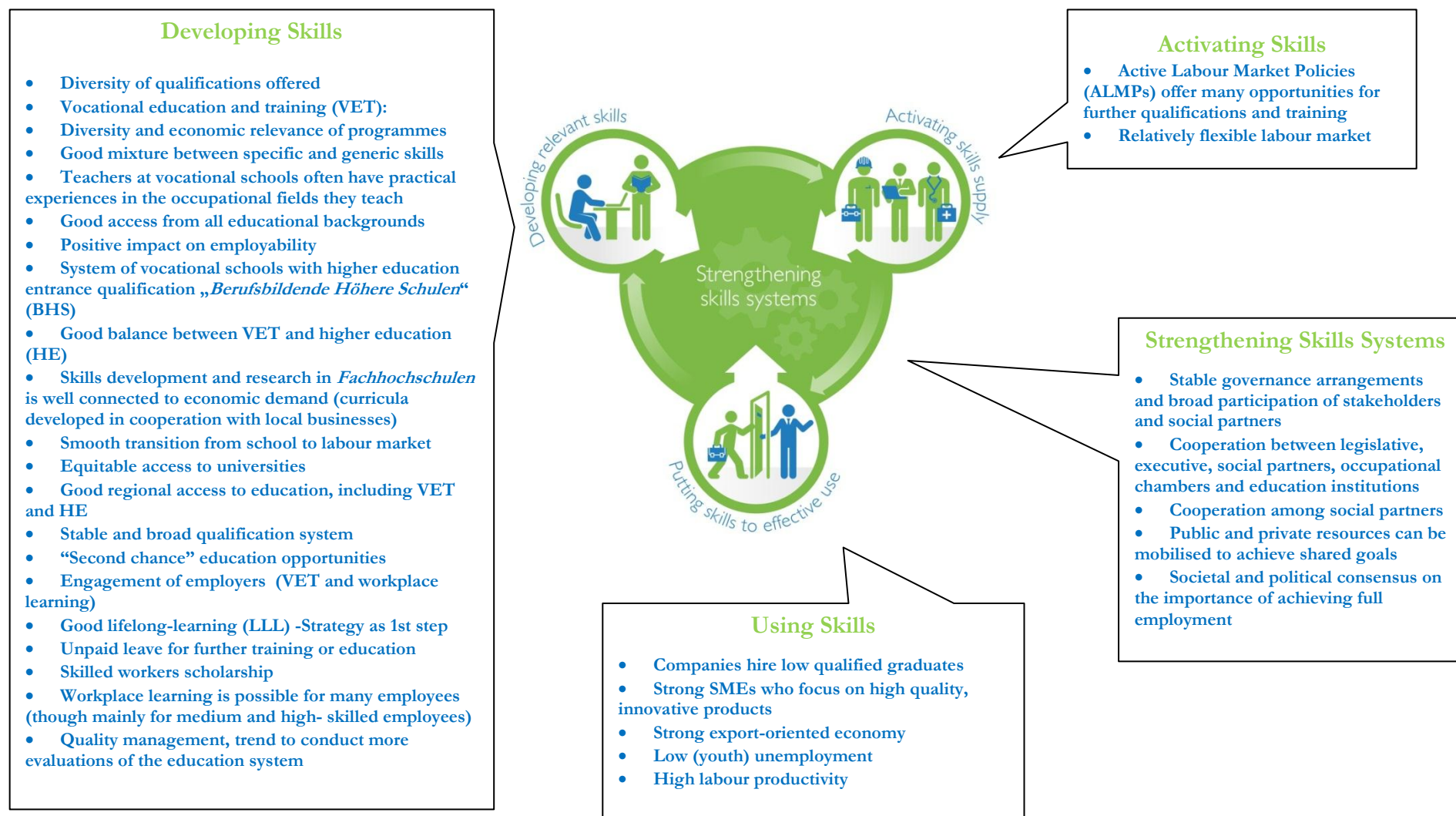
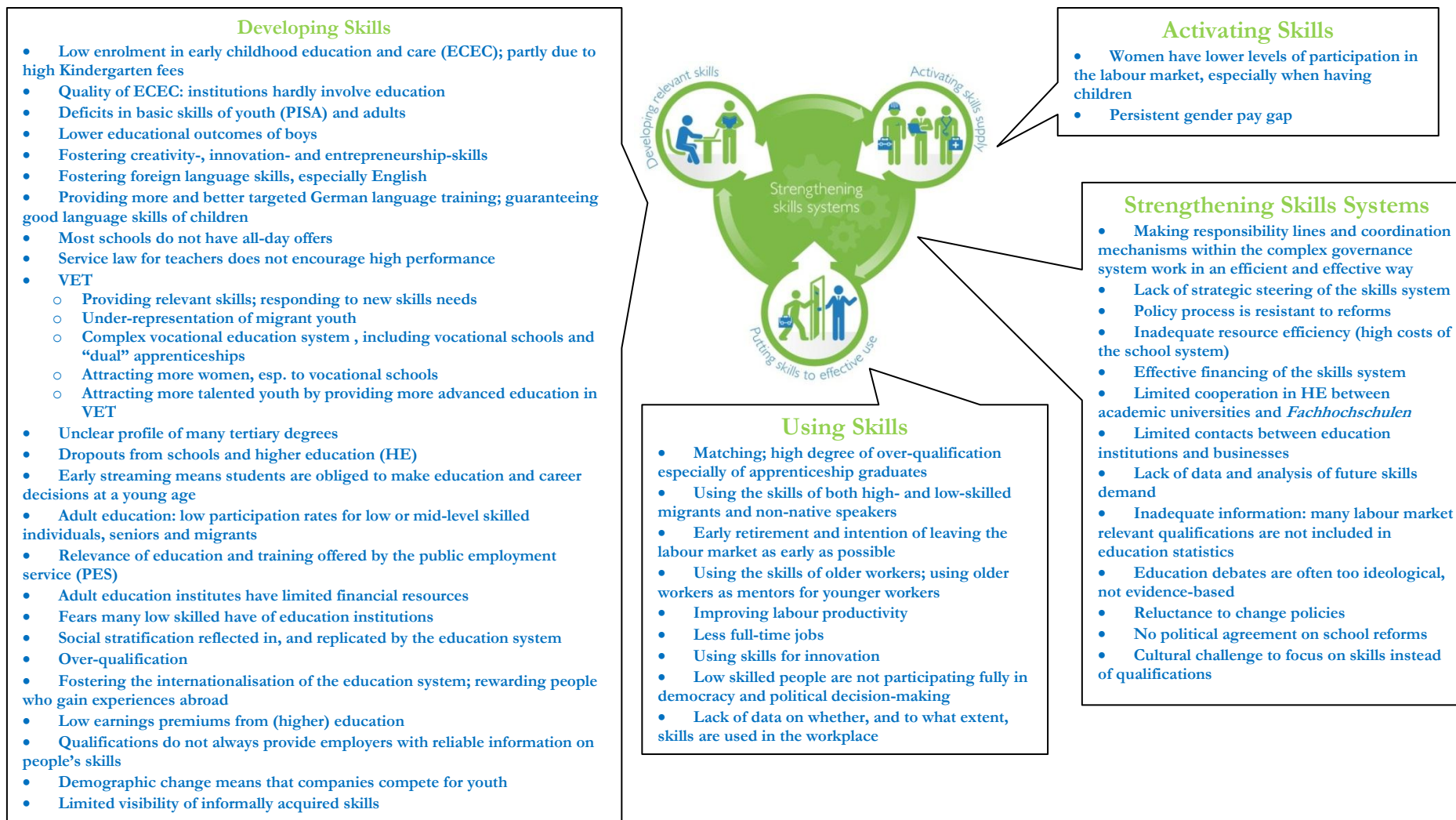
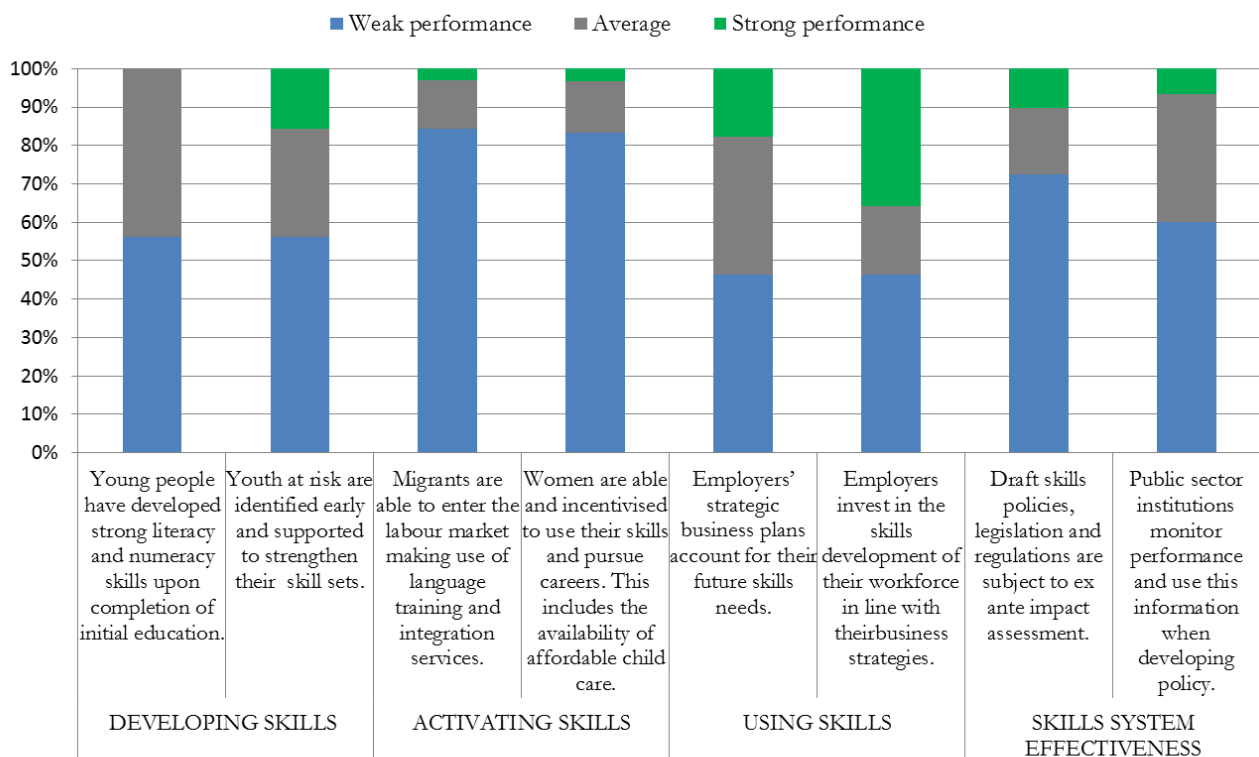


Figure 4. Stakeholder views on the challenges facing Austria's skills system



Workshop participants shared their personal assessments of how Austria’s overall skills system performs today. Each person was asked to rate Austria’s performance as weak, average or strong against a set of desirable skills outcomes (e.g. “Young people have developed strong literacy and numeracy skills upon completion of initial education”). The set of outcome statements had been selected by the Austrian project team from the OECD Skills Strategy diagnostic toolkit. The results were then compiled and analysed in “real time” and the aggregate results shared at the end of the workshop – which led to a further round of discussions. The main areas in which the majority of the workshop participants clearly felt that Austria’s skills system could do better are highlighted in Figure 5 below.

Figure 5. Stakeholder views on areas of weak performance of Austria’s skills system



Source: OECD Diagnostic Workshop, Vienna 2013.

What vision do stakeholders have for the future of Austria’s skills system?

Workshop participants were asked to describe their views on the key characteristics of an effective national skills system in Austria. Participants described a skills system that:

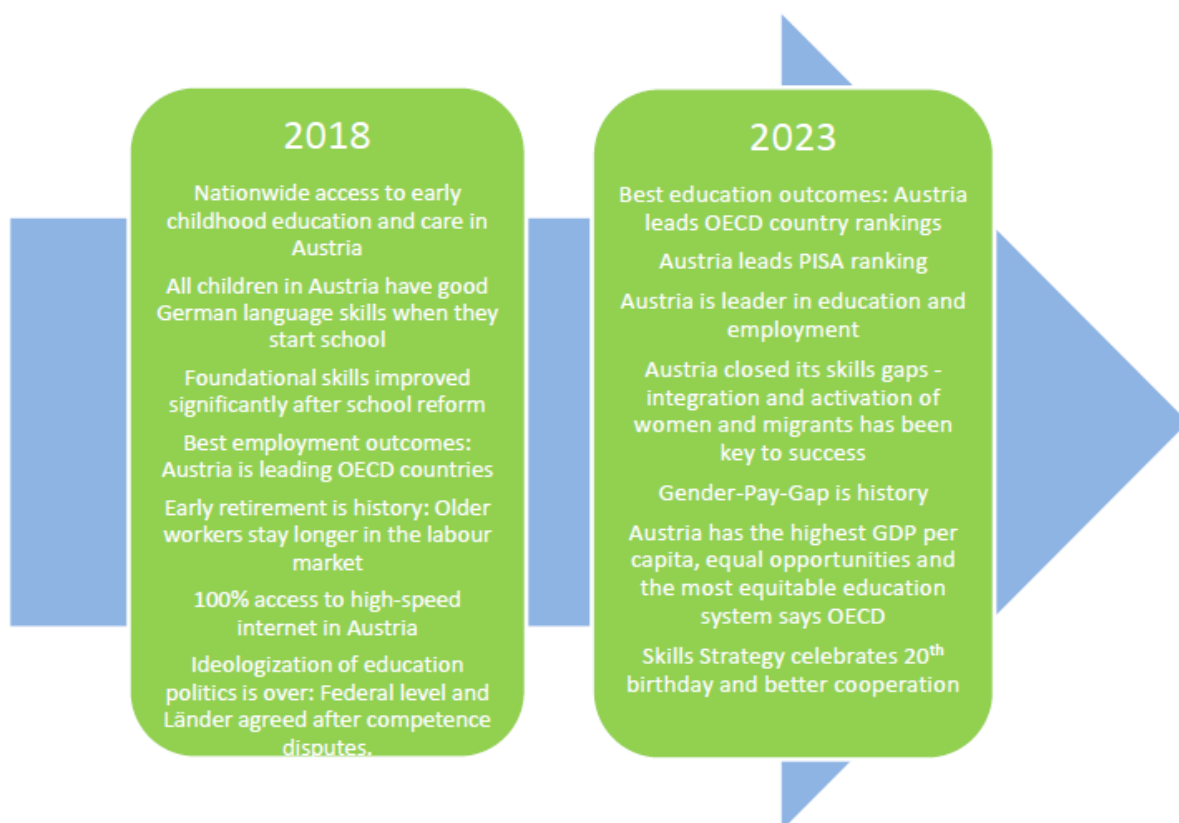
- allows people to flexibly develop skills throughout their lives;
- supports the economy in overcoming major skills gaps and mismatches; and
- helps generate more high-skilled and high-value added jobs.

Concretely, stakeholders said that Austria's future skills system should be characterised among others by:

- nationwide access to early childhood education and care;
- higher foundation skills levels for all youth and adults;
- a more equitable education system that does not replicate social stratification over generations;
- higher labour market participation of women, migrants and seniors;
- more entrepreneurship and business creation;
- better coordination between ministries and levels of government; and
- more effective skills financing.

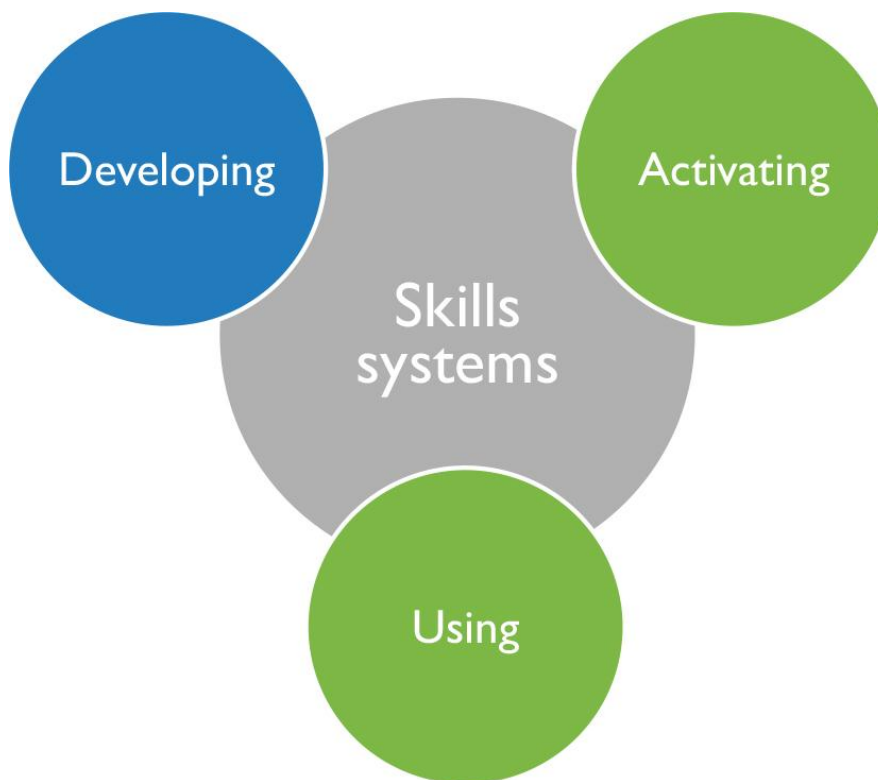
Box 5. Stakeholder views on the future of Austria's skills system

Newspaper headlines in 5 years' and in 20 years' time:



Source: OECD Diagnostic Workshop, Vienna 2013.

DEVELOPING SKILLS



II. DEVELOPING RELEVANT SKILLS

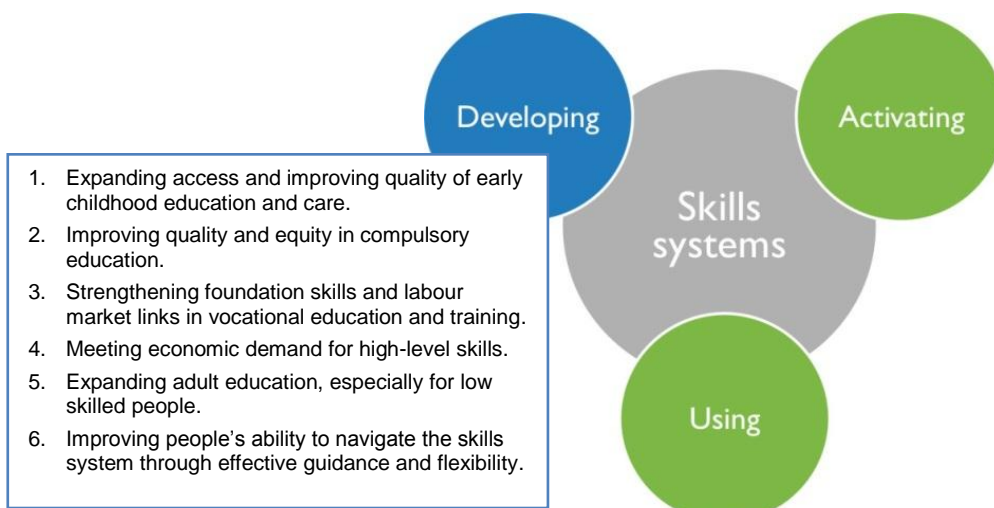
A selection of challenges identified by Austrian workshop participants:

- *Access to and quality of early childhood education and care (ECEC)*
- *Deficits in foundation skills of youth and adults*
- *Responding to new skills needs in vocational education and training (VET)*
- *Under-representation of migrant youth in VET*
- *Attracting more talented youth by providing more advanced education in VET*
- *Dropouts from schools and higher education*
- *Early streaming means students are obliged to make education and career decisions at a young age*
- *Low participation rates for low or mid-level skilled individuals, seniors and migrants in adult education*
- *Social stratification is reflected in, and replicated by the education system*
- *The Austrian economy needs to rely more on high skill, high value added industries and innovation*



Austria's population has one of the highest proportions of 25-64 year-olds with upper secondary or post-secondary non-tertiary educational attainment among OECD countries. Despite Austria's relatively high educational attainment, the country faces many challenges in developing skills as recognised by the Austrian workshop participants (see above). The problems described by workshop participants were translated by the OECD into six key – mutually interlinked – challenges covering the whole lifelong learning system, from early childhood up to adult education.

Challenges 1-6 are strongly linked to Challenge 11, which raises the question what is the right skills mix for a more innovation-driven future economy? Workshop participants expressed a strong ambition for the Austrian economy to rely more on high skill, high value added industries and innovation, which needs to be reflected in the development of foundation skills, which every individual requires to be able to update knowledge and skills flexibly, as well as the right mix of both vocational and high end specific skills.



CHALLENGE 1: EXPANDING ACCESS AND IMPROVING QUALITY OF EARLY CHILDHOOD EDUCATION AND CARE

According to workshop participants this challenge includes the following aspects:

"Low enrolment in early childhood education and care (ECEC); partly due to high Kindergarten fees"

"Quality of ECEC: institutions hardly involve education"

"Guarantee good language skills of school starters"



OECD comparative data and analysis:

The development of academic and social skills starts early in life, and international research shows that participation in high quality early childhood education and care (ECEC) can have a significant positive impact on later skills development (OECD, 2012e, p. 90). According to PISA data, “students who have attended at least one year of pre-primary education tend to perform better than those who have not, even after accounting for pupils’ socio-economic background” (OECD, 2012e). Participation in ECEC often has the largest gains for more disadvantaged children; it can counterbalance socio-economic disadvantages and can contribute to the integration of immigrant children with foreign language backgrounds (OECD, 2012b; OECD, 2011a). The availability of high quality ECEC is also a central prerequisite to make motherhood and employment more compatible (see Challenge 7). Evaluations of ECEC programmes point to the importance of programme quality, considerable financing levels, well-trained ECEC personnel and intervention actions that meet children’s and society’s needs.

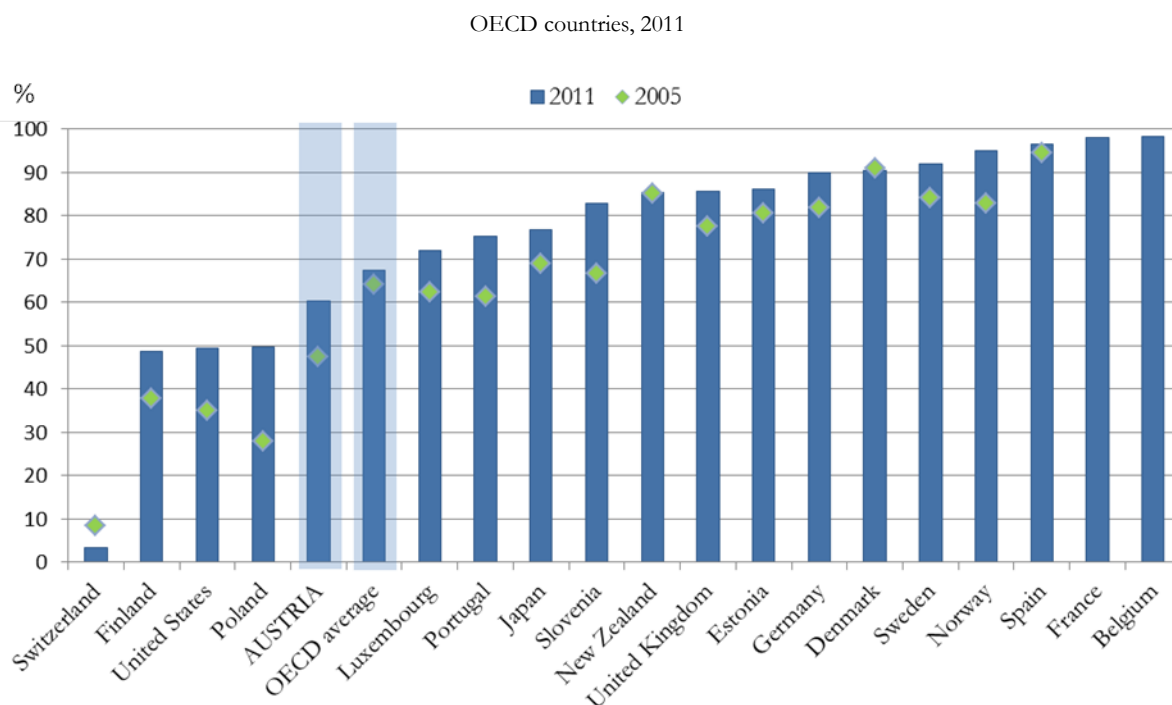
In Austria, ECEC participation rates have improved particularly for 4-5 year-olds but challenges remain in providing a high quality continuous support network; hours of services and intensity of participation are still low for all children and enrolment is particularly low for 3 and under 3-year-olds. Public investment is lower than in other OECD countries (on funding of ECEC, see Challenge 12), which is paired with comparatively high private household investments in ECEC. This may negatively affect equity in education as children with lower socio-economic backgrounds stay out of services when their parents want to save these costs. In addition, staff in Austria have one of the lowest qualification levels across the OECD.

ECEC enrolment rates have improved but remain low for under 3-year-olds

Access to ECEC has improved considerably over the last decade. Enrolment rates of 3-5 year-olds have jumped from 78% in 2000 to 91% in 2012 (Statistik Austria, 2013c) and enrolment of 3-year-olds reached 82% in 2012, which is above the 2011 OECD average of 67% (2012 not available for OECD average; see Figure 6 for 2005 and 2011 values). Enrolment of 5-year-olds has experienced a surge due to the introduction of a mandatory (at least 16 hours/week) and free (up to 20 hours/week) year of kindergarten for 5-year-olds. With the implementation of one year of free ECEC, Austria is on a par with many other OECD countries who also

provide (at least) one year of free preschool (e.g. the Netherlands where ECEC is free for all 4-5 year-olds, and France where ECEC is free from the age of 2 and a half).

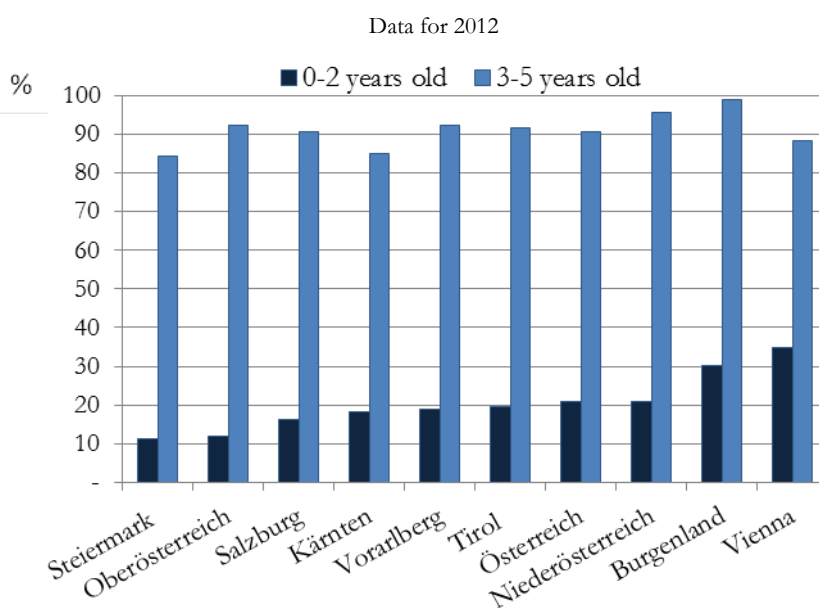
Figure 6. Enrolment rates of 3-year-olds in formal ECEC institutions



Note: Countries are sorted by enrolment rates in 2011.

Source: OECD (2013a), *Education at a Glance: OECD Indicators*, OECD Publishing, p. 286, <http://dx.doi.org/10.1787/eag-2013-en>.

Figure 7. Enrolment rates in formal ECEC institutions by *Bundesland* and age group



Source: Statistik Austria (2013c), *Formales Bildungswesen*, www.statistik.at/web_de/statistiken/bildung_und_kultur/formales_bildungswesen/index.html.

Despite the rise in participation, from less than 8% in 2000 to more than 20% in 2012, enrolment of under 3-year-olds remains low in Austria when compared to the OECD average of 33% (2010). In contrast, Denmark, Iceland and the Netherlands have enrolment rates of 56% to 66% for this age group (OECD, 2013c, p. PF3.2.A). Enrolment rates also differ largely by *Bundesland*: in Vienna and Burgenland, about one in three under 3-year-olds is enrolled while in Upper Austria and Styria, only one in ten is enrolled (Figure 7).

Hours of services and intensity of participation are low

Constraints in opening hours lead to big gaps in participation in ECEC but also in access to ECEC. In a survey of the Austrian Institute for Social Research and Consulting (SORA), every second respondent with children replied that there are “not enough childcare places for children under 6 years” and that “daily opening hours of childcare services are too short” (SORA, 2012), creating obstacles for working parents (OECD, 2012, p. 211; compare II.1.1). Only two thirds of ECEC services have opening hours until 4 pm, 80% of services are closed by 6 pm, and most services close for between 4 and 10 weeks during holiday periods (WKÖ, 2013).

Limited operating hours are reflected in low intensity of participation in Austria: in 2008 (latest available data), under 3-year-olds participated in ECEC for an average of 19 hours per week. In countries with more extended ECEC services, such as Denmark and Iceland, children attend for an average of 34 and 36 hours per week respectively (OECD, 2013c, p. PF3.2B). This may not only have a positive effect on children’s early skills development, but also on the ability of parents to reconcile family life and careers (see Challenge 7). For more information on the financing of ECEC service expansion and country examples, see Challenge 12.

Quality standards for ECEC services differ by province

In Austria, quality of ECEC differs by *Bundesland* and there are indications for vast dissatisfaction of parents with the access to and the quality of services provided. The pupil-teacher ratio (excluding teacher aides) of 14 is OECD average (OECD, 2013a). In contrast, Estonia, Iceland and Sweden have pupil-teacher ratios of about 6 children per teaching staff. Low staff-child ratios and smaller group sizes are preferable for younger children, especially for those under the age of 3 (OECD, SSIII). Austrian *Bundesländer* permit a maximum kindergarten group size of 25 children. According to the SORA-survey cited above, a third of parents in Austria are dissatisfied with the quality of ECEC.

The introduction of nationwide quality standards, including curricula, is vital to guarantee that both children and parents benefit from ECEC. Many OECD countries use curricula (usually starting for 3-year-old children) to provide pedagogical direction to the staff and management of ECEC services. In 2010, Austria introduced the first nationwide ECEC framework (*Bildungsrahmenprogramm*), which gives recommendations on educational standards, and describes a curriculum, including a focus on language-support, for 5-year-olds. In contrast, countries such as New Zealand and Norway and most *Länder* in Germany have integrated curricula even for young children (OECD, 2012e).

Targeted support to children with a migrant background starts late

Boosting participation of children with a migrant background at a young age (before the age of 4) can be very helpful for their social and linguistic integration. Early participation in child care and preschool can help these children in learning German and in overcoming socio-economic disadvantages. This contributes to a strong start in primary schools.

The increasing share of the population with an immigrant background in Austria (19% with two foreign-born parents; OECD 2012f, p. 46), is partly reflected in ECEC participation as every fourth child enrolled in kindergarten has a non-German mother tongue. In large cities such as Vienna, this share is even larger with 62% of children not having German as their mother tongue (Statistik Austria, 2013c). However, according to some

national estimates, up to 80% of children with a migrant background are not enrolled in ECEC (see for example Breit, 2009). Due to the mandatory year of the kindergarten, this situation has improved at least for 5-year-olds.

Several measures are in place to detect any special early learning needs in Austria. All children aged 4-5 years old undergo a language screening exercise. The development of language skills is stimulated in the curriculum for 5-year-olds (see above). However, this is found to be too late to reach a good language level by the beginning of primary school (Nusche et al., 2009, p. 37).

Box 6. Targeting disadvantaged children and children with a migrant background in ECEC

Flanders (Belgium), priority access for disadvantaged groups: Priority access is given to children of parents with a low income and parents for whom child care is an important factor facilitating their socio-economic integration and participation, among others. This regulation enables parents to learn the Flemish language, study, work or look for a job, which improves their own as well as their children's social integration.



Denmark, language support: All bilingual children undergo a language screening at the age of 3. Children who are found to have a need for language development are required to participate in a language stimulation programme for as long as the need exists, which for many children means that they attend the programme until they start school at age 6. If they do not attend a day care facility, they are required to attend a free, 15-hour-a-week language stimulation programme.

Sweden, a curriculum that focuses on the integration of all children: The goals of the curriculum include developing "a rich and varied spoken language and the ability to communicate with others and to express their thoughts". It articulates Sweden's high emphasis on developing children's vocabulary, to increase their ability to play with words, raise interest in the written language and train their communicative functions. The goals also include striving for tolerance, sensitivity and mutual respect for all forms of different backgrounds and cultures. It explicitly supports children whose first language is not Swedish, in developing their cultural identity as well as their ability to communicate in both Swedish and their first language. Language support for immigrant children in Sweden is regarded as important not only for their language learning in Swedish but also for the child's language and cultural learning of their own. The state determines the overall goals and guidelines for ECEC, while municipalities are responsible for the implementation of the curriculum framework.

Sources: OECD (2012e), *Starting Strong III. A Quality Toolbox for Early Childhood Development and Care*, OECD Publishing, p.121, <http://dx.doi.org/10.1787/9789264123564-en>; Nusche, D., C. Shewbridge and C.L. Rasmussen (2009), *OECD Reviews of Migrant Education: Denmark 2010*, OECD-Publishing, <http://dx.doi.org/10.1787/9789264086197-en>; Taguma, M. and S.B. Moonhee Kim (2010), *OECD Reviews of Migrant Education: Sweden 2010*, OECD Publishing, <http://dx.doi.org/10.1787/9789264086234-en>.

ECEC staff may lack the skills to support all children and to implement the ECEC quality framework

Strengthening future and current staff's knowledge and skills can contribute to better meeting young children's needs and can promote a child's early development: Specialised education and training is associated with improved staff competences to provide suitable pedagogical learning opportunities for children with different backgrounds. This is increasingly important in countries such as Austria where ECEC staff work in groups with high proportions of children with an immigrant background.

In Austria, the relatively low level of professional development of both staff working in formal ECEC institutions and child minders leads to concerns about the ability of staff to implement the quality framework and to provide effective language support, among others. In Austria, over 60% of staff in formal ECEC institutions has a secondary level professional diploma, which is one of the lowest qualification levels of ECEC staff across the OECD (OECD, 2006a, p. 274). In most other OECD countries (e.g. Australia, Denmark, Luxembourg, New Zealand, Norway and Sweden) staff with similar responsibilities (including preschool teachers, early childhood educators, and pedagogical leaders) is trained at ISCED level 5 (OECD, 2012e). Irrespective of the qualification level, it is questionable whether initial education and training of ECEC professionals is adequate considering today's more demanding ECEC workplaces, where skills such as child psychology, project work, cultural transmission and language support, have become basic requirements.

In Austria, child minders face lowest qualification requirements, which is surprising given high regulatory standards in many other occupational fields in Austria. Child minders need certification from a pedagogic training of 8 hours or 16 hours when under the age of 21 (BMWFJ, 2013a). The training requirements for professionally operating child minders, who can take care of a group of children, differ by province, ranging from 60 theory lessons and no practice experience up to 300 hours of theory and 160 hours of practice-based learning (BMWFJ, 2013b).

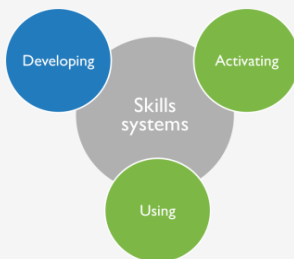
Box 7. Linking ECEC quality frameworks to professional development of ECEC staff

Norway, improving staff competences: Project funding was made available by the Ministry of Education for improving staff competences and recruitment of staff between 2007 and 2010 on the revised ECEC Framework Plan. Grants were conditional upon municipalities establishing plans for competence development, as well as an implementation plan aligned with national priorities for ECEC. The municipal authorities are obliged to supervise/monitor ECEC centres to see if the institution's practice is in accordance with legislation and the Framework Plan for the Content and Tasks of Kindergartens, Norway's ECEC curriculum.



Sweden, professional development of ECEC staff: In 2009, Sweden started the "Preschool Boost", a programme consisting of in-service training (university courses) for preschool teachers (15 European Credit Transfer and Accumulation System [ECTS], 10 weeks) and child minders (5 weeks). The initiative aimed at providing staff and management with stronger competences to work with the new goals in the Swedish curriculum. All staff was offered courses in language/communication and mathematics – which are part of the Swedish curriculum. Pedagogical leaders for preschool were also offered university courses (30 ECTS, 20 weeks) in language/communication, mathematics, and evaluation.

Source: OECD (2012e), *Starting Strong III. A Quality Toolbox for Early Childhood Development and Care*, OECD Publishing, p. 128 ff and p. 137, <http://dx.doi.org/10.1787/9789264123564-en>.



How is ECEC interlinked with other parts of the skills system?

High quality ECEC contributes to better transitions to primary schools (Challenge 2) and it can counterbalance socio-economic disadvantages (Challenges 2, 3, 5, 6 and 9). Providing comprehensive ECEC support allows parents, especially women, to reconcile families and careers. This raises women's ability to effectively use their skills in the labour market (Challenges 7 and 10). ECEC financing determines both accessibility and enrolment (Challenge 12). The expansion of ECEC services is hindered by the complex governance system (Challenge 13).

CHALLENGE 2: IMPROVING QUALITY AND EQUITY IN COMPULSORY EDUCATION

According to workshop participants this challenge includes the following aspects:

"Deficits in basic skills of youth (PISA)"

"Social stratification is reflected in, and replicated by the education system"

"Early streaming means students are obliged to make education and career decisions at a young age "

"Most schools do not have all-day offers"

"Large gender gaps in educational outcomes (girls better in reading and boys better in mathematics)"

"Providing more and better targeted German language training in order to guarantee good language skills of school starters"

"Improving foreign language skills, esp. English"

"Teaching creativity-, innovation- and entrepreneurship-skills at schools"

"Service law for teachers does not encourage high performance"



OECD comparative data and analysis

High performing education systems combine equity with quality, so that personal or social disadvantages do not hinder people in achieving their educational potential. Austria faces major challenges in providing higher quality education for all and in improving equity in learning outcomes for disadvantaged students, such as children whose parents have low educational attainment and young people with a migrant background.

Skills levels of 15-year-olds are only OECD average and have not significantly improved since 2003

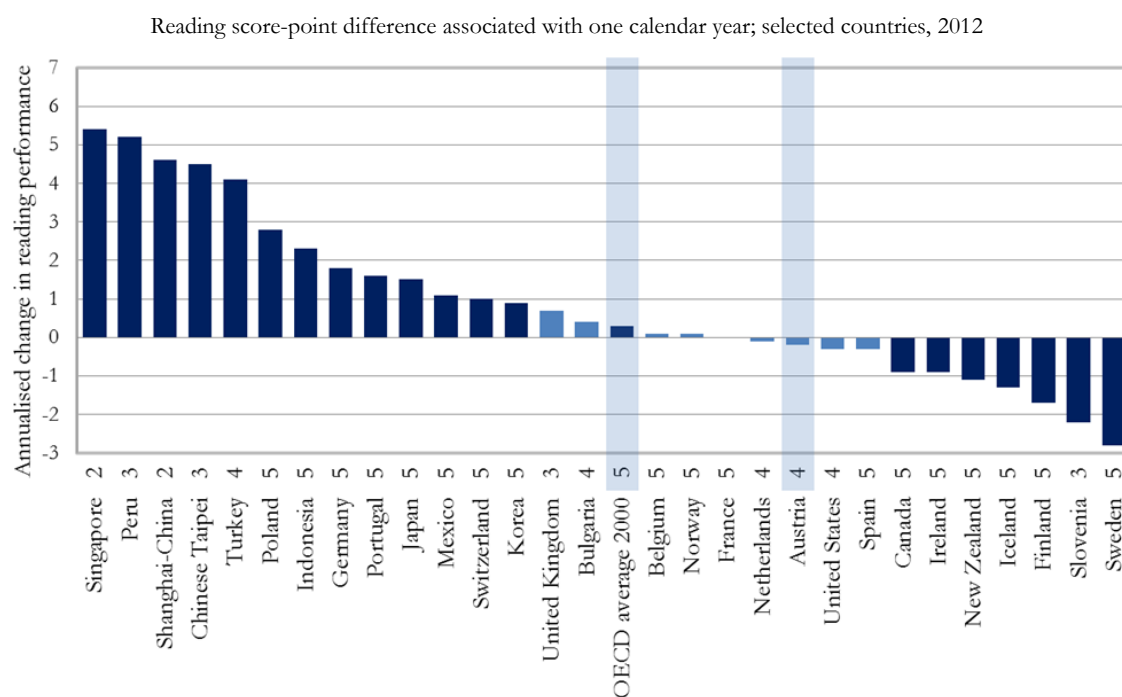
In contrast to many countries that have improved their learning outcomes according to the Programme for International Student Assessment (PISA), by and large Austria has not improved its performance over the last decade. The mean performance of Austrian 15-year-old students is around the OECD average. After Austria's scores had deteriorated between 2006 and 2009, the 2012 scores largely returned to the levels found in 2003 and 2006. Comparing 2000 and 2012 reading outcomes, average scores deteriorated by four points annually (Figure 8).

Austria performs above the OECD average in mathematics, around average in science and below average in reading among the 65 countries and economies that participated in PISA 2012. In mathematics, students in Austria have a score of 506 points on average, which is above the OECD average but below countries such as Germany (514) and Switzerland (531). The mean score of the top performer (Shanghai-China) is 613. One

school year corresponds to an average of 40 score points. In science, students in Austria score 506 points on average – close to the OECD average but below countries such as Germany (524) and Switzerland (515). The mean score of the top performer (Shanghai-China) is 580.

In reading, students have a score of 490 points on average, which is below the OECD average and comparable with countries such as Croatia, the Czech Republic, and the United States. Austria performs below Germany (508) and Switzerland (509). The mean score of the top performer (Shanghai-China) is 570. According to 2009 data (not yet available for 2012), the main reading difficulties related to combining and interpreting information and reflecting on the content and structure of the text.

Figure 8. Austria's reading performance in PISA has not improved during the last decade



Note: Statistically significant score point changes are marked in a darker tone.

The number of comparable reading scores used to calculate the annualised change is shown next to the country/economy name. The annualised change is the average annual change in PISA score points from a country's/economy's earliest participation in PISA to PISA 2012. It is calculated taking into account all of a country's/economy's participation in PISA. For more details on the calculation of the annualised change, see Annex A5 of PISA Volume I. OECD average 2000 compares only OECD countries with comparable reading scores since 2000.

Source: OECD (2013w), *PISA 2012 Results: What Students Know and Can Do – Student Performance in Mathematics, Reading and Science (Volume I)*, OECD Publishing, p. 182, <http://dx.doi.org/10.1787/9789264201118-en>.

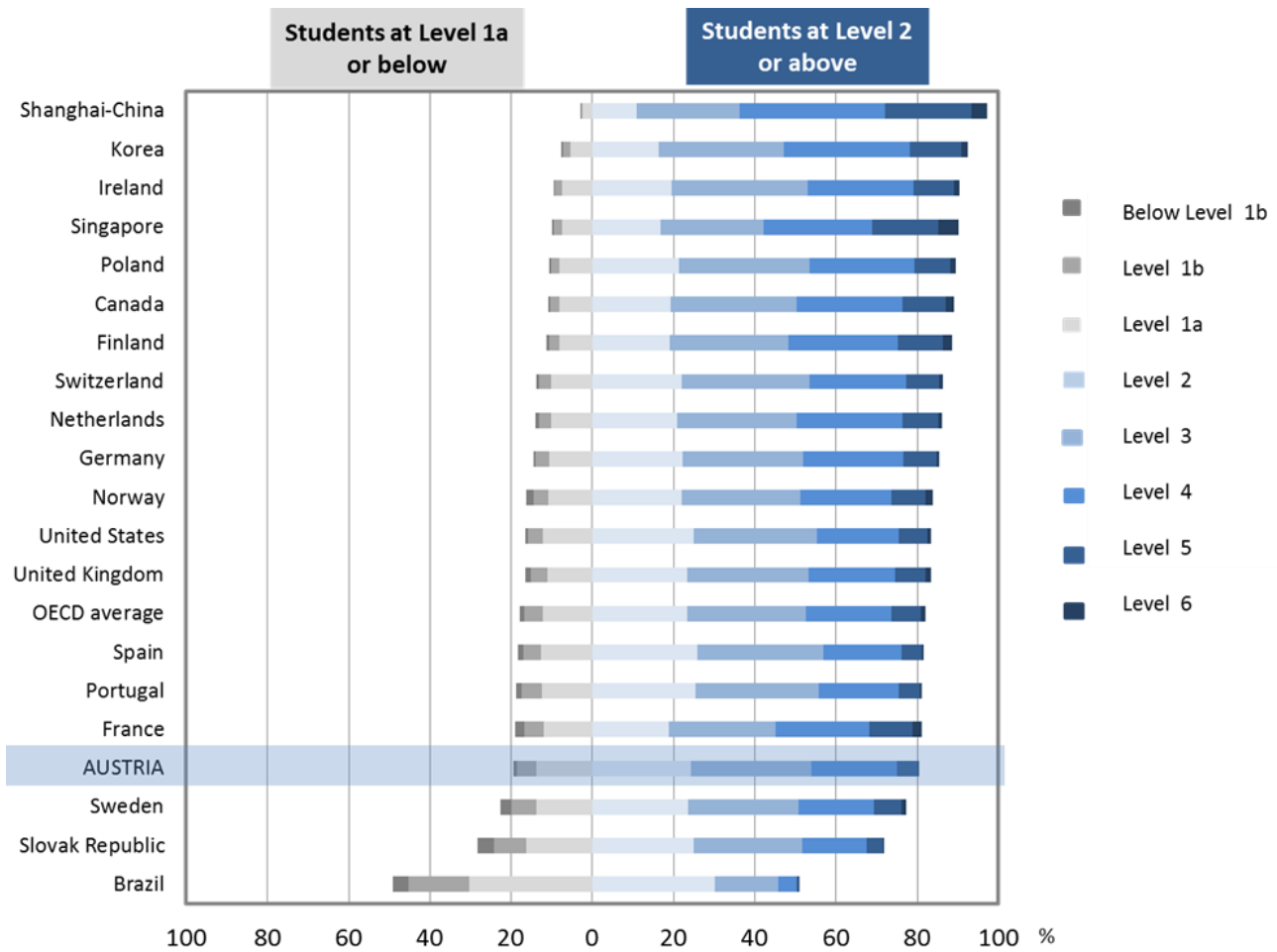
A large group of low-performing students does not master basic skills

After compulsory education many young people in Austria still lack the basic skills needed to function in today's labour market. Over a third of the tested students in Austria belong to at least one risk group (below the baseline level 2) in reading, science or mathematics. Compared to the OECD average Austria has more low-performers in reading (AUT: 20%; OECD average: 18%) but fewer low performers in mathematics (AUT: 19%; OECD average: 22%) and science (AUT: 16%; OECD average: 18%).

At the same time, Austria has fewer top performers (level 5 and above) than most other countries in reading (AUT: 5.5%; OECD average: 9%), but similar proportions of top-performers in science (AUT: 8%; OECD average: 8%) and mathematics (14 % OECD average: 13%).

Figure 9. Austria's PISA proficiency in reading is below average

Percentage of students at each level of reading proficiency, selected countries, 2012



Note: Countries and economies are ranked in descending order of the percentage of students at Levels 2, 3, 4, 5 and 6.

Source: OECD, PISA 2012 Database, Table I.4.1a.

Austria has very large gender gaps in learning outcomes

Austria has a very large gender gap in both mathematics and reading. Boys and girls have similar learning outcomes only in science. Between 2003 and 2012, the gender gap in mathematics almost tripled from 8 to 22 points that boys score higher than girls. This gap is twice as large as the OECD average of 11 score points. Girls outperform boys in reading by an average of 37 points, which is about OECD average (OECD, 2013x).

Students' success depends on the education of their parents and their socio-economic status

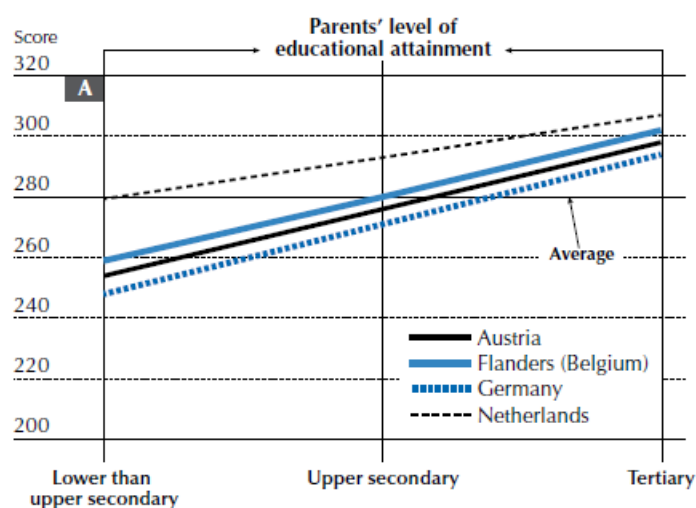
Between 2003 and 2012, Austria's equity in education outcomes in PISA remained stable. Across OECD countries, 15% of the variation in student performance in mathematics is attributed to differences in students' socio-economic status. In Austria, this is close to the OECD average at 15.8%. Across OECD countries, more socio-economically advantaged students score 39 points higher in mathematics – the equivalent of nearly one year of schooling – than a less-advantaged student; in Austria, the gap between the two is even larger: 43 points in mathematics (OECD, 2013x, p. 3).

Across OECD countries, 26% of disadvantaged students – the equivalent of 6.5% of the entire student population – are “resilient” (students in the bottom quarter of the PISA index of economic, social and cultural status in the country/economy of assessment who perform in the top quarter of students from all countries/economies, after accounting for socio-economic status). In Austria, only 5.6% of students are considered resilient. In contrast, in Hong Kong-China, Korea, Macao-China, and Singapore among others, more than half of all disadvantaged students, or 12.5% of the overall student population, are resilient (OECD, 2013x, pp. 3-4).

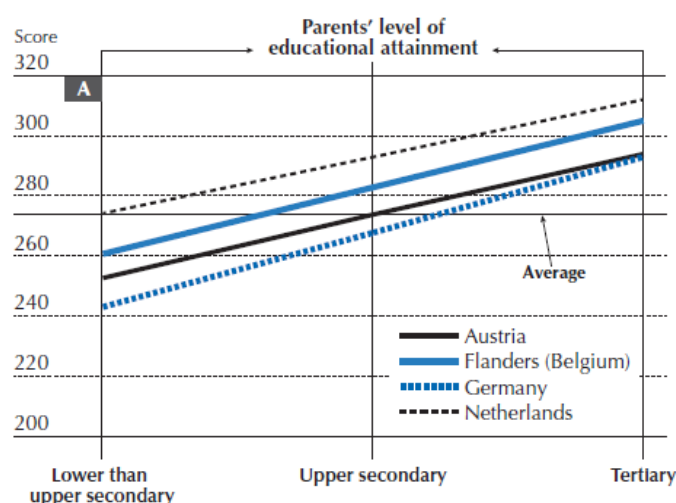
The Survey of Adult Skills shows a strong relationship between literacy proficiency among 16-24 year-olds and parents’ educational attainment (Figure 10a). The relationship is somewhat steeper among 16-24 year-olds than among 16-65 year-old adults in Austria (Figure 10b). It is unclear why parents’ educational attainment has a stronger effect on young people’s skills than on the skills of all adults.

Figure 10. Socio-economic background has a strong impact on literacy

a) Relationship between literacy proficiency and socio-economic background among young adults; Socio-economic gradient, 16-24 year-olds



b) Relationship between literacy proficiency and socio-economic background among adults; Socio-economic gradient, 16-65 year-olds



Note: The graphs show the average literacy scores of 16-24 year-olds (a) and 16-65 year-olds (b); the socio-economic gradient is based on the trend line connecting the mean scores for each level of parents’ educational attainment.

Source: OECD (2013h), *Skills Outlook: First Results from the Survey of Adult Skills*, OECD Publishing, p. 115, <http://dx.doi.org/10.1787/9789264204256-en>.

...and this is reflected in large performance differences between schools

In Austria, most of the variance in performance observed in PISA is between schools rather than within them. This reflects the practice of early selection of students at the age of 10. Early selection has negative consequences particularly for students with a lower socio-economic background and students with a migrant background. This is the case in Austria where differences in the socio-economic background of schools account for a large proportion of the performance differences between schools (OECD, 2012i, pp. 106). In other words, students from richer families with well-educated parents tend to attend the best-performing schools and those with lower socio-economic status and less-educated parents attend the lowest performing schools.

Box 8. Supporting low-performing students



Ireland, school completion programme (SCP) aims at preventing students from falling behind and dropping out, at both primary and secondary school levels. This programme includes different activities to support students depending on the particular circumstances of each school: breakfast clubs, afterschool support, homework clubs, out-of-school and holiday programmes, mentoring, learning support, social and personal development and therapeutic support.

Finland, unification of the school curriculum and individualised learning in comprehensive schools: Individualised learning and differentiated instruction have become basic principles. Students build their own learning schedules from a menu of courses offered in their school or by other education institutions. Courses selected can be completed at a different pace depending on students' abilities and life situations. Students may repeat those courses that were not passed satisfactorily.

For more information on approaches to account for disadvantaged students in **school financing**, see Challenge 12.

Sources: OECD (2012i), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*, OECD Publishing, <http://dx.doi.org/10.1787/9789264130852-en>; Välijärvi, J. and P. Sahlberg (2008), "Should 'failing' students repeat a grade? A retrospective response", in *Journal of Educational Change*, Vol. 9/4, pp. 385-389.

Students with a migrant background have lower results in Austria than elsewhere

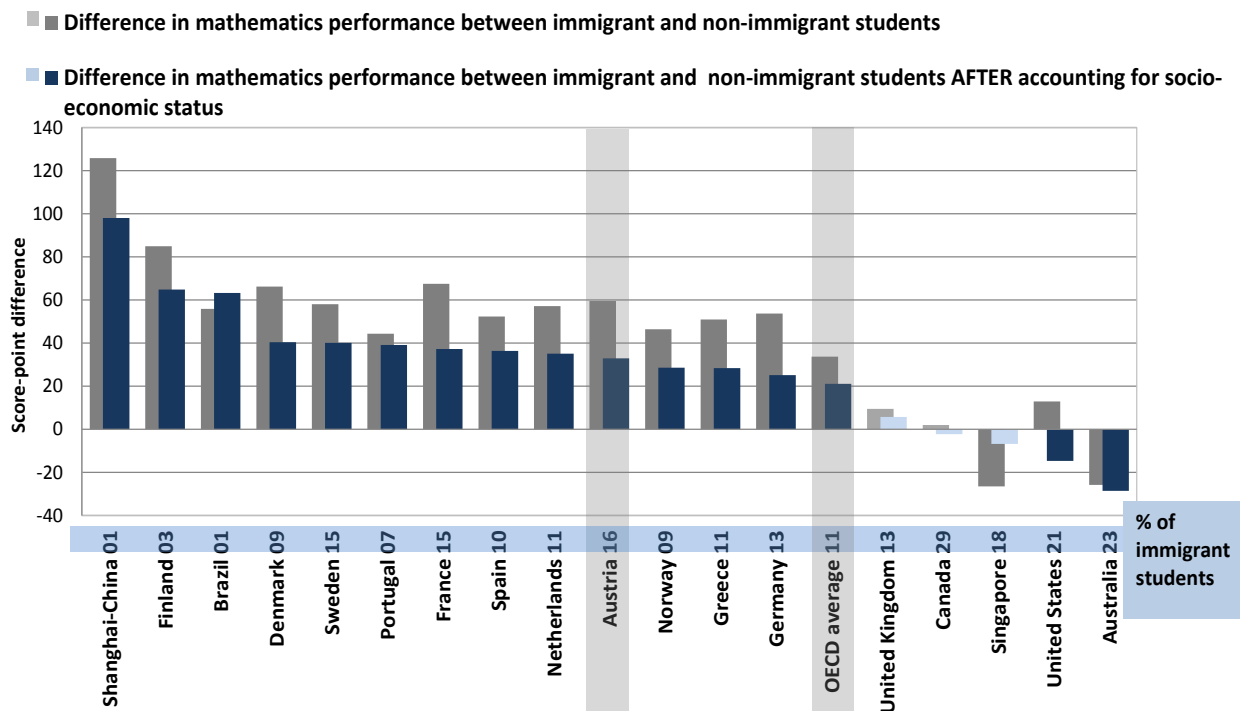
Among the 65 countries that participated in PISA 2012, Austria is one of three OECD countries with the largest differences in performance between students with an immigrant background and without (Figure 11). This applies to both first- and second-generation students. When compared to students with native-born parents, the lower skills outcomes of youth with a migrant background are interlinked with their lower success in later education stages and in the labour market (see Challenges 6 and 9).

The proportion of immigrant students in schools has increased by three percentage points across the OECD, including in Austria. The share of immigrant students in OECD countries increased from 9% in 2003 to 12% in 2012, while the difference in mathematics performance between immigrant and non-immigrant students declined by 11 score points during the same period. In Austria, the proportion of students with an immigrant background increased from 13% to 16% in the same period, while the performance gap between immigrant and other students – 33 score points in mathematics, after accounting for socio-economic status – remained unchanged (Figure 11; OECD, 2013x).

In Austria, second and first-generation students have very similar mathematics skills (458 and 454 points), so that both generations have lower scores than students without an immigrant background (516 points). Overall, the difference between young people with and without an immigrant background in mathematics is approximately 60 points. About a third of this gap can be explained by the lower socio-economic status of students with an immigrant background.

Figure 11. Immigrants' PISA gap is large in Austria

Difference in mathematics performance between immigrant and non-immigrant students before and after accounting for socio-economic status, selected countries, 2012



Note: The graph shows score point differences in mathematics between immigrant and non-immigrant students before and after accounting for socio-economic status. Score-point differences that are statistically significant are marked in a darker tone. Countries and economies are ranked in descending order of the score-point difference between immigrant and non-immigrant students, after accounting for socio-economic status.

Source: OECD, 2012x, Table II.3.4a.

Box 9. Supporting students with a migrant background in school

Denmark, all day schools in disadvantaged areas: Since 2006, the government has established 11 all day schools in disadvantaged areas to reach more migrant children. These schools offer additional services for children with a migrant background focusing on language training and other academic skills of disadvantaged children.



Sweden, curricula focusing on language skills of non-native speakers: From the 2002/03 school year a new syllabus was introduced containing three different study paths, each with two courses. The new syllabus system is designed to better meet the need of individuals with different educational backgrounds. Language proficiency is assessed through a national standardised test. Immigrant students may study Swedish as a Second Language (SSL) as a subject in compulsory and upper secondary school. The goal of SSL is to help students develop daily communication skills and proficiency in Swedish in order for them to study school subjects in Swedish. Achievement levels and proficiency requirements for SSL are similar to those for studying Swedish (as a first language). And they are considered equivalent with respect to eligibility for admission to university or other post-secondary study.

The "Ethnic Minority Parents' Platform" in the Netherlands was created to foster the involvement of migrant parents. Activities include home visits by teachers, a room for parents in the school, sometimes in combination with the provision of courses for parents (such as language training), and the creation of parent information points in schools. Many schools with a high proportion of migrant pupils have developed a policy aimed at encouraging parents to support their children's education.

Source: OECD (2012i), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*, OECD Publishing, p. 145, <http://dx.doi.org/10.1787/9789264130852-en>.

Teachers may lack the training and support necessary to teach effectively

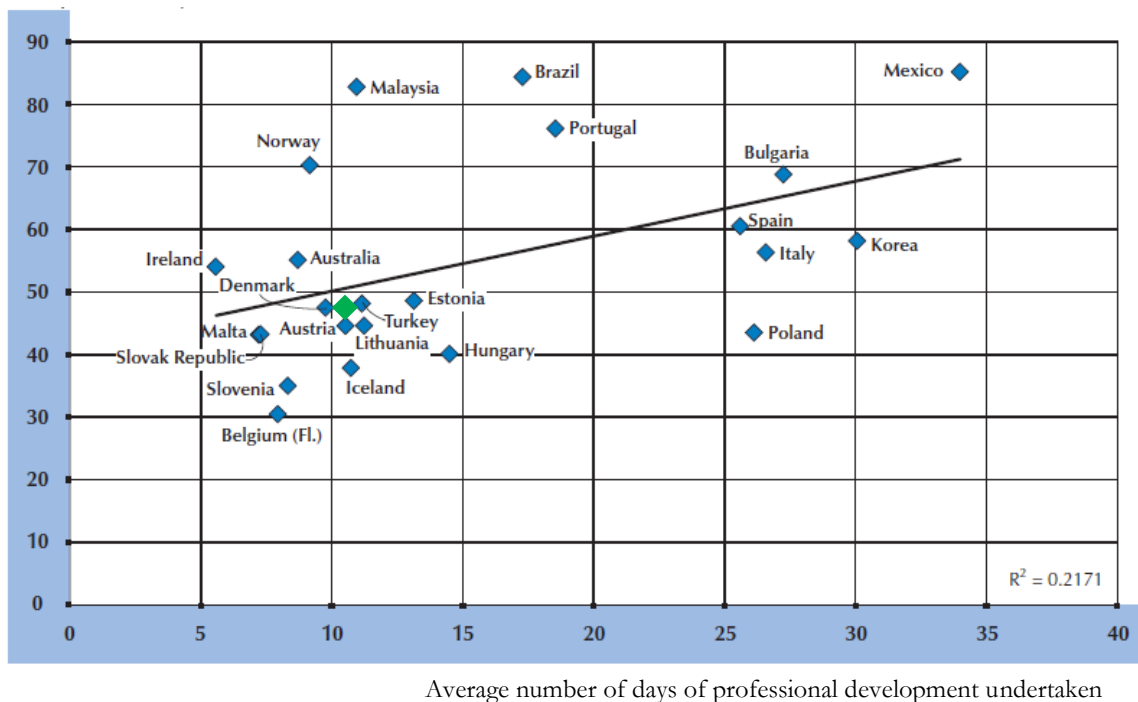
In Austria, the intensity of continuing education and training for teachers is low and they receive less support in terms of induction and mentoring than in other OECD countries. According to the OECD's Teaching and Learning International Survey (TALIS), teachers in Austria spend about 10.5 days on average in training (in the previous 18 months, 2007-08), which is below the TALIS average of 15.3 days (OECD, 2009b, p. 53). About 45% of teachers do not receive formal induction (TALIS-average: 30%) and 55% do not participate in formal mentoring (TALIS-average: 30%). Professional development is also more diverse in other countries compared to Austria, with more activities undertaken such as peer observations, observation visits to other schools and individual and collaborative research projects. (OECD, 2009b, p. 75)

In Austria, almost half of Austria's teachers feel the need for better professional development (Figure 12). A third of teachers report the highest need to develop skills to target students with discipline and behaviour problems (TALIS-average: 21%). Other skills gaps include better teaching skills for students with special learning needs (reported by 30% of teachers in Austria, 31% TALIS-average), ICT teaching skills (24% in Austria, 25% TALIS-average) as well as instructional practices (19% in Austria, 17% TALIS-average) (OECD, 2009b).

Figure 12. Teachers have unmet demand for professional development

TALIS participating countries, 2007-08

Percentage of teachers wanting more development than they received



Source: OECD (2009b), *Creating Effective Teaching and Learning Environments: First Results from TALIS*, OECD Publishing, p. 63, <http://dx.doi.org/10.1787/9789264072992-en>.

Box 10. Attracting high quality teachers and encouraging them to teach in disadvantaged schools

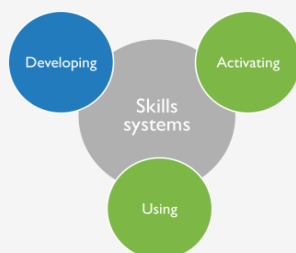
Finland, attracting high quality teachers: Teaching is the most desirable career choice among young Finns. This has been caused by a combination of raising the bar for entry into the profession and granting teachers greater autonomy and control over their classrooms and better working conditions than their peers enjoy elsewhere.

Korea, attracting high quality teachers to disadvantaged schools: Candidates who work in high need schools receive additional salary, work with smaller classes and less working hours. They receive credits for future promotions to administrative positions, and the ability to choose the next school to work.

Shanghai (China), induction and mentoring: All new teachers participate in workshops, mentoring, and peer observation; they analyse lessons in groups and join teaching research groups with more experienced teachers to discuss teaching techniques. Novices can participate in district-organised teaching competitions.

Denmark, certification systems for teachers: Teachers' skills are regularly assessed and certified. The system targets teachers in primary and secondary school. After their teaching skills are assessed, targeted training can be offered. Participation in the certification process is voluntary.

Sources: OECD (2010b), *Strong Performers and Successful Reformers in Education: Lessons from PISA for Mexico*, OECD Publishing, p. 50, <http://dx.doi.org/10.1787/9789264107243-en>; OECD (2012i), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*, OECD Publishing, p. 135 and p. 133, <http://dx.doi.org/10.1787/9789264130852-en>; Sroka, W. (2003), *Weiterbildung in Australien und internationale Vergleichsstudien zum Lernen in Weiterbildungseinrichtungen*, www.uni-leipzig.de/~erw bild/international/pdf/28_04_Statusbericht_06.pdf.

**How are foundation skills interlinked with other parts of the skills system?**

Low levels of foundation skills of young people affect their success at later stages of skills development, including higher education (Challenge 4) and adult education (Challenge 5) with negative impacts on their labour market outcomes (Challenges 7-10). Ultimately, this can limit the availability of high skilled workers (Challenge 11).

CHALLENGE 3: STRENGTHENING FOUNDATION SKILLS AND LABOUR MARKET LINKS IN VOCATIONAL EDUCATION AND TRAINING

According to workshop participants this challenge includes the following aspects:

"Providing relevant skills in VET"

"Responding to new skills needs"

"Attracting more talented youth by providing more advanced education in VET"

"Complex system, involving different vocational schools and apprenticeships"



OECD comparative data and analysis:

Unlike in most other countries, graduates from upper and post-secondary vocational education and training (VET) comprise the overwhelming majority of Austria's workforce. Austria needs to ensure that VET graduates acquire skills that are relevant for today's and tomorrow's labour market. This includes high levels of foundation skills in order to be able to adapt to labour market changes that will occur during their careers. Considering the context of Austria's projected economic development and future demand for more advanced skills (Challenge 11), the VET system needs to be modernised so that people acquire better foundational and more advanced skills levels.

In Austria, almost 70% of upper secondary students under 25 years graduated from VET programmes in 2011 (OECD average: 37%) and 76% graduated from VET including all age groups (OECD average: 47%) (OECD 2013a, Tables A2.1a, b). Given the large numbers of students following a VET track in Austria (unlike in other countries), low foundation skills are a cause for concern.

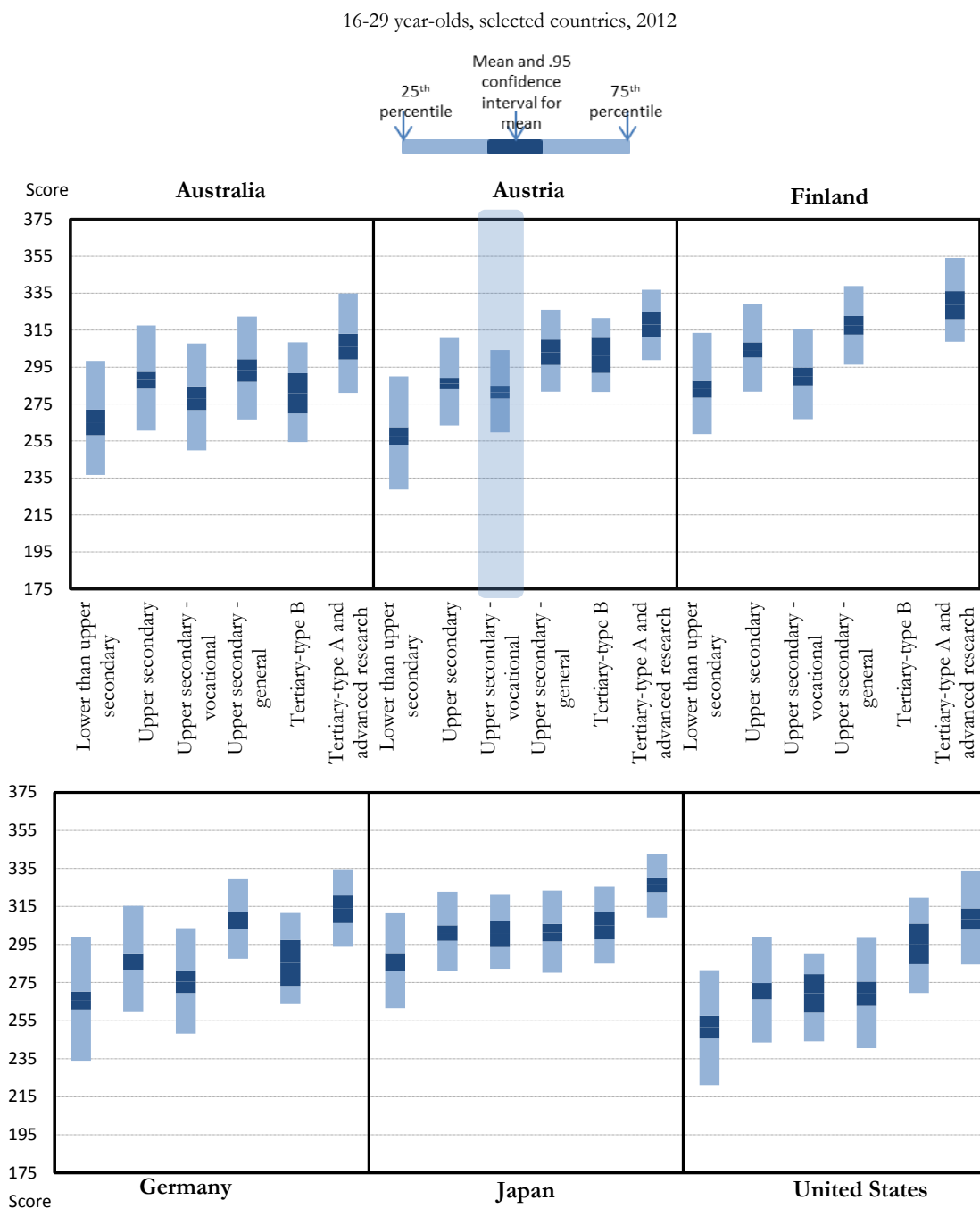
The challenge of ensuring solid foundation skills levels in Austria differs by VET track and programme. Of those entering VET in Austria, half pursue apprenticeships and half enter programmes in intermediary VET schools (two to four-year) and colleges (five-year programmes) (Musset, P., et al., 2013). People who completed apprenticeships have particularly low foundation skills levels on average, while those who completed VET colleges have acquired strong foundation skills.

VET graduates in Austria have lower foundation skills than in several OECD countries

Recent data from the Survey of Adult Skills (OECD 2013h) show that in most participating countries, young adults aged 16-29 whose highest educational attainment is general upper secondary education (academic oriented), have higher information processing skills than those with upper secondary vocational education. About a third of vocationally oriented graduates aged 16-34 score below average for vocational education at about level 2 (out of 5) on the literacy scale, which is relatively low for people having completed upper secondary education. People who scored at this level were not able to understand the meaning of dense and lengthy texts (OECD 2013h, p. 64).

The fact that some countries achieve higher results for graduates from upper secondary vocational tracks, partly with smaller gaps to the graduates from academic tracks, suggests that there is substantial scope to improve the information-processing skills of graduates from VET programmes. Compared to Austria, 16-29 year-old VET-graduates from countries such as Finland, Japan, the Netherlands and Sweden have stronger literacy proficiency (OECD 2013h, Figure 5.5c (L); see also Figure 13).

Figure 13. Literacy proficiency among young adults by orientation of education



Note: The estimate for Tertiary-type B for Finland is based on a sample size very close to 30 and is not shown at the country's request. Only a sample of countries is shown as an example.

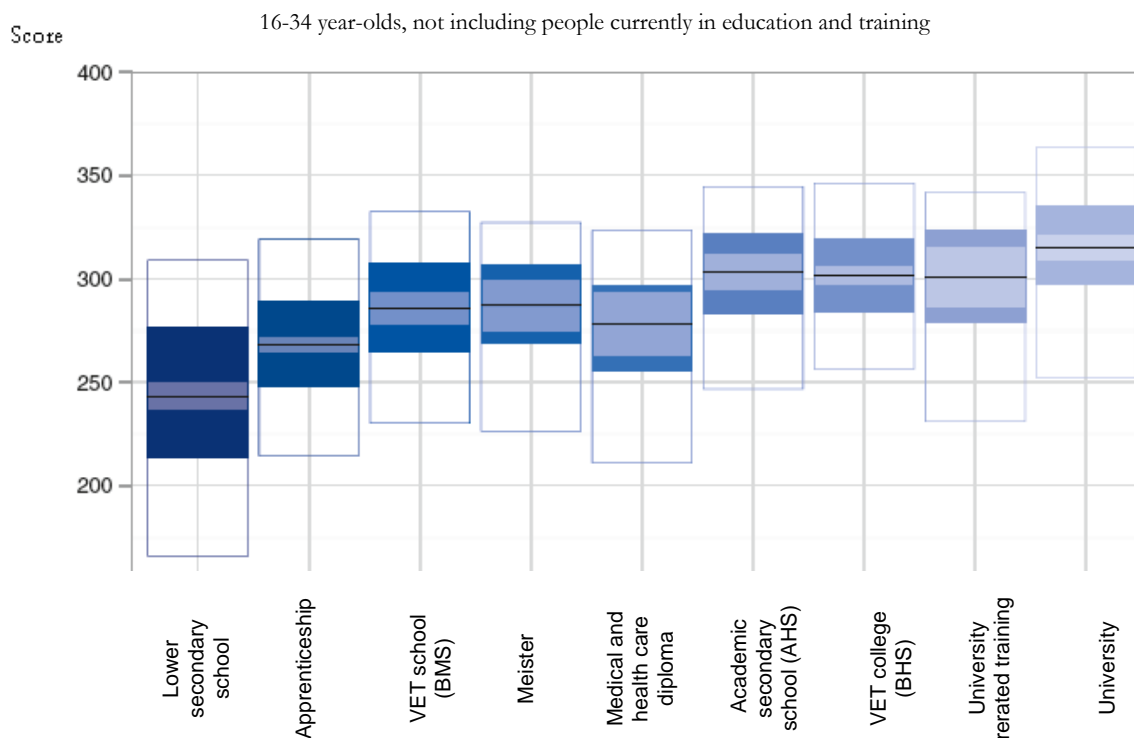
Source: OECD (2013h), *Skills Outlook: First Results from the Survey of Adult Skills*, OECD Publishing, p. 202, <http://dx.doi.org/10.1787/9789264204256-en>.

People who complete an apprenticeship have particularly low foundation skills

The diverging performance of people who completed different vocational tracks in Austria is striking. People who complete an apprenticeship, this comprises about half of all VET students in Austria (Musset, 2013, p. 13), reach only 243 points and have by far the lowest scores of all graduates whose highest degree is upper secondary. Only people whose highest attainment is lower secondary schooling have lower scores (Statistik Austria, 2013i, p. 90). In contrast, 16-34 year-old *Matura* graduates from VET colleges BHS (*Berufsbildende höhere Schule*) reached by far the highest performance on the literacy scale (301 points) among vocationally oriented graduates. People with the *Matura* certificate from the vocational BHS have about the same proficiency as *Matura* graduates from the academic oriented AHS (*Allgemeinbildende höhere Schule*), who reached on average 303 points on the literacy scale (Figure 14). People who completed the secondary technical and vocational school BMS (*Berufsbildende mittlere Schule*) reached 286 points, similar to those with a professional master examination (*Meister/Werkmeister*) with 287 points.

These performance differences between graduates from different tracks follow the same trend for numeracy. They also hold for the whole adult population aged 16-65. Performance in problem solving in technology-rich environments is more *polarised*. On the one hand, most 16-65 year-old graduates from AHS and BHS are relatively proficient; about one fourth of them has very low skills (level 1 and below). In contrast, between 60% and 70% of adults from all vocationally oriented tracks other than the BHS have very low skills in this domain (Statistik Austria, 2013i).

Figure 14. Literacy skills by educational attainment in Austria



Note: The black line shows the mean; the upper end of the white part of the bar shows the 95th percentile of participants, the lower end refers to the 5th percentile. The upper end of the dark blue bar represents the 75th percentile; the lower end of the dark blue refers to the 25th percentile. The upper and lower ends of the light blue show the 95% confidence interval.

Sources: Statistik Austria (2013i), *Schlüsselkompetenzen von Erwachsenen*, Erste Ergebnisse der PIAAC-Erhebung 2011/12, Graphic 33, www.oecd.org/site/piaac/Austria_piaac-erhebung_2011_12.pdf, based on OECD (2013h), *Skills Outlook: First Results from the Survey of Adult Skills*, OECD Publishing, <http://dx.doi.org/10.1787/9789264204256-en>.

Low foundation skills are a barrier to further education and training

VET graduates with low foundation skills levels are not only less prepared to acquire new skills and adapt to changing skills demand, they also face a lower likelihood of benefitting from job-related adult education and training later on (Challenge 5).

People with low foundation skills encounter disadvantages, especially when entering more academically demanding environments, requiring more autonomous learning, such as tertiary education. In fact, those who do enter universities and *Fachhochschulen* have a higher risk of dropping out (Musset, P., et al., 2013, p. 53). Forty four percent of students at *Fachhochschulen* and 25% of students at public universities are graduates from VET colleges. In contrast, the number of apprentices accessing higher education has stayed on a low level and even decreased since the 1990s, from 5.5% in 1994/5 to 2.2% in 2010/11 (Musset, P., et al., 2013, pp. 48-49, based on Statistik Austria data).

The VET system lacks a comprehensive focus on foundation skills ...

Foundation skills are part of all VET programmes in Austria. However, apprentices in particular do not face effective incentives to focus on improving these skills and teachers may not be well prepared to teach these skills effectively. In contrast, those in VET schools and colleges have a school-based education with varying degrees of work-based learning. In 2005, the Federal Ministry of Education improved the development of skills standards in VET schools and colleges. These standards have emphasised the development of foundation skills in the curricula of VET schools and colleges (BMS and BHS).

Apprenticeships integrate learning in schools and workplace training but have a stronger focus on the latter, especially when individuals do not opt for the “*Lehre mit Matura*” – a double certificate of both the occupational degree and the higher education entrance degree. However, only 2% of apprentices in Austria obtain the *Matura*. Apprentices opting for the *Matura* exam take additional academic courses, which focus also on information-processing skills. Apprentices who do not opt for the *Matura* do not face any direct incentives to improve their foundation skills as their final VET exams only test occupation specific skills. It is unclear why the share of those opting for the double degree has stayed so low, especially compared to the similar Swiss option, the so-called *Berufsmaturität*. In Switzerland, 12% of apprentices obtain this school-leavers qualification (Musset, P., et al., 2013, p. 53). Low uptake in Austria may be linked to limited awareness (adapted from Musset, P., et al., 2013). In addition, it needs to be ensured that the training of VET-teachers is sufficient to train foundation skills successfully. Teachers have specific occupational backgrounds, which prepare them well to teach occupation-specific skills but they may need more support to combine this with the teaching of foundation skills.

... and could address the demand for upcoming, advanced skills needs more effectively

Due to strong social partner involvement, the Austrian VET system is closely linked to current employment demand. However, if the country wants to engage more in innovation and continue to keep the VET system as strong and relevant as it is today, Austria could envisage how to further improve the system with a more strategic and innovation-oriented approach to meet upcoming skills needs, such as currently the importance of solid ICT-skills for all occupations (see Challenge 11).

Currently, the offer of programmes is determined incrementally, by adding new programmes, while older programmes are rarely closed as long as there are still applicants (Musset, P., et al., 2013, p. 70). The mix of provision in VET colleges is driven primarily by student preferences (Musset, P., et al., 2013). Signals of labour market needs are weak and young people’s preferences may not reflect labour market demand (see Challenge 6) (adapted from Musset, P., et al., 2013, p. 70).

It is questionable to what extent the current fragmented VET governance structure is adequate to steer the system while ensuring that the right skills mix is developed and that graduates are well equipped to succeed in a more competitive and innovative environment (Challenge 13).

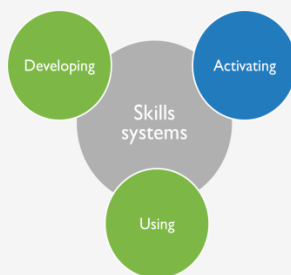
Box 11. Promoting foundation skills development in VET



Finland, a modular curriculum that emphasises foundation skills: In Finland, VET should “enable those who are qualified to find placements in working life, to perform various tasks in their field in changing conditions, and so to develop their vocational skills throughout their lives” (Finnish National Board of Education, 2013). Individual curricula can be flexibly adapted to learners’ needs and individual skills levels. An individual study plan is prepared for each student taking a competence-based test. The scope of VET qualifications is 120 credits (40 credits per year and 1 credit is equivalent to 40 hours of study). Core subjects include 20 credits (16 are compulsory and 4 optional) and are common to all qualifications; subjects include the native language, a foreign language, mathematics, physics and chemistry, social, business and labour-market subjects, health and physical education, arts, environmental studies, ICT, ethics and entrepreneurship.

New Zealand, professional development for VET teachers: New Zealand developed an extensive professional development program to build the skills of general and vocational training practitioners in supporting foundation skills development. “Workbase”, the New Zealand Centre for Workforce Literacy Development - provides programmes in the workplace, training for teachers and resource development for tutors. For example, in “train the trainer” courses, VET teachers among others are trained in practical teaching skills to improve literacy and numeracy skills. Training elements include developing effective teaching sessions and learning activities and teaching mixed groups of learners.

Sources: Finnish National Board of Education (2013), *Vocational Education and Training in Finland*, www.oph.fi/download/131431_vocational_education_and_training_in_finland.pdf; Workbase (2013), *Workbase - Leading Workforce Literacy*, www.workbase.org.nz/.



How is skills development in VET interlinked with other parts of the skills system?

Poor foundation skills of VET graduates are rooted in earlier stages of education (Challenge 2). Low foundation skills of VET students limit their ability to acquire new skills later in life (Challenges 4 and 5). If Austria wants to create a skills system that better promotes innovation and if Austria still wants to keep its strong focus on VET, the VET system will have to provide more advanced skills and respond better to skills trends, such as currently the importance of solid ICT-skills for all occupations (Challenge 11). To this end, the actors of the skills system need to coordinate more effectively to increase the ability to steer the VET system in this strategic direction (Challenge 12).

CHALLENGE 4: MEETING ECONOMIC DEMAND FOR HIGH-LEVEL SKILLS

According to workshop participants this challenge includes the following aspects:

"The skills system needs to meet the economic demand for skilled labour"

"We need more economic and employment growth in high-skills sectors, and Austria should be internationally competitive in research and both radical and incremental innovation"

"Low earnings premiums from (higher) education"

"Unclear profile of many tertiary degrees"

"There is a high number of dropouts from tertiary education"

"Limited cooperation between universities and Fachhochschulen and between universities and employers"



OECD comparative data and analysis:

Tertiary graduation rates indicate a country's capacity to equip people with advanced and specialised knowledge and skills, which play an important role in innovation and entrepreneurship (OECD, 2013a, p. 54). In Austria, the vocational education and training (VET) system has successfully supplied people to occupations, which would often require tertiary education in other countries. However, VET supplies more practice-related yet less academic and research-relevant high-end skills, so that it can only partly substitute for higher education. A key question that Austrian policy makers and stakeholders need to answer is: What is the right skills mix for Austria between a modern VET system and high quality higher education, while keeping the whole lifelong learning system flexible and allowing for transitions between VET and higher education?

In Austria, the supply of higher education graduates has now caught up with the international average. Currently, policies need to particularly address challenges in assuring the quality of higher education. According to national data, academic universities, more than the practice oriented *Fachhochschulen*, are struggling with relatively high student dropout rates and dissatisfaction about the quality of education provided. In addition, Austria may still have a relatively low supply of higher education graduates from STEM subjects (STEM: science, technology, engineering and mathematics) although further research is needed to better understand how both VET and higher education can effectively meet the demand in particular for these important expert fields. On the financing of higher education see Challenge 12.

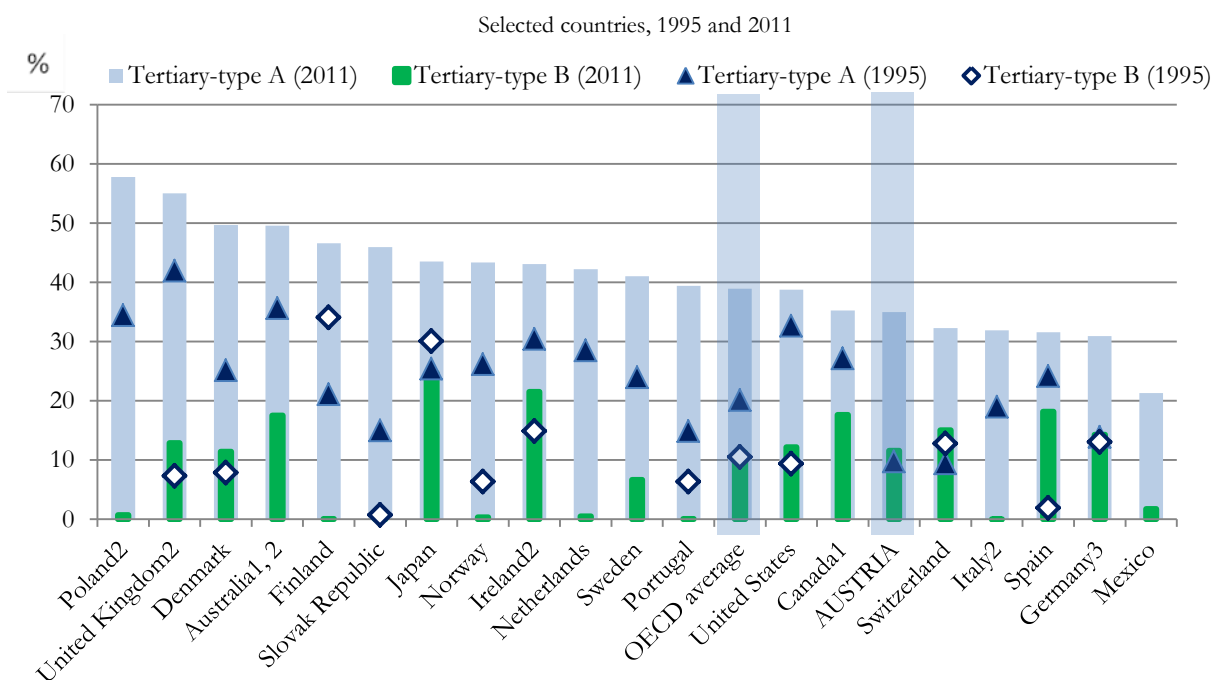
Austria's tertiary graduation rates have caught up with the OECD average

In Austria, entry rates into tertiary-type A programmes almost doubled from 27% in 1995 (OECD average 1995: 39%) to 52% in 2011 (OECD average 2011: 60%). At the same time, Austria's tertiary-

type A graduation rates – which counts all those who actually graduate from a tertiary programme - more than tripled from 10% to 35% while the OECD average almost doubled from 20% to 39% (Figure 15).

An estimated 16% of Austrians are expected to enter tertiary-type B (vocational) programmes (OECD average: 19%) while the tertiary-type B graduation rate was 12% in 2011 (OECD average: 11%). The OECD average for tertiary-type A graduation doubled during the same period from 20% to 39%, leaving Austria still below the OECD average, when considering only tertiary-type A supply (Figure 15).

Figure 15. First-time graduation rates in tertiary-type A and B education



1: Year of reference 2010 instead of 2011.

2: Year of reference 2000 instead of 1995.

3: Break in the series between 2008 and 2009 due to a partial reallocation of vocational programmes into ISCED 2 and ISCED 5B

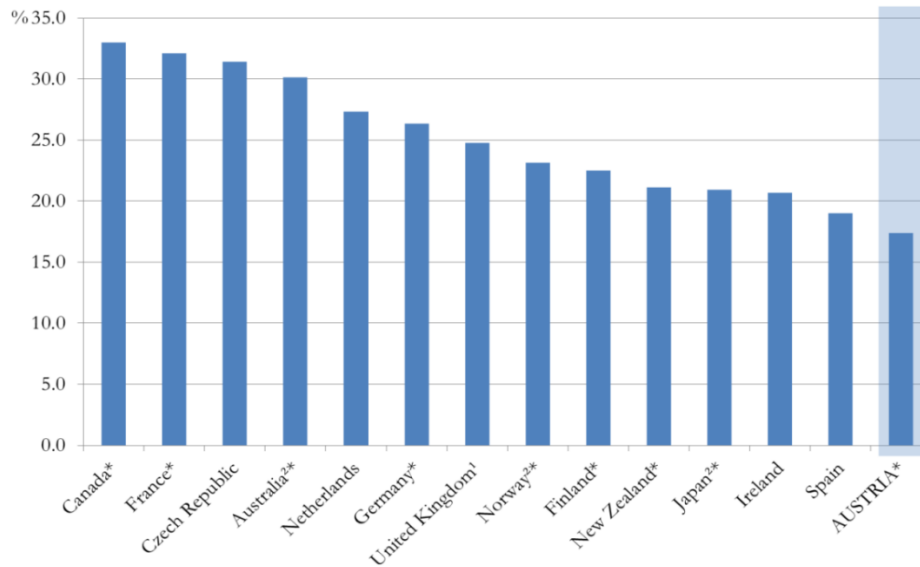
Source: OECD (2012i), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*, OECD Publishing, <http://dx.doi.org/10.1787/9789264130852-en>, Table A3.2a. Saudi Arabia: Observatory on Higher Education. See Annex 3 in OECD 2012i for notes.

International students are an untapped potential for the Austrian labour market

Austria's high level of international student intake represents a significant, but almost untapped, potential to attract more high-skilled youth with domestic degrees to supply their skills to the Austrian labour market (OECD, 2012a, p. 51). International students, who cross borders for the specific purpose of studying, account for 15% of all enrolments in Austria - a share which is twice as high as the OECD average (OECD, 2013a, Chart C4.4). However, only 17% of international students stayed on after their studies in Austria in 2008, which is the lowest share of countries with available data (Figure 16).

Figure 16. Percentage of international students changing status and staying on

Percentage of students who have changed their status (whether for work, family or other reasons) among students who have not renewed their permits. Selected OECD countries, 2008/9



Note: The graph shows percentages of students who have changed their status (whether for work, family or other reasons) among students who have not renewed their permits. Unless specified otherwise, students stocks come from permit sources. For European countries, covers only students from outside the European Economic Area. Data for Canada include changes from student to other temporary statuses.

* Year of reference 2008.

1. Student stocks from visa sources.
2. Student stocks calculated from Education at a Glance.

Source: OECD (2011d), *International Migration Outlook 2011*, OECD Publishing, http://dx.doi.org/10.1787/migr_outlook-2011-en.

Every third student drops out, particularly from academic universities

Austria had a tertiary-type A completion rate¹ of 65% in 2011, which is low compared to the OECD average of 70% and completion rates of at least 80% in countries such as Australia, Denmark and Japan (OECD 2013a, Box A4.1). In Austria, the completion rate is, at 77%, actually much higher at *Fachhochschulen* (Musset, P., et-al., 2013), so that Austria's challenge of reducing student dropout mainly relates to academic universities.

High dropout rates can be a result of students' dissatisfaction with the curriculum or with the quality of teaching. Both can be concluded from the 2012 student survey, conducted by the Austrian Institute for Social Research and Consulting. Student satisfaction is much higher at *Fachhochschulen*, where also fewer students drop out. *Fachhochschulen* are more supportive to students (smaller groups, more directed learning activities, etc.).

¹ Completion rates are defined as the proportion of new entrants who graduate with at least a first degree at this level (OECD 2013a, p. 69).

Box 12. Reducing dropouts from higher education

France, re-orienting tertiary-type A dropouts to tertiary-type B: Students at risk of dropping out from tertiary-type A programmes are often successfully re-oriented towards a tertiary-type B programme. Out of 100 students who start a tertiary-type A programme, 14 will be re-oriented into a tertiary-type B programme.

Sweden and the United States, modular systems: Countries such as Sweden and the United States allow for relatively flexible re-entry possibilities into programmes once people dropped out. Students can leave a tertiary-type A programme before completing it, be employed for some time, and decide to continue their studies at a later date. They do not lose the benefit of the modules completed prior to employment. Even if they have studied enough to graduate, they might not apply for a diploma as the credit points for the individual courses in many programmes are recognised as equivalent by the labour market.

Source: OECD (2013a), *Education at a Glance 2013: OECD Indicators*, OECD Publishing, p. 67 and p.68, <http://dx.doi.org/10.1787/eag-2013-en>.

The expansion of higher education implies higher student diversity, also with respect to students' skills levels. Coping with a diverse student body requires high-quality teaching, even more so in a country like Austria, where students may not be well prepared for academic and self-directed learning due to mixed foundation skills levels (see Challenges 2 and 3).

Austria's dramatic increase in student numbers has not been accompanied by a proportional increase in teaching staff. Between 2007 and 2011, the number of students enrolled increased by 22% (BMWF, 2011, p. 156) while the number of professors only increased by 4% and the number of tutors dropped by 12%. (BMWF, 2011, p. 81) The ratio of student to teaching staff was 16.6 in Austria for tertiary-type A in 2011 (OECD average: 15.6; EU 21 average: 15.9) (OECD, 2013a, Table D2.2).

According to a recent survey of the Austrian SORA institute on teaching quality in higher education², there are substantial shortcomings in student satisfaction: 55% were unsatisfied with teaching practices; 54% of students complained about overcrowded classes; 51% were unsatisfied with their curricula, especially due to a lack of flexibility to choose classes; 50% with student services; and 42% were unsatisfied with the instructive skills of teaching staff and a lack of feedback. Students from *Fachhochschulen* were more satisfied than students from academic universities, especially with the infrastructure of their institutions, student services and the opportunities for active engagement (Larcher and Schönherr, 2012).

Linking economic demand and high skills supply

Effective skills development, where people acquire the high-level skills that are demanded by the labour market, requires linking the two sides – economic demand and high skills supply. In Austria, academic universities, which constitute the main providers of tertiary education, could expand links to the world of work in at least two respects. First, the demand side of skills, such as employers, play no direct role in the design of programmes and curricula at academic universities. Universities are governed by university councils with up to nine members, which are appointed by the universities and the Ministry of Science, Research and Economy (Kottmann, 2008, pp. 20, 34). Every three years, the Ministry and universities come together to develop performance agreements on study programmes and curricula design. Cooperation with employers is limited, and mainly linked to research.

² In 2012, the Austrian Institute for Social Research and Consulting (SORA) conducted a survey on the quality of teaching in higher education in Austria (*Qualität der Lehre*) (Larcher and Schönherr, 2012). 6 566 students were surveyed in a computer based interview. Respondents were waited according to student numbers per university.

A second aspect is that adult and postgraduate education has not yet become a focus of universities (Kottmann, 2008, p. 21). Changing this would require institutions to become more flexible education providers, raising part-time and distance offers, while designing programmes tailored to the needs of employers and industries (OECD, 2011e, p. 112; see Challenges 5 and 11).

Box 13. Raising the quality of teaching in higher education

Université Laval, Canada, “Rewarding Excellence in Teaching for the benefit of all”: Each year Université Laval organises the University Awards for Excellence in Teaching. Faculty members are honoured for their exceptional teaching practices or for the production of high quality educational material. The Academic and International Activities Vice-Rector is responsible for this contest with the support of the Teaching and Learning Services. The selection committees are composed of the Academic and International Activities Associate Vice-Rector, representatives of Faculty members and students from first, second and third cycles.



Veracruzana University, Mexico, fostering innovative teaching practices: Since 1999 the Veracruzana University undertook the implementation in all degree programmes of a new educational model: "Comprehensive and Flexible Educational Model" designed by academics at the institution and guided by the World Declaration for the 21st Century. This model aims at comprehensive training of university teachers in three areas: complex thinking skills, research-innovation, and information technology through instructional design strategies and field research. All academics have been gradually incorporated into this project through learning communities facilitated by academics. In 2011, more than 800 teachers had been involved thus providing the foundations for a wider and continuous faculty engagement. The teacher's role is required to be changed to encourage the student to develop independent learning skills, recognizing that job performance requires that subjects are in a continuous learning process, updating and mastering new skills, knowledge and attitudes.

University of Lausanne, Switzerland, Teaching Innovation Fund to foster quality teaching: The University of Lausanne launched its Teaching Innovation Fund (TIF) in 2007 in order to achieve two objectives: Helping individual teachers develop through applied research projects on teaching and learning and fostering institutional change with regard to teaching and learning practices. Teachers can apply for funds in order to hire staff to help on some specific aspect of teaching with or without the use of educational technology. Participants are coached from during the project period.

Source: Hénard, F. and D. Roseveare (2012), *Fostering Quality Teaching in Higher Education: Policies and Practices. An IMHE Guide for Higher Education Institutions*, OECD Publishing, www.oecd.org/edu/imhe/QT%20policies%20and%20practices.pdf.

Most students enter social sciences and humanities

The most popular study fields of students in Austria are social sciences, business and law - 34% of entries - followed by humanities, arts and education - 29% of entries. Both proportions are above the OECD average. On average, a quarter of all higher education students in Austria enter these fields (16% in engineering, manufacturing and construction and 10% in science), which is around the OECD average (OECD, 2013a, Table C3.3a). Considering relatively low overall tertiary graduation, the supply of tertiary educated scientists may fall short of the increasing demand (Challenge 11). The proportion of engineering students reach up to about 25% in Finland and Korea; and shares of science students reach up to 16% in New Zealand and 19% in France (OECD, 2013a, Table C3.3a). However, among Austrian upper secondary VET-students, the field of study most common is engineering, manufacturing and construction (29%), which might partly compensate for the economic demand for skills in this field.

Girls avoid study programmes in science although in school they have similar scores in science to boys

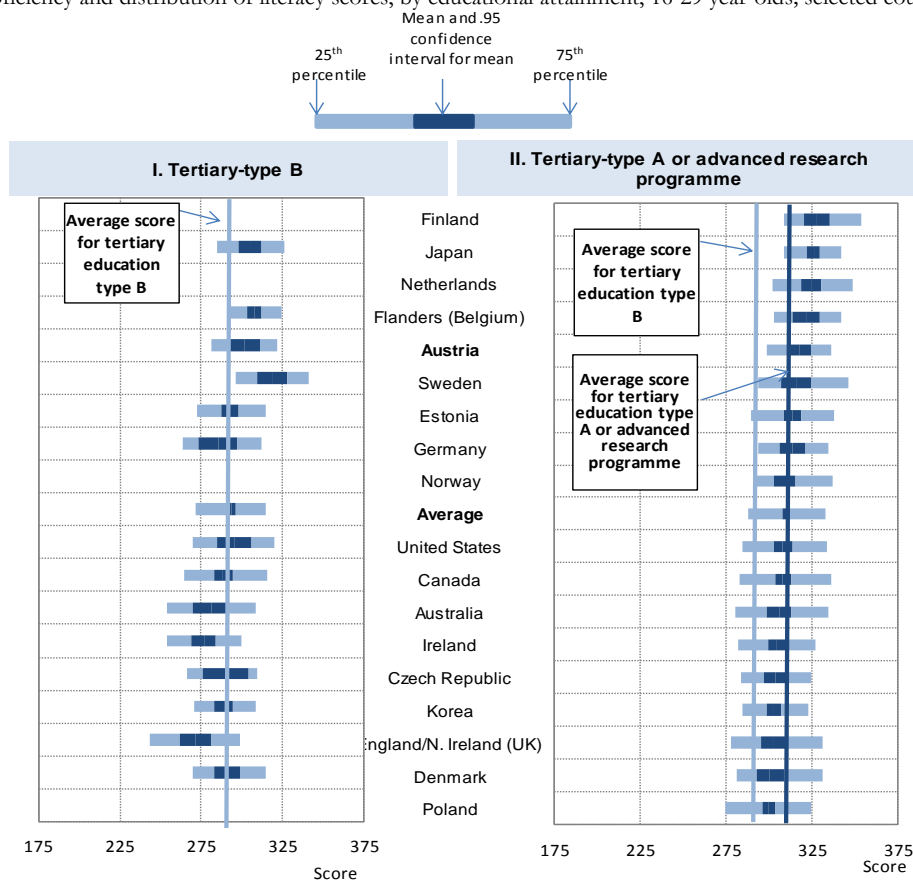
More girls than boys graduate from general academic programmes (22% against 14% for boys) and from higher education (38% against 28% for men). Yet only 14% of the female higher education entrants choose science compared to 40% of the male entrants. However, this is also an OECD-wide pattern (OECD, 2013a, Table C3.3b). The underrepresentation of women in science is surprising, given the fact that they have about the same performance in science at the age of 15 (Challenges 2 and 6).

Graduates have low skills in problem-solving in technology-rich environments

In Austria, tertiary-educated adults have relatively low problem-solving skills in technology-rich environments. About 50% score below level 2 (range includes 3 levels). In most other countries, a higher proportion of tertiary-educated adults scores at levels 2 and 3. Particularly the proportion of highly proficient problem-solvers (level 3) is low in Austria as it is about twice as high in the Netherlands and in Sweden (OECD, 2013h, p. 121). In contrast, tertiary-educated adults, especially from academic universities, score relatively high on the more traditional foundational skills such as literacy. In contrast, those with tertiary-type B education score lower, on average, than those who attained academic university-level qualifications (Figure 17).

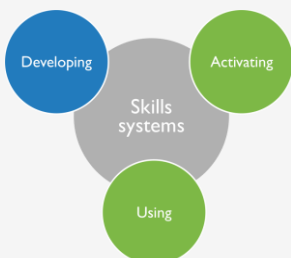
Figure 17. Literacy proficiency among young adults with tertiary education

Mean proficiency and distribution of literacy scores, by educational attainment, 16-29 year-olds; selected countries, 2012



Note: The figure compares the distribution of literacy skills among adults with tertiary-level qualifications, distinguishing between tertiary-type B and tertiary-type A studies. Tertiary-type B corresponds to ISCED 5B. Tertiary-type A corresponds to ISCED 5A and advanced research programmes correspond to ISCED 6. Estimates based on a sample sizes of less than 30 are not shown in panel I and II. The estimate for Tertiary-type B for Finland is based on a sample size very close to 30 and is not shown at the country's request.

Source: OECD (2013h), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing., p. 203, Table A5.5a (L) <http://dx.doi.org/10.1787/9789264204256-en>.



How is higher education interlinked with other parts of the skills system?

The supply of relevant and the right mix of high-level skills is crucial for innovation and competitiveness (Challenges 11-12). In order to succeed in higher education, people need solid levels of foundation skills to build on (Challenges 1-3). People's choice of higher education programmes can be influenced by career guidance (Challenge 6) and by raising interests and motivation during prior levels of education (Challenges 1-3).

CHALLENGE 5: EXPANDING ADULT EDUCATION, ESPECIALLY FOR LOW-SKILLED PEOPLE

According to workshop participants this challenge includes the following aspects:

"Low or medium-skilled individuals, seniors and migrants have low participation rates in adult education"

"Social stratification is reflected in, and replicated by the education system"

"Ensuring that education and training offered by the PES is relevant"

"Ensuring that there are enough financial resources allocated to adult education"

"Encouraging the motivation of low-skilled people to participate in further education and training"



OECD comparative data and analysis

Adult education and training has become a vital aspect of individual and macroeconomic competitiveness in frequently changing labour markets that are characterised by a constant stream of new ideas, technologies and work processes. This skills challenge focuses on adult education of foundation skills, which are the basis for any form of further learning – relevant especially in ageing societies like the Austrian where people need to remain active in all areas of their lives for longer.

The Survey for Adult Skills shows that in Austria, foundation skills levels of adults are below the international averages of the 23 participating countries. In international comparison, results are particularly low for people with low educational attainment, especially seniors, workers in elementary occupations, and second generation immigrants. In Austria, adult education offers do not effectively reach the low-skilled who need it most. Participation has favoured mainly two groups - high-skilled people and unemployed, although 95% of low-skilled people are not unemployed (on the financing and the provision of adult education in Austria see Challenge 12).

A large proportion of Austria's population lacks the skills necessary to function in modern labour markets

Foundation skills levels of adults are below average in literacy, above average in numeracy and around average in problem solving in technology-rich environments in Austria. In literacy, only 6 out of 22 countries have a lower mean performance than Austria (AUT: 266; average: 270). More than every second adult in Austria (53%; average: 59%) has literacy results at proficiency level 2 and below (the 3 lowest levels out of 6 proficiency levels). In practice, people who reached level 2 could handle simple texts but they were not able to understand dense or lengthy texts (on the exercises for each proficiency level, see OECD, 2013h, p. 62). Fifteen percent of all adults score at level 1 and below (average: 16%). At this level people could understand basic vocabulary,

determine the meaning of sentences, and read continuous texts with a degree of fluency. Only 9% of adults in Austria are high performers in literacy, scoring at levels 4 and 5, compared to 12% average.

In numeracy, the mean score is better than average (AUT: 272, average: 266) and Austria has a smaller proportion scoring at level 1 and below than most other countries (14%; average: 19%). Austria also has more high-performers scoring at levels 4 and 5 in numeracy than average (AUT: 14%, average: 13%).

In problem solving in technology-rich environments the results correspond to the average. Ten percent score below level 1 – the lowest of 4 proficiency levels, which is slightly better than average (12%). A relatively high proportion of 11% opted out of the computer based assessment (average: 10%), which likely covers many who felt too uncomfortable with the tasks. Only 4% of adults are proficient at level 3, the highest proficiency level, in problem solving in technology-rich environments (compared to an average of 6% of adults in all participating countries).

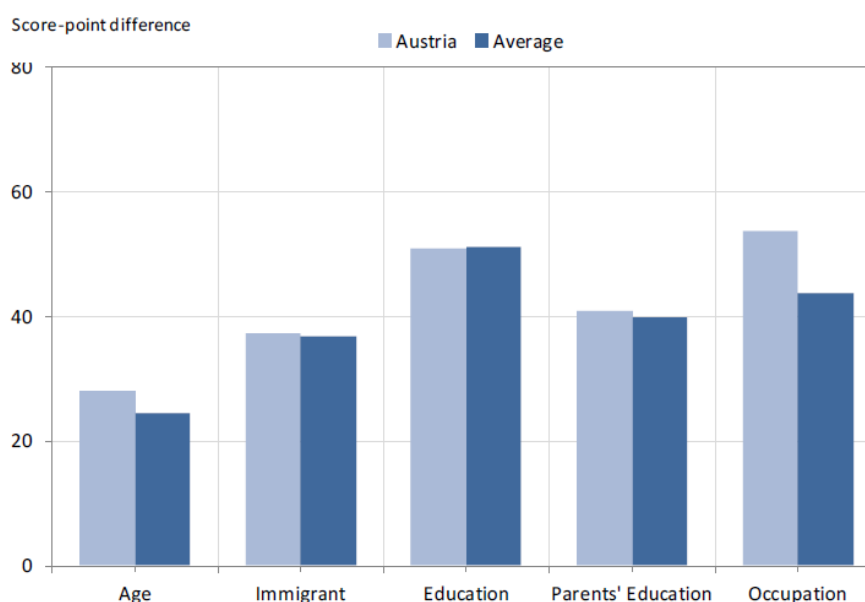
Age, gender and occupation have above average effects on proficiency in Austria

The relationship between most socio-demographic characteristics and proficiency is similar in Austria to that observed in other countries with the exceptions of occupation, age, and gender. Differences between high-skilled and low-skilled occupations in the literacy proficiency are greater than the average difference (Figure 18). Older adults have lower results relative to young adults in Austria than in most other countries. And gender differences are slightly larger than in other countries.

In Austria, women have lower results than men in all three foundation skills categories, which may be related to the fact that women are less likely than men to have the opportunities to use these skills (Challenge 10). Especially the differences in numeracy and problem-solving are substantial.

Figure 18. Synthesis of socio-demographic differences in literacy proficiency

Based on the Survey of Adult Skills, 2012



Note: The estimates show the differences between the two means for each contrast category. The differences are: 16-24 year-olds minus 55-65 year-olds (age), native born and native language minus foreign-born and foreign language (immigrant), tertiary minus less than upper secondary (education), at least one parent attained tertiary minus neither parent attained upper secondary (parents' education) and skilled minus elementary occupations (occupation).

Source: PIAAC Country Note Austria; based on OECD 2013h, Tables A3.2(L), A3.6(L), A3.9(L), A3.15(L) and A3.19(L).

On average, people with very low skills levels tend to have the following characteristics:

Low educational attainment, which is strongly related to socio-economic background

According to the Survey of Adult Skills, formal education is the strongest socio-demographic predictor of people's foundation skills in Austria. On average, a person with tertiary education in Austria has a 33 point higher score than a person with below upper secondary education. The effect of education is also strong when this category is seen in an occupational context. The workers in elementary occupations, who do not have upper secondary education, face a likelihood for low literacy skills that is more than twice as high as the workers in elementary occupations who do have at least upper secondary education (OECD, 2013h, Fig. 3.21).

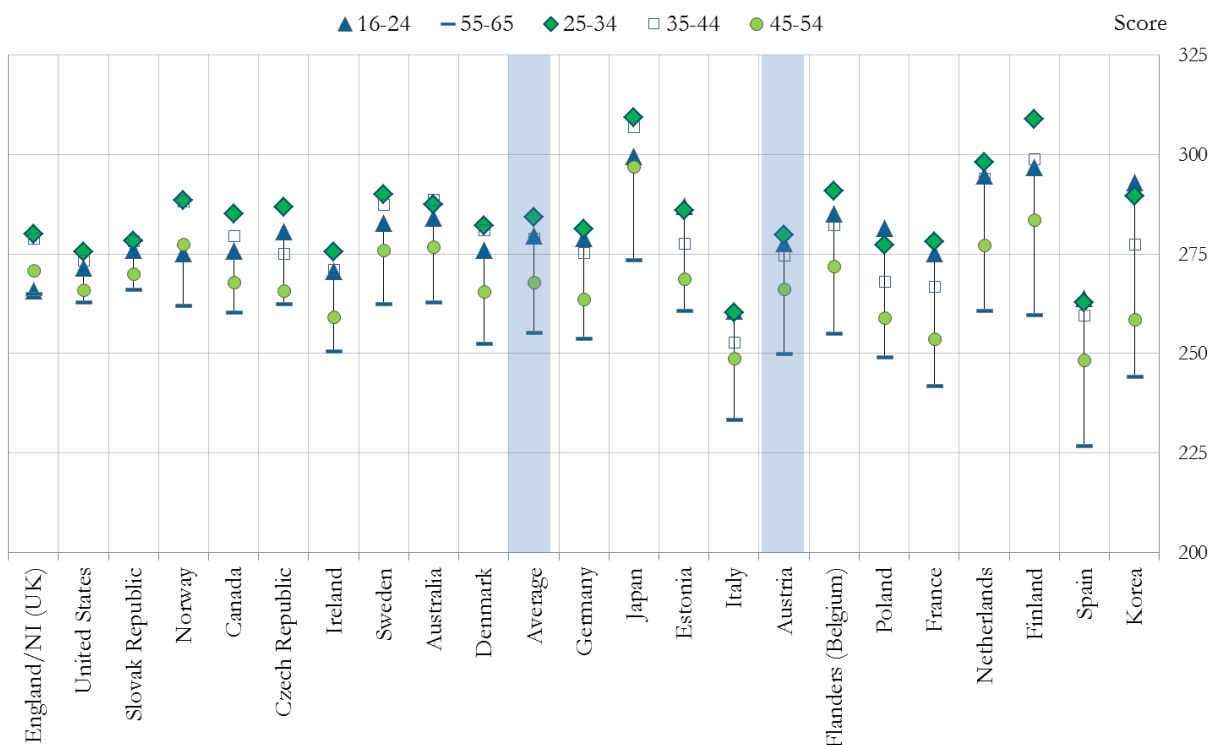
The fact that Austria has relatively low intergenerational educational mobility is again confirmed by the Survey of Adult Skills (see Challenge 2). In Austria, parents' education has an above average effect on foundation skills (OECD, 2013o, see Figure 3.6).

Prime-aged and older

In Austria, young adults aged 16-24 have higher proficiency than older adults in all three domains surveyed. Older adults aged 55-65 have particularly low literacy proficiency when compared to other countries (Figure 19a). The gap between older and younger people is also very wide in the domain of problem solving in technology-rich environments (OECD 2013h, Table A3.3 (P)), which may have particularly negative effects on the employability of older workers given the prevalence of digital devices in the modern workplace. The skills gap between the two age cohorts is less pronounced in numeracy (OECD 2013h, Table A3.2 (N)).

Figure 19. Age differences in literacy proficiency

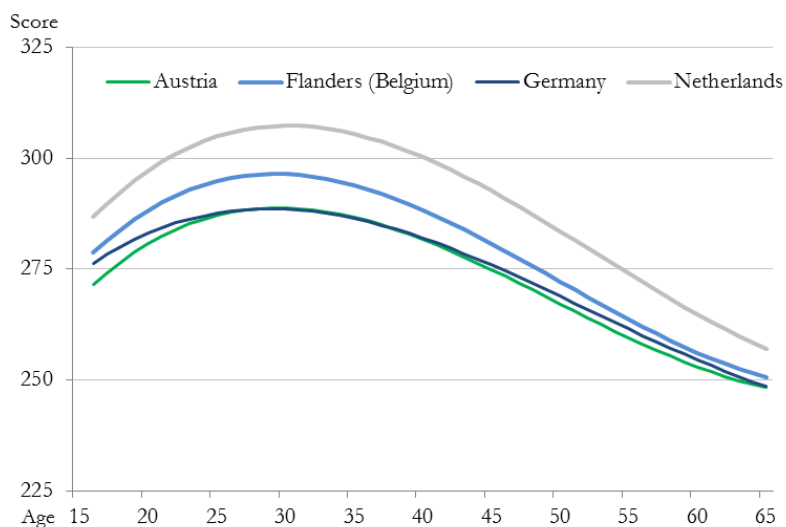
a) Mean score in literacy by age groups; selected countries, 2012



Note: Data are cohort-data and not longitudinal. Non-adjusted data.

Source: OECD (2013h), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing, Table A3.2 (L) <http://dx.doi.org/10.1787/9789264204256-en>.

b) Trend scores in literacy, by age, foreign-born adults excluded, selected countries, 2012



Note: A cubic specification of the trend curves is found to be most accurate in reflecting the distribution of scores by age in most countries. Foreign-born adults are excluded from the analysis. See corresponding table mentioned in the source below for regression parameters and significance estimates.

Source: OECD (2013h), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing., Table A5.2 (L) <http://dx.doi.org/10.1787/9789264204256-en>.

The lower skills levels of older adults are likely related to several factors, including older adults having fewer opportunities to use their skills at the workplace – especially the skills required for learning at work (see Challenge 10) – and to participate in other forms of adult education. In Austria, those aged 25-34 participate most in adult education and those aged 55-64 participate least. This is not the case in most Nordic countries, where older people participate more than younger age groups (Dohmen, Timmermann, 2010, p. 10).

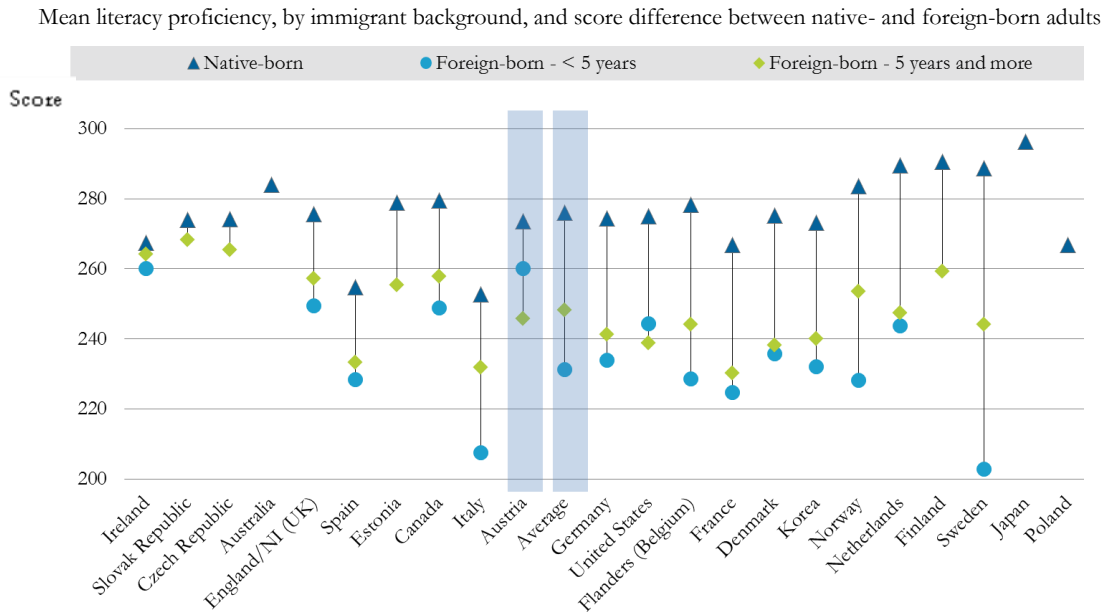
In Austria, skills peak among 25-34 year-olds like in most other countries. However, they peak at a significantly lower level than for example in Flanders (Belgium) and the Netherlands (Figure 19b). In the Netherlands and in Japan, people well into their mid-forties have very high skills levels. If accounted for language and educational background, Dutch and Japanese 45-54 year-olds score higher than 25-34 year-old Austrians, who are the country's most proficient cohort. Older people from Denmark and Japan, aged 55-65, not only score about a whole skills level better than their counterparts from Austria, they are even more proficient than prime-aged - 35-44 year-olds - from Austria.

Foreign-born people whose difference to natives is smaller in Austria than elsewhere

In Austria, every fourth person among the low-educated adult population and almost every second person among the low-educated, between 25 and 29 years-old, is foreign-born (OECD, 2009, p. 60, see Challenges 6 and 9). In Austria, foreign-born people with foreign native languages have lower skills than average for this group across all countries. The difference in literacy proficiency between foreign-language immigrants and native-born people is 37 points, the same as the average for all countries.

Contrary to most other countries, foreign-born people who have been in Austria for less than five years, score better than those who have been in Austria for longer periods (Figure 20). This finding is likely related to different factors, including fixed-term labour immigration and the high proportion of immigrant students who leave the country after their studies (OECD, 2013h, p. 126, see Challenge 4). In addition, this pattern is also likely related to immigrants being integrated less effectively into the Austrian skills system than elsewhere (see also Challenge 2 on lower PISA results of 15-year-olds with a migrant background and Challenge 6 on people with a migrant background being overrepresented in lower educational tracks).

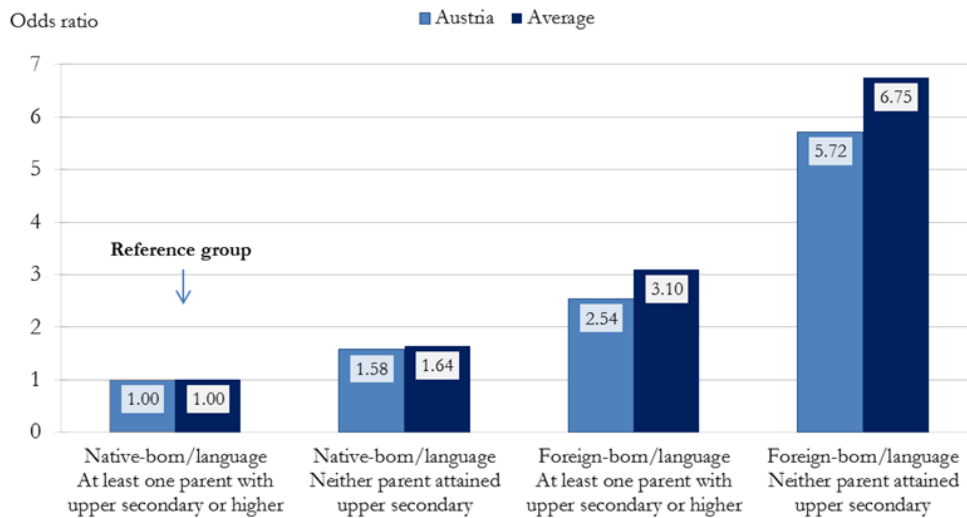
Figure 20. Literacy proficiency by immigrant background



Source: OECD (2013h), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing., Table A3.14 (L) <http://dx.doi.org/10.1787/9789264204256-en>.

Figure 21. Likelihood of lower literacy proficiency among adults with migrant background

Likelihood of lower literacy proficiency among foreign-born and foreign-language adults compared to native –born/language adults, 2012



Note: Odds ratios are adjusted for age, gender, education and type of occupation. Native language refers to whether the first or second language learned as a child is the same as the language of assessment, and not whether the language has official status. Foreign language refers to whether the first or second language learned as a child is not the same as the language of assessment. Thus in some cases, foreign language might refer to minority languages in which the assessment was not administered.

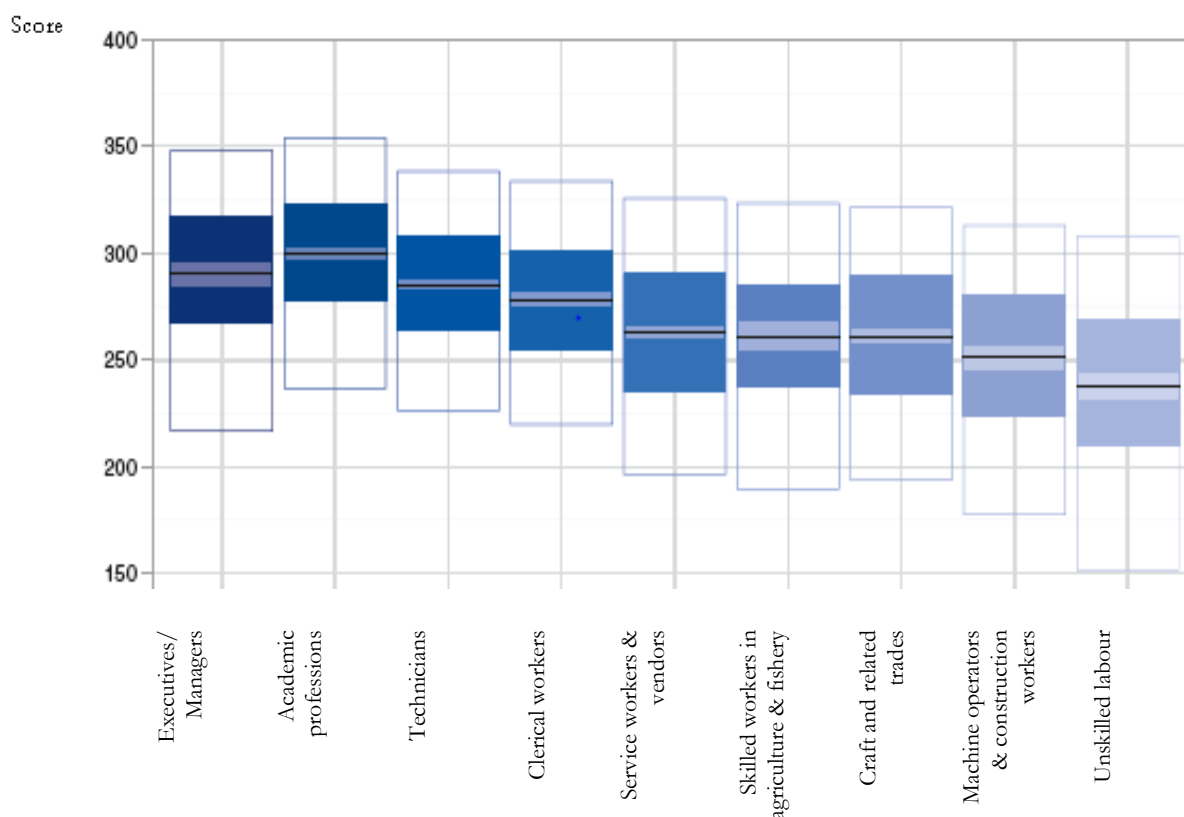
Source: OECD (2013h), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing., Figure 3.17a (L), based on Table A3.17 (L), <http://dx.doi.org/10.1787/9789264204256-en>.

In Austria, literacy scores of foreign-born people are particularly low when neither parent attained upper secondary education (Figure 21). The likelihood (odds ratio) of having lower literacy proficiency is almost six times as high for foreign-born and foreign-language adults when neither parent attained upper secondary education than for native-born and native-language adults (immigrants from Germany and Switzerland are not counted here when they are not foreign-language immigrants).

Workers in elementary occupations or inactive people

Most low-skilled people in Austria are either employed in an elementary occupation or inactive. According to the Survey of Adult Skills only about 5% of those with the lowest proficiency level in reading are unemployed while most are in employment (62%) or inactive (33%). Inactive people have the lowest skills levels on average (OECD, 2013h, p. 226). Only 5% of the low-skilled target group is unemployed.

Figure 22. Literacy scores of adults by occupational groups in Austria



Note: The black line shows the mean; the upper end of the white part of the bar shows the 95th percentile of participants, the lower end refers to the 5th percentile. The upper end of the dark blue bar represents the 75th percentile, the lower end of the dark blue refers to the 25th percentile. The upper and lower ends of the light blue show the 95% confidence interval.

Source: Statistik Austria (2012i), *Schlüsselkompetenzen von Erwachsenen*, Erste Ergebnisse der PIAAC-Erhebung 2011/12, p. 106, www.oecd.org/site/piaac/Austria_piaac-erhebung_2011_12.pdf.

The skills gap between people in elementary occupations and those in skilled occupations³ is very large in Austria. Only in Flanders (Belgium) and Norway is it even larger. This gap is mainly due to the particularly low skills level of people in elementary occupations. Only three other countries surveyed - France, Italy and Spain – encounter a similar pattern. For example, in problem-solving in technology-rich environments in Austria, only about one in ten workers with an elementary occupation score at the highest levels 2 and 3, which is below average. In countries such as Finland, Sweden and the Netherlands, about every third elementary worker is a good problem-solver in technology-rich environments (OECD, 2013h, p. 135).

Apart from elementary workers, relatively low foundation skills are also found for workers in both semi-skilled white and blue collar occupations, who in Austria tend to be VET-graduates, and in the skilled occupations, who tend to be higher education graduates (OECD, 2013h, Figure 3.19). In Austria, workers in semi-skilled occupations score on average at level 2. In practice, they cannot respond appropriately to dense or lengthy texts. This is a cause for concern given the fact that, in contrast to most other countries, semi-skilled occupations account for the majority of all occupations in Austria (Challenge 10).

Across different occupational groups, skills are very similar for both literacy and numeracy with people in academic professions, managers and executives, as well as technicians dominating the high-skilled group in Austria (Figure 22). For both literacy and numeracy, operators of machineries and construction workers and particularly unskilled labour (those in elementary occupations) have by far the lowest foundation skills. The highest proportion of people with very low skills in problem solving in technology-rich environments (level 1 and below) can be found among unskilled labour (76%), followed by skilled agricultural and fishery workers (71%) and operators of machineries and construction workers (70%). Surprisingly, the same proportion - only 3% - of people with the highest proficiency level 3 in problem solving in technology-rich environments can be found among the group of unskilled workers as among workers in craft and related trades.

Adults in Austria participate less in further education and training than elsewhere and half of all participants have private reasons

By international comparison, adult education participation rates are about average in Austria but participation in job related further education and training is much lower, as every second adult participates for private reasons, which is very high in international comparison. According to the Survey of Adult Skills, 49% of all adults participated in further education or training during the year prior to the survey in Austria.⁴ This participation rate is slightly below the international average of 52% and far below the highest participation rates of up to 67% reported in Denmark, Finland, the Netherlands and Sweden (OECD, 2013h; p. 209). Other surveys, such as the Labour Force Survey and the Continuing Education and Training Survey, show similar results (Dohmen, Timmermann, 2010, p. 9).

In all countries, most of adult education is non-formal. Formal adult education does not account for more than 10% in most countries. Except for Austria, where almost every second person conducts adult education for private reasons, most of it is conducted for job reasons in other European countries (Dohmen, Timmermann, 2010, p. 12).

The provision of adult education in Austria does not effectively reach low-skilled people

In Austria, people with low skills are hardly reached effectively through any of the existing public or private financing mechanisms as high-skilled people are the main beneficiaries (see also Challenge 12). The lower

³ Skilled occupations include: legislators, senior officials and managers; professionals; technicians and associate professionals. Semi- skilled white-collar occupations include: clerks; service workers and shop and market sales workers. Semi-skilled blue-collar occupations include: skilled agricultural and fishery workers; craft and related trades workers; plant and machine operators and assemblers.

⁴ In the Survey of Adults Skills, adult education participation rates are based on self-reported data covering adults aged 16 to 65 but excluding students up to the age of 24.

people's initial educational and skills level and the older the person is, the lower the likelihood that this person is going to participate in adult education (OECD, 2013h). Thus, low-skilled adults risk being trapped in a vicious cycle in which they do not participate in adult education and training, and their skills remain weak or deteriorate over time, resulting in even worse access to adult education and training (OECD, 2013h; p. 210).

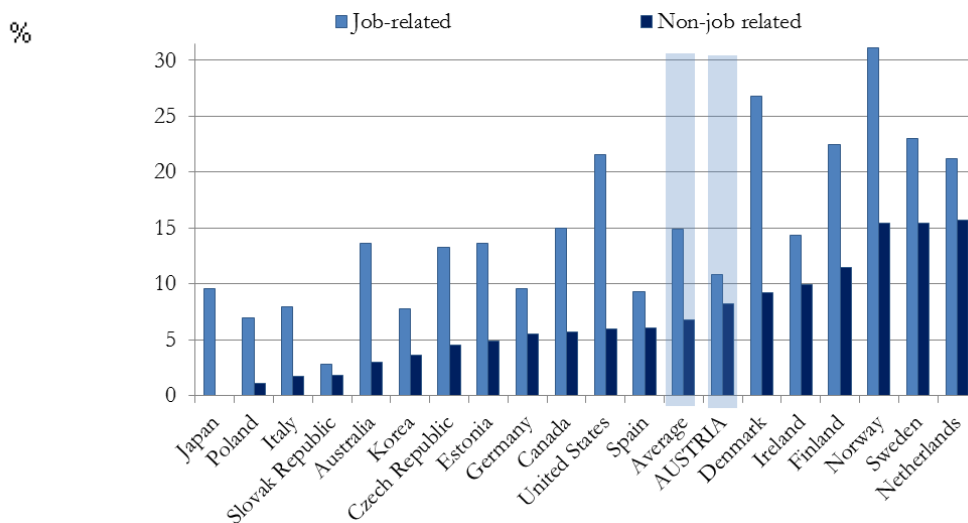
In Austria, the public employment service (PES) and employers bear the main part of all expenditure on adult education. In international comparison the strong role of the PES in the provision of adult education is atypical. The PES only reaches unemployed people but only a minority of the low-skilled are unemployed (for more information on the financing of adult education see Challenge 12).

In addition, employers hardly engage in adult education for low-skilled in Austria. This is not surprising since employers' returns on investments in the skills of high-skilled are higher. In Austria, there is a particularly large gap in employer based adult education participation between high-skilled (here literacy levels 4/5) and low-skilled (here below level 2). This is also confirmed by the European Working Conditions Survey 2010, according to which the gap of employer investment in training of low-skilled manual workers versus high-skilled clerical is one of the largest among European countries.

Strikingly, low-skilled people participate even less in non-job related education and training than they do in job-related education and training (Figure 23) Particularly in Denmark, Finland, Norway, and Sweden and both job related and non-job related measures reach low-skilled people more effectively than in Austria.

Figure 23. Participation of low-skilled people in adult education and training

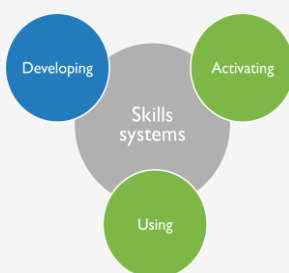
Percentage of adults (literacy proficiency below level 1 in the Survey of Adult Skills) who participated in adult education during the year prior to the survey



Note: The participation rate in adult education and training is calculated by excluding students who are considered to still be in their first formal cycle of studies. However, youths aged 16 to 19 who recently completed or are still in a short duration ISCED 3C or below are considered as adult learners. Similarly, youths aged 20 to 24 who recently completed or are still in ISCED 3A,B,C or below are considered as adult learners.

Bars are ordered by participation in non-job related education and training.

Source: OECD (2013h), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing, Table A5.7 <http://dx.doi.org/10.1787/9789264204256-en>.



How is adult education interlinked with other parts of the skills system?

Participation in adult education has become an essential requirement of the modern working world. It is needed to update specific skills regularly and for people with very low foundation skills levels it offers an opportunity to improve basic skills. Adults with low foundation skills and obsolete skills are less able to use their skills effectively at workplaces, which reduces their employability (Challenge 10), which in turn increases their likelihood of becoming unemployed or inactive (Challenges 7-9). In Austria, this risk is particularly marked for people with low levels of education, workers in elementary occupations, older workers (Challenge 8), and immigrants (Challenge 9).

CHALLENGE 6: IMPROVING PEOPLE'S ABILITY TO NAVIGATE THE SKILLS SYSTEM THROUGH EFFECTIVE GUIDANCE AND FLEXIBILITY

According to workshop participants this challenge includes the following aspects:

"Austria needs greater flexibility between educational pathways"

"Under-representation of migrant youth in vocational education and training (VET)"

"Complex VET system, including vocational schools and dual apprenticeships"

"Attracting more women, esp. to vocational schools"



OECD comparative data and analysis

Systems with high complexity require effective information channels to ensure that they can be navigated successfully. Skills systems need to provide people with relevant information in decision processes but also allow for movements between educational levels and pathways. Both elements require education and career guidance, and a high degree of flexibility and permeability. Empowering individuals with relevant information to navigate a skills system effectively can yield decisions, which respond closer to labour market demand. Career guidance therefore needs to provide a continuous support network covering all stages of lifelong learning.

The complexity of Austria's skills system offering a range of pathways and options makes transparency and permeability even more important. Yet Austria lacks a comprehensive lifelong learning guidance system. Guidance is most established at lower secondary education and for unemployed adults, who receive PES counselling. At other stages of the lifelong learning system, there is only a patchwork of guidance services that differ by institution and region. A lack of transparency and guidance has a particularly negative impact on people who encounter a higher likelihood of being inadequately informed about the options available, such as people with a migrant background, low educated and people with low socio-economic status.

Education and career guidance starts late and is not offered to all who need it

In Austria, career guidance starts in lower secondary schools and is organised according to a three-level model: *i*) career education lessons are provided by career teachers, *ii*) individual advice is provided by student advisors and *iii*) both of these are supplemented by a school psychology service that can offer specialised assistance. Career education lessons are mandatory, based on a curriculum with 32 hours per year in the 7th and 8th grades (Steiner, M.A., 2011; OECD, 2012i, p. 125). In addition, the Austrian National Union of Students has, for many years, provided voluntary advisory services for final year students (grade 12) to assist them during the transition to university life. This involves a comprehensive programme of visits to school classes to provide information on tertiary education, as well as individual advice available to both prospective and current students in the offices of the Union (OECD, 2004b, p. 47).

However, starting guidance for 13-14 year-olds misses the transition phase of younger children. In particular, families at risk (see below) may also need guidance with regard to ECEC, primary and lower secondary education. At upper secondary level VET students are often inadequately informed about labour market outcomes of the different programmes, and individual institutions. Lacking access to information may also result in low transitions from upper secondary VET to tertiary education in Austria, as students, in particular apprentices, may be unaware of the options and of their labour market returns (Musset, P., *et-al.*, 2013 based on Culpepper, 2007).

Beyond upper secondary level there is only a patchwork of education and career guidance services available (OECD, 2004b). Adults in particular encounter a diverging access to guidance depending on their regional location and labour market status. Employees in large firms may have information through the education and culture advisors of their work councils. Some *Bundesländer* have established regional services that provide independent information and guidance. In addition, the PES and the Chamber of Labour have information and guidance centres.

Education and career guidance rarely builds on up-to-date labour market information

For people to make informed education and career decisions, that is to better understand their options and the consequences their decisions may have, the skills system needs to be transparent and career services need to build on up-to-date labour market information. Studies found that young people often develop interest in occupations that face a lack of demand and that they often have low understanding of the likely consequences of their decisions. For example, a recent survey of 11 000 13-16 year-olds, conducted by the UK Education and Employers Taskforce, found a "massive mismatch" between young people's aspirations and the availability of jobs in the UK (Mann, 2013).

There is limited information to determine what the case is in Austria in this respect. However, the Austrian curriculum for career orientation (*Lehrplan verbindliche Übung Berufsorientierung*) at lower secondary schools seems to be an example of a very limited focus on current labour market demand. Instead, it includes information on the world of work in a very broad sense, with topics such as the "professional world from a cultural, economic, social and environmental point of view" and "the importance of art and creativity for leisure and working life". While these topics are extremely relevant, career guidance – if provided in a targeted and age appropriate way – would also benefit from more up-to-date labour market information on:

- realistic job profiles and the diversity of jobs available within demanded fields such as engineering or computing;
- working conditions, expected monetary and nonmonetary rewards;
- regional and national employment opportunities, including current and expected skills shortages;
- entry requirements, skills and qualification needs; and
- different pathways the skills system offers.

Box 14. Informing education and career choices

Finland, a lifelong learning guidance system: Finland's career guidance system covers all parts of lifelong learning from ECEC to adult education. There are also targeted programmes for people at risk or those who are out of the labour market and out of lifelong learning. The ministries of education and employment established a national steering group for guidance and counselling to strengthen the cross-sectoral and multi-professional cooperation between the key actors and stakeholders.



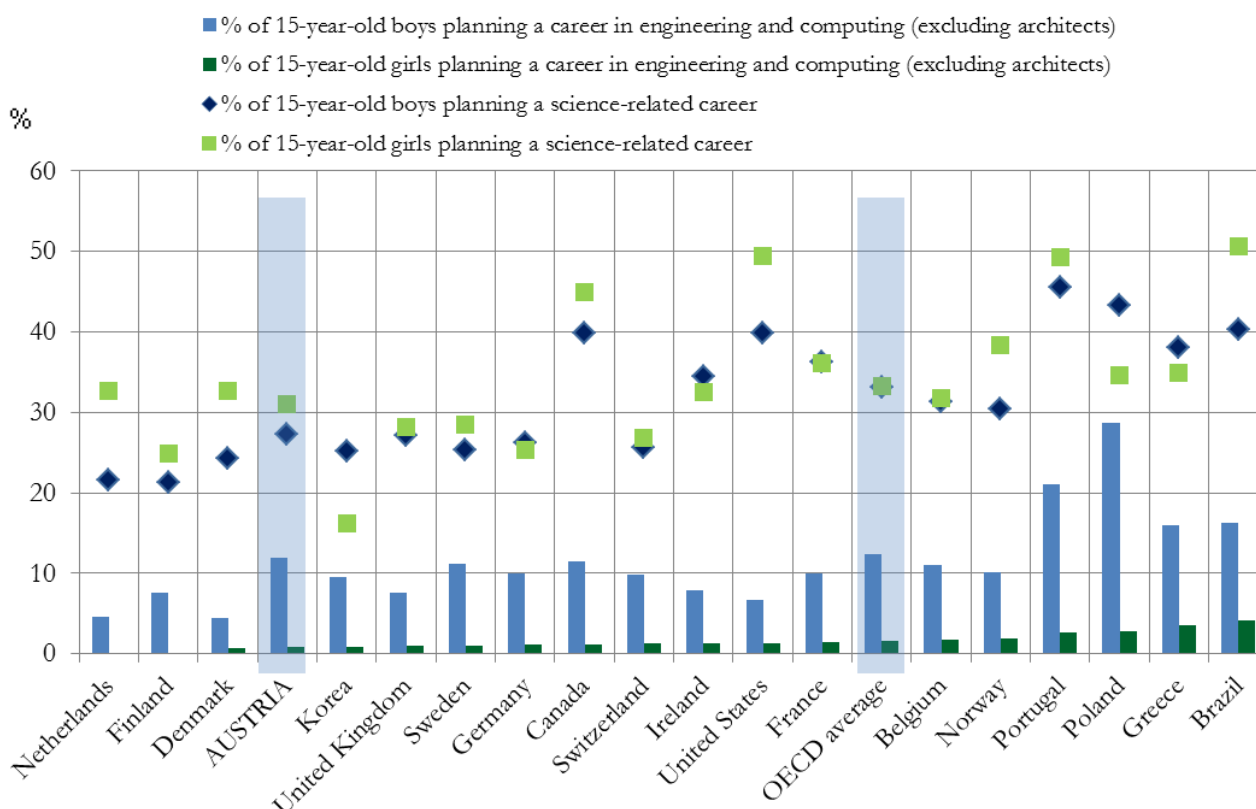
Germany, cooperation between schools and the Public Employment Service: In Germany, the Federal Employment Office's career counsellors visit schools, run class talks, and provide small-group guidance and short personal interviews in the penultimate year of compulsory schooling. Many of these counsellors have undertaken a specialised three-year course of study at the Federal College of Public Administration. School classes are taken to the Office's career information centres (BIZ) where they are familiarised with the centre's facilities; they can subsequently re-visit the centre and book longer career counselling interviews at the local employment office.

New Zealand, combined work and training guidance by Career Services: Career Services (CS), a body independent of the education system, is the main provider of career information in New Zealand. CS provides services directly to individuals to help them make informed decisions about work and training. These services include providing labour-market information (e.g. job profiles and industry outlooks) and information on tertiary education and vocational training. In addition to providing this information and advice, CS also develops guidance modules for schools. The Creating Pathways and Building Lives programme, for example, assists schools in developing effective career advice. Career guidance consists of wide-ranging information on career paths and training opportunities. The New Zealand Qualification Authority provides information about qualifications and diplomas, and the quality of learning institutions. The "New Zealand Register of Quality-Assured Qualifications" provides a comprehensive list of all quality-assured qualifications in New Zealand. In addition, most tertiary education institutions conduct surveys of graduates to structure their programmes. The Department of Labour collects and analyses information on the skills needed in the labour market and on how the tertiary education system interacts with the labour market. By merging this information with that from other sources, the Tertiary Education Commission produces annual "portraits" of tertiary education and training in New Zealand, including indicators of possible under- and over-supply.

Sources: CIMO (2013), *Lifelong Guidance*, www.cimo.fi/instancedata/prime_product_julkaisu/cimo/embeds/cimowwwstructure/25493_Lifelong_guidance_in_Finland.pdf; OECD (2012a), *Better Skills Better Jobs Better Lives: A Strategic Approach to Skills Policies*, OECD Publishing, p. 91, <http://dx.doi.org/10.1787/9789264177338-en>.

Interests and ideas developed in schools have a strong impact on later education and career decisions. In Austria, few women enter science-related paths in VET and in higher education, especially in some subjects, such as engineering and computing (see Challenge 4). This seems to be highly related to the low interest girls develop in these fields at school. Although girls in Austria are equally proficient as boys in science in schools (see Challenge 2), there is a substantial disinterest of 15-year-old girls in careers related to some of these subjects. 15% of 15-year-old boys (OECD average: 18%) but only 3% of 15-year-old girls (OECD average: 7%) plan a career in engineering or computing (see Figure 24).

Figure 24. Percentage of 15-year-old boys and girls planning a science-related career



Source: OECD PISA 2006 database.

Initial educational pathways lack flexibility

Austria's skills system lacks permeability and flexibility between educational pathways. The initial education system traps students in different school types that do not allow for effective upward mobility. Especially at the upper secondary and postsecondary level Austria started creating possibilities to ease transitions from VET to higher education, but they are hardly used (Musset, P., *et al.*, 2013).

Routes to transition from VET to higher education have been extended in recent years. Graduates of the dual system and 3-4 year VET schools can enter universities and *Fachhochschulen*, by completing special *Matura*-type exams (*Berufsreifeprüfung*). Since 2008, apprentices have the option of pursuing the *Lehre mit Matura* when they attend preparation courses during the apprenticeship and complete both the apprenticeship and the special exam (the *Berufsreifeprüfung*). Older candidates, including graduate apprentices can also pursue the *Berufsreifeprüfung* exam. Candidates for the *Berufsreifeprüfung* usually attend preparatory courses run by the *Wirtschaftsförderungsinstitut* (WIFI) or *Berufsförderungsinstitut* (Bfi), requiring tuition fees typically in the range of EUR 2,000 – 2 500. For certain study programmes, VET graduates can conduct a special exam, called "*Studienberechtigungsprüfung*", which grants access to the individual programme (Musset, P., *et al.*, 2013, p. 49.) However, all these opportunities are hardly used (see Challenge 3).

Students from VET colleges can easily go on to *Fachhochschulen*. However, prior learning is often not recognised so that students may have to repeat courses that they already attended at VET colleges (Musset, P., *et al.*, 2013, p. 49, based on Schneeberger, Schmid and Petanovitsch, 2011). Curricula in VET colleges are only partially modular and do not clearly define learning outcomes (Tritscher-Arcan and Nowak, 2011), which would make it easier to identify the components that are duplicated at *Fachhochschulen*.

Box 15. Improving transitions and permeability between educational and career pathways



Finland, allowing for transitions between academic and VET programmes: The upper secondary education system gives students the choice and flexibility to transfer between academic and VET programmes, which are considered to be the students' right and, in most cases, students take courses in other tracks to meet their study plans.

Iceland, a universal, modular credit-unit system makes transferring easy: Students can easily switch between schools and programmes because of the universal credit-unit system that makes transferring credits easy.

Sources: Sahlberg, P. (2006), *Raising the Bar: How Finland Responds to the Twin Challenge of Secondary Education*, The World Bank, Washington, DC; OECD (2012i), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*, OECD Publishing, p. 46, <http://dx.doi.org/10.1787/9789264130852-en>; Blondal, K., J. Jonasson and A. Tannhaeuser (2011), "Dropout in a small society. Is the Icelandic Case somehow different?", in S. Lamb, *School Dropout and Completion: International Comparative Studies in Theory and Policy*, Springer.

Consequences are particularly negative for disadvantaged people

At a young age, parents usually have a strong impact on the career aspirations of children. A survey of the Austrian Institute for Research on Vocational Training found that the lower the socio-economic background of parents, the more parents and children question the importance of formal educational qualifications (Schlögl, Lachmayr, 2004). Poorly educated parents may also have particular difficulties in helping their child navigate through the full range of programmes available to them.

Individuals with a low socio-economic background encounter worse transition outcomes than average in Austria as they are overrepresented in the lower tracks of lower secondary education. Similarly at upper secondary level, 15-19 year-olds, whose parents have no more than basic compulsory education, make up only 4% of the student population in academic upper secondary schools but 18% of students in apprenticeship training (Statistics Austria; Nusche, D., et al., 2009, p. 24).

In the course of their lives, low educated adults likely become particularly distant from the lifelong learning system. According to the Survey of Adult Skills, in Austria only a minority of them participated in adult education in the last 12 months (see Challenge 5). Lack of targeted access to information combined with a lack of awareness likely discourages participation (Comings, et al., 1999).

...such as people with a migrant background

In Austria, people with a migrant background are highly overrepresented among the low-educated (OECD 2009, p. 60, see Challenges 5 and 9). There are multiple reasons for this, including the fact that people with a migrant background often have inadequate information on the Austrian skills system and the options available. Foreign-born parents are often not familiar with the Austrian skills system, raising children's likelihood to make wrong decisions (Handel, 2012; Lareau, 2003). This – in addition to a lack of targeted educational support (see Challenge 2) - can contribute to the overrepresentation of children with a migrant background in lower educational tracks.

After primary education, immigrant students are more likely to go to general (*Hauptschule*) than to academic (*Gymnasium*) secondary schools at the age of ten. Children are thus sorted into different school types before many of them have sufficiently developed their skills. This has negative consequences especially for children with higher learning challenges, such as when they have started school with lower German language skills. Thus, early sorting may exacerbate the concentration of students with a migrant background in lower educational tracks (Nusche, D., et al., 2009). For example, in the VET-system students with a mother tongue other than German are over-represented in the lower tracks, including in polytechnics and in intermediate vocational schools and underrepresented in apprenticeships and colleges for higher vocational education (Nusche, D., et al., 2009, pp. 23-24).

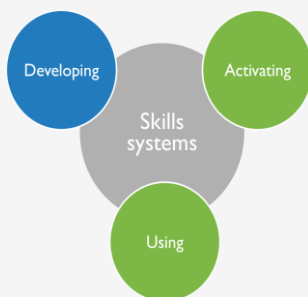
Adults with foreign qualifications or with skills they acquired informally or on the job can only be integrated into the Austrian skills system efficiently when their pre-existing skills and qualifications are recognised. People should not be forced to repeat entire programmes when they already have many of the skills covered. Otherwise there is a high likelihood of people losing motivation, dropping out or avoiding further education and training altogether and not seeking skills-adequate employment, which can lead to underutilisation of skills in the workplace (Challenge 9).

Box 16. Targeted guidance for disadvantaged youth in Upper Austria

Upper Austria, improving transitions for disadvantaged youth: Upper Austria set up the “Your Chance Programme” to reduce early school leaving and improve transitions for disadvantaged youth, focusing on children of parents with low educational status and young migrants. The project aims at supporting the labour market integration and career choices of young people at risk of dropping out through diverse activities. The project approached schools (in some schools 80% of pupils have a migrant background) and asked them to select young people who were struggling with the transition to the next stage in education. They use workshops, excursions, tutoring and vocational counselling to work with the young people. Approaches and tools differ between schools. Approximately one quarter of activities take place in the schools and the rest outside. The project also involves the teachers and families of struggling youth.



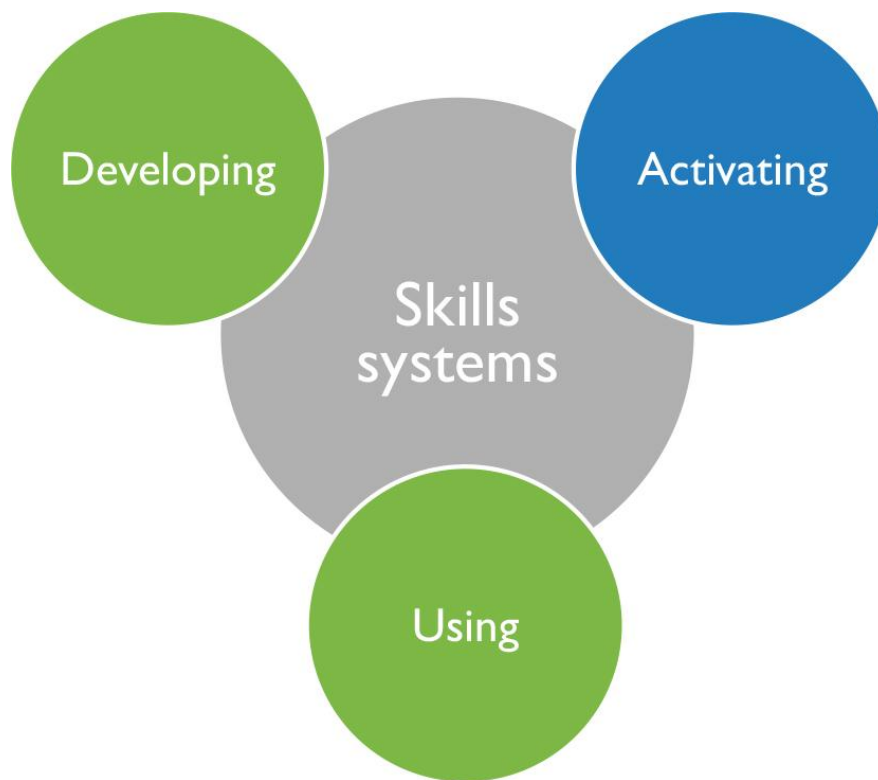
Source: Pyne, L. and F. Förschner (2013), *Local Partnership Strategies in Upper Austria: Supporting Youth Employment and Apprenticeships*, LEED Programme, OECD Publishing.



How is the availability of guidance and flexibility interlinked with other parts of the skills system?

Guidance and flexibility are prerequisites for people to effectively navigate the skills system, influencing participation patterns at all stages of lifelong learning (Challenges 1-5). Career guidance is a key tool to raise awareness of the relevance of education and training as well as knowledge about labour market demand, which ultimately can benefit a better match between skills demand and supply (Challenges 10 and 11). For example, career guidance can help raising young people's interest in pursuing careers in specific highly-demanded skills areas (Challenge 6).

ACTIVATING SKILLS



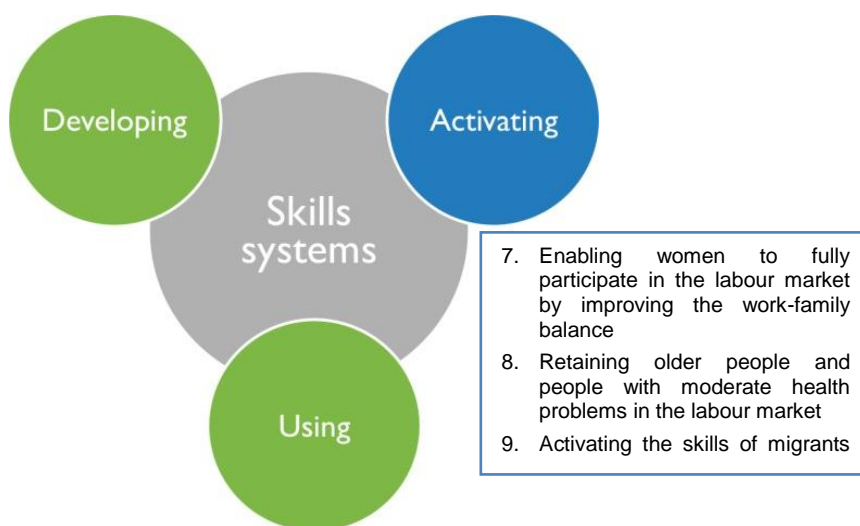
III. ACTIVATING THE SUPPLY OF SKILLS

A selection of challenges identified by Austrian workshop participants

- *Labour market outcomes of migrants, seniors and women need to be improved*
- *Women with children do not fully participate in the labour market due to a lack of childcare*
- *The gender pay gap is relatively large*
- *Migrants face obstacles in supplying their skills to the labour market, which is related to language barriers and problems with the recognition of skills and qualifications acquired abroad*
- *Strong emphasis placed on formal qualifications and few opportunities for the recognition of informally acquired skills*

Austria has had a remarkable labour market performance, yielding, at 4.4% in 2012, one of the lowest unemployment rates across the OECD (OECD, 2013c). In particular, youth unemployment has been low by international comparison at times when many countries have been experiencing severe problems with the labour market outcomes of young people. Nevertheless, many groups face barriers to participate in the labour market or decide to leave the labour market early.

The problems described by workshop participants were translated by the OECD into three key challenges, that are strongly related to the three target groups, who – for very different reasons - do not (fully) supply their skills to the labour market: part-time working or inactive prime-aged women, long term unemployed or inactive older workers, and long term unemployed or inactive people with a migrant background.



CHALLENGE 7: ENABLING WOMEN TO FULLY PARTICIPATE IN THE LABOUR MARKET BY IMPROVING THE WORK-FAMILY BALANCE

According to workshop participants this challenge includes the following aspects:

"Women have lower levels of participation in the labour market than men, especially after having children"

"Austria has a persistent gender pay gap"

"Austria needs a higher labour market participation of women; including more full-time work"

"Better labour market integration of women requires better sharing of care responsibilities between men and women, which should also be reflected some day in a higher rate of men in part-time work"



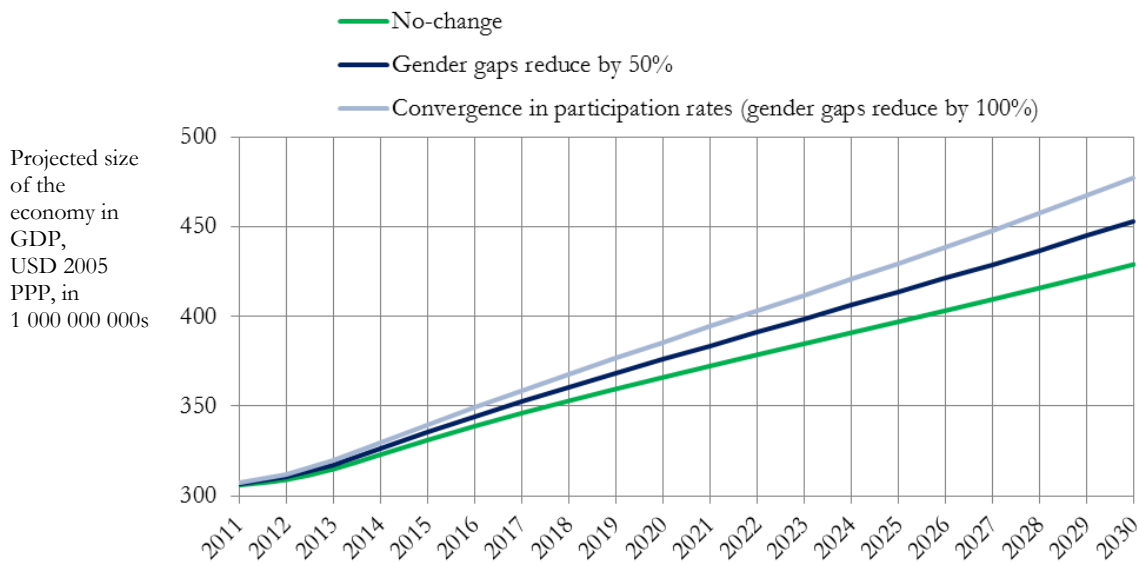
OECD comparative data and analysis:

Girls have long outperformed boys in education, as represented by their significantly higher tertiary graduation rates, among other factors. Yet across the OECD women continue to encounter high barriers to fully deploy their skills. Countries have been making progress in supporting women to realise their labour market potential, but women still earn less than men and are less likely to pursue high-level careers. Women are often penalised for interrupting their careers to have children and for looking after children or ageing parents. The underutilisation of women's skills presents an inefficient use of investments in their education and foregone economic benefits, among others (OECD, 2012b).

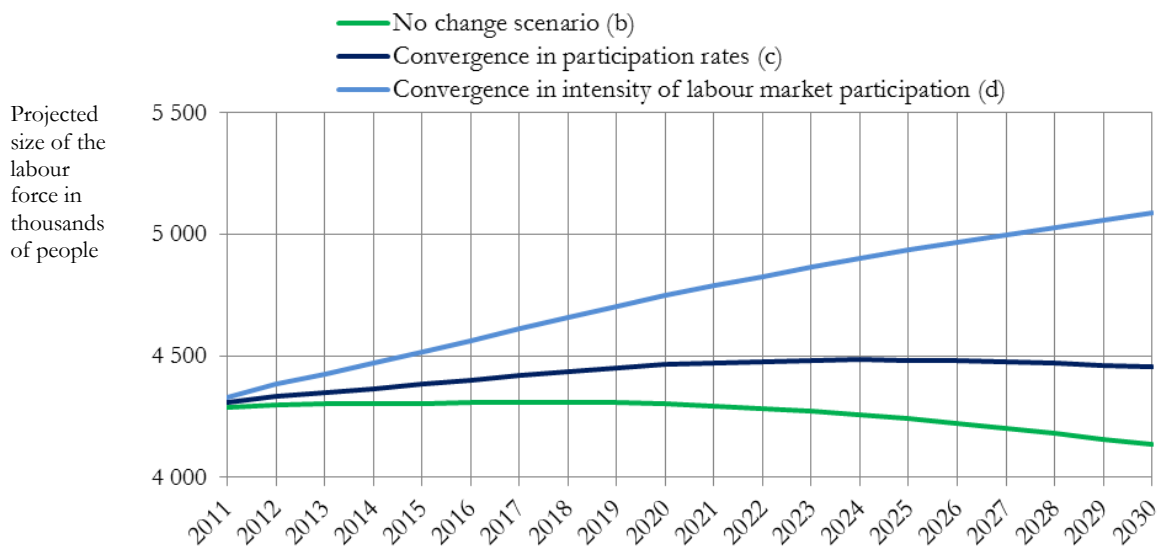
In Austria, women face even stronger labour market barriers than in many other OECD countries. Compared to the OECD average a higher proportion of women are employed but the proportion of women who are inactive or part-time working is also higher. Austria's challenge of enabling women to reconcile careers and family life is strongly interlinked with the provision of early childhood education and care (ECEC) (Challenge 1) and incentives provided by the parental leave system, employment policies as well as the tax system. Tackling this challenge will increase the size of Austria's labour force and boost GDP (Figure 25). It is also a vital challenge to deal with the consequences of an ageing population (see Introduction).

Figure 25. GDP and labour force projections, converging male and female participation rates

a) Effect of converging participation rates between men and women on the size of the Austrian economy in GDP (a), 2011-2030



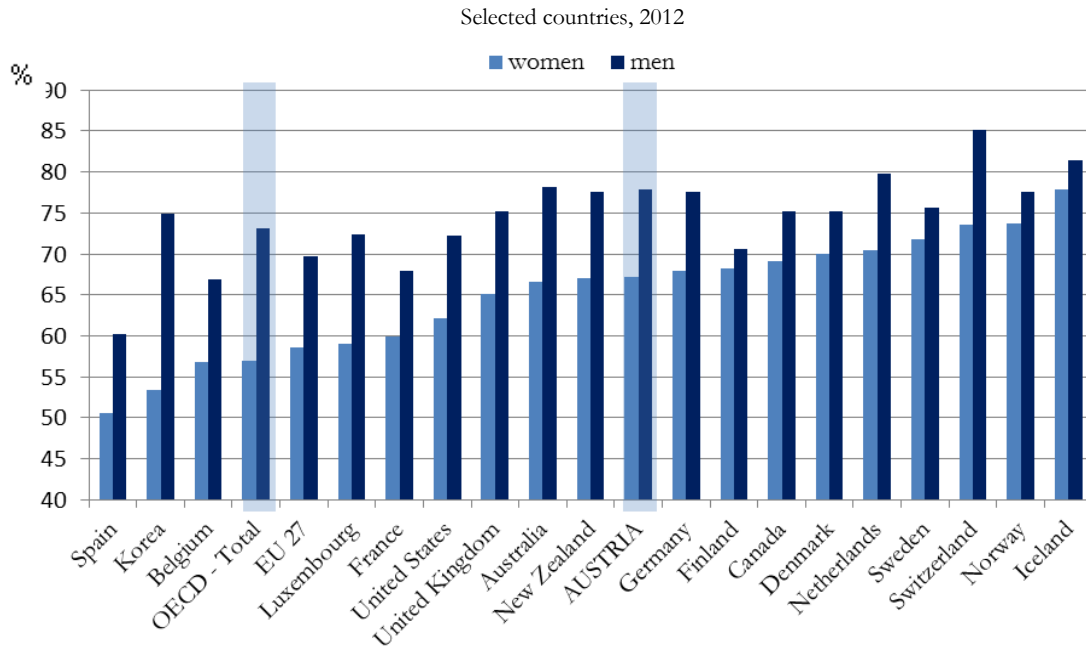
b) Effect of converging participation rates between men and women on the size of the labour force in Austria, 2011-2030



Notes: (a) The labour force projections are based on population projections for persons aged 15 years and older, rather than persons aged 15-64, to be consistent with the growth model outlined in OECD Economic Outlook, No. 91; (b) No-change scenario; (c) Gender gaps narrow by 50%: the gap between male and female labour force participation levels observed in 2010 is reduced by 50% by 2030, based on a steady growth rate in female labour force participation; (d) Convergence in participation rates and the gender gap not longer exist.

Source: OECD Secretariat's estimates based on the OECD Economic Outlook, No. 91 long term database (Version 6, June 2012), OECD Population and Demography Database and the OECD Employment Database.

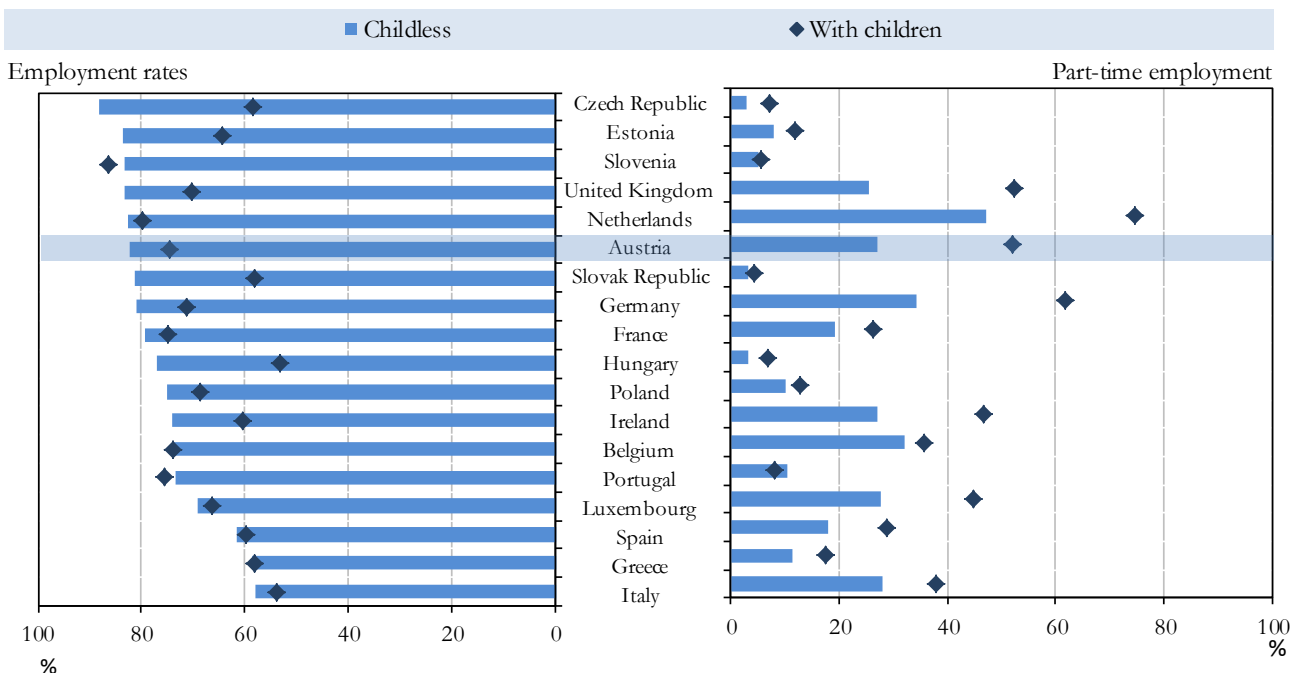
Figure 26. Employment rates by gender, population aged 15-64



Source: OECD (2013k), *OECD Employment Database*, www.oecd.org/employment/emp/onlineoecdemploymentdatabase.htm#scoreboard.

Figure 27. Motherhood makes part-time work much more likely

Employment participation of women aged 25-54, childless/ with children under 15; selected countries, 2009



Source: OECD (2012b), *Closing the Gender Gap: Act Now*, OECD Publishing, Figure 12.2, <http://dx.doi.org/10.1787/9789264179370-en>.

Women have a lower employment rate than men

In the last decade Austria has substantially reduced inactivity among women but women still lag behind men in terms of employment participation. Between 2000 and 2012, the employment rate of 15-64 year-old women increased from 60% to 67%. However, this leaves still a substantial gap of more than 10 percentage points compared to the employment rate of men. Countries such as Canada, Finland, Iceland, Norway and Sweden achieve significantly more equal employment outcomes for both genders (Figure 26).

A third of Austria's employed women works part-time

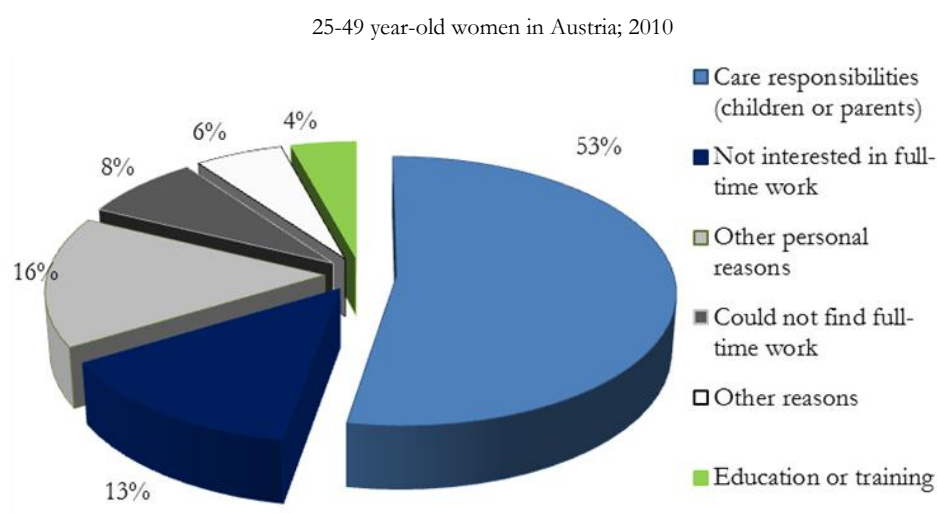
Motherhood makes part-time work highly likely in Austria. More than half of all Austrian mothers with children under the age of 15 work part-time (Figure 27). This rate is lower in most other countries. Between 2000 and 2012, the incidence of part-time work has even increased among women: while every fourth employed woman worked part-time in 2000, every third did so in 2012, which is above the OECD average of every fourth woman (OECD, 2013k).

Part-time work can help parents to reconcile work and caretaking. However, prolonged durations of part-time work lower the likelihood to move into full-time employment, particularly for low-skilled people. Part-time work is associated with lower career prospects, lower earnings, fewer opportunities to participate in training (OECD, 2012, p. 162) and over-qualification, among others (see also Challenge 10).

Prime-aged women struggle to pursue careers mainly due to their care responsibilities

In Austria, more than every second 25-49 year-old woman and over 60% of women aged 25-44, who work part-time, does so to take care of children and the elderly (Figure 28). Almost half of the inactive 25-49 year-old women were inactive in 2012 because they took care of children or parents, which is higher than the EU-average of 38%. By contrast, in Denmark or Iceland only 7% and 8.5% of women aged 25-49 respectively (2011) were inactive because of care responsibilities. In Austria, the level has remained stable since it was first measured in 2006.

Figure 28. Care responsibility is the main reason why women work part-time in Austria



Source: Statistik Austria (2011), *Teilzeiterwerbstätige (ILO) nach Grund für Teilzeitarbeit, Alter und Geschlecht - Jahresdurchschnitt 2011*, www.statistik.at/web_de/statistiken/soziales/gender-statistik/erwerbstaetigkeit/.

Austrian provinces with better access to ECEC services have more women working full-time

When deciding on whether to seek full-time or part-time employment, the access to ECEC plays a key role. That women's part-time rate differs significantly between the Austrian *Bundesländer* is related to several factors. However, it is intriguing that women's part-time rate is lower in those *Bundesländer* which provide better ECEC access, especially for under 3-year-olds (Challenge 1). The part-time rate is lowest in Vienna (38%) while in the other *Bundesländer* it ranges between 45% in Lower Austria and 51% in Vorarlberg (Statistik Austria, 2013). However, just providing access to ECEC services is not enough as parents likely weigh net earnings, the cost of childcare and the quality of childcare provided (adapted from OECD, 2011a, p. 148; see also Challenges 1 and 12). Gaps in childcare provision in Austria are particularly challenging for the large number of sole parents. More than one in every eight mothers of a child under 15 is a sole-parent (about 1% of fathers) (Statistik Austria, 2013f).

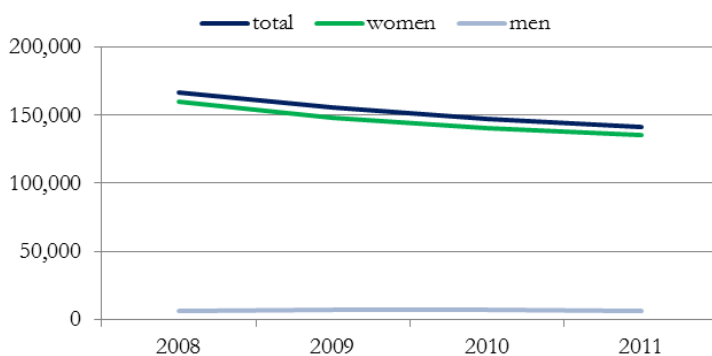
Men rarely participate in parental leave

Only when care responsibilities are shared between parents will there be a chance for equal employment opportunities. In Austria, like in most other OECD countries, this is not the case. The ratio of fathers to mothers taking parental leave has slightly increased in the last years. But this was driven by a decline in the total number of leave cases while take-up for men remains on a low level (Figure 29a). In 2011, 135 551 women took parental leave, and 6 143 men (Statistik Austria, 2013b). Very few Austrian men are inactive because of care responsibilities and only 6.5% of the 25-49 year-old part-time working men chose to work part-time for this reason (Statistik Austria, 2011).

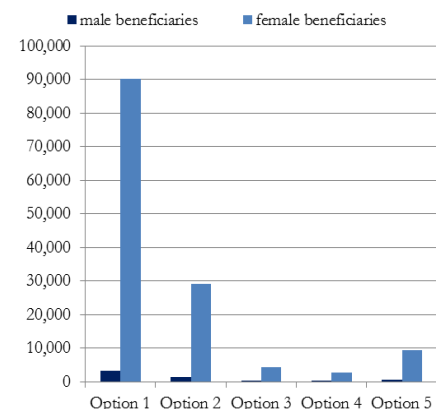
Austria has a parental leave bonus-system that - depending on the benefit option – will grant bonus months if both parents take leave. The shorter the leave periods, the higher the benefit levels are (Box 17). Relative to female beneficiaries, most men participated in the shortest leave benefit option 4 (Figure 29b), suggesting that men might be more inclined to participate in more generous options. This is also supported by an analysis of the Austrian Joanneum Research Institute, which suggests that the slight increase in the number of fathers taking leave since 2008 may be linked to the introduction of the shorter childcare allowance options with higher cash benefit in 2008 (Joanneum Research, 2013). This is not surprising as men are usually the higher earner in Austrian households. Losing their salary for a longer period often imposes higher financial losses to the family than when women take leave.

Figure 29. In Austria, only few men participate in parental leave

a) Parental leave beneficiaries by gender, 2008-11



b) Parental leave beneficiaries by benefit option



Source: Statistik Austria (2013b), *Familienleistungen*, www.statistik.at/web_de/statistiken/soziales/sozialleistungen_auf_bundesebene/familienleistungen/index.html.

Box 17. The Austrian parental leave system

Parental leave, introduced in 1990, begins after the end of maternity leave of eight-weeks after birth and is dismissal-free for a maximum of two years. The leave can be shared between the two parents. Additional months in the bonus options are only granted when taken by the partner. A leave unit must last for at least 2 months. Parental leave beneficiaries receive one of five childcare allowance options – one income-based model and four flat rates.



- **Option 1:** EUR 436 a month for 30 months or for 36 months if both parents apply for the payment (30+6 bonus months' option), income must be less than EUR 14 600 per year.
- **Option 2:** EUR 624 a month for 20 months or 24 months (20+4 bonus months' option).
- **Option 3:** EUR 800 a month for 15 months or 18 months (15+3 bonus months' option).
- **Option 4:** EUR 1 000 a month for 12 months or 14 months for those earning less than EUR 1 000 income a month (12+2 bonus months' option).
- **Option 5:** 80% of the last net income for 12 months or 14 months for those earning between EUR 1 000 and EUR 2 000 a month (12+2 bonus months' income-related option).

On any of the four flat-rate options, a parent may additionally earn 60% of the income they earned in the calendar year prior to the child's birth or at least EUR 16 200 a year. For the earnings-related option, additional earnings may not exceed EUR 6 100 a year.

Source: Rille-Pfeiffer, C. (2013), *Austria, Country Report, International Network on Leave Policies and Research*, www.leavenetwork.org.

The proportion of fathers taking parental leave differs by their educational attainment and the sector they are working in. According to a national study, tertiary-educated men take parental leave with a slightly higher likelihood than men without tertiary education. The proportion of men working in information and communication and in the women-dominated health and social care sector, who take parental leave, is highest with 1.2% of tertiary-educated men who took parental leave in 2011. In contrast, it is, at 0.6%, lowest in construction and trade. Taking parental leave does not seem to harm men's ability to pursue careers, which may be related to the fact that their leave periods stay short and that most of them continue to work part-time while taking parental leave: Two years after the end of parental leave, when comparing those men who received childcare allowances in 2009 with a control group without parental interruption, leave takers were even found to have a slightly higher income than the control group. However, their risk of unemployment was slightly higher as well (Joanneum Research, 2013).

Childcare benefits encourage mothers to stay out of employment for years

In Austria, three of the five parental leave benefit options allow leave-takers to stay out of employment for more than a year up to 30 months. Since only a maximum of 24 months are employment-protected, the system is designed in a way that encourages women to lose their jobs. Even if this is not the case, long leave periods come with a high risk of skills loss and diminishing labour market attachment. The OECD average maximum parental leave duration of 72 dismissal-protected weeks and 60 paid weeks is well below the duration in Austria. Only the Czech Republic and Poland offer equally long parental leave periods as Austria (Figure 30).

Box 18. Encouraging fathers to take parental leave



Iceland, quota system “3+3+3”: Iceland introduced a quota systems in 2001 with non-transferable paternal entitlements to paid leave (often called “mommy and daddy quotas”) that have to be taken on a use it or lose it basis. Iceland has a 3+3+3 model – 3 months for the mother, 3 for the father and 3 that can be shared. Beneficiaries receive 80% of average total earnings up to a ceiling of EUR 2 180 per month. Between 2001 and 2006, parental leave days taken by fathers increased from 3.3% to 31.2% (Haataja, 2009, p. 16). Currently, Iceland increases duration of leave periods to end up with a 5+5+2 model by 2016 (Eydal, 2013).

Luxembourg, quota system “6+6”: Luxembourg introduced a 6+6 model in 1999, meaning each parent can take 6 months at a flat rate of EUR 1 778 per month. Between 1999 and 2002, the male beneficiary rate increased from 6.3% to 23.4% (Eydal, 2013, p. 4).

Germany, leave entitlements at full-rate equivalent earnings: Partners, who take at least two months leave, receive entitlements at full-rate equivalent earnings (OECD, 2011a, p. 137). One year after Germany had introduced the father’s bonus, the percentage of fathers taking parental leave doubled from 8.8% to 17% (OECD, 2011a, based on Federal Statistical Office, 2010).

Sources: Haataja, A. (2009), *Fathers’ use of paternity and parental leave in the Nordic countries*. https://helda.helsinki.fi/bitstream/handle/10250/8370/FathersLeaves_Nordic.pdf;%20jsessionid=2136CCB18B2A09EE50929B0B6C522D87?sequence=1; Eydal, G.A. (2013), “Icelandic country note”, in P. Moss, *International Review of Leave Policies and Research 2013*; OECD (2011a), *Doing Better for Families*, OECD Publishing, <http://dx.doi.org/10.1787/9789264098732-en>.

The tax system and employment policies encourage women to work part-time in Austria

Considering the context of a lack of continuous ECEC provision in terms of access for under 3-year-olds and constraints in hours of services (Challenge 1), the whole policy landscape is designed to keep mothers in part-time work. Until the child’s seventh birthday, parents have the right to work part-time when they are employed in a company with more than 20 employees (OECD, 2013c, LMF2.4). People have the right to return to full-time work after the seven years. However, having stayed in part-time work for such a long period likely has a negative career effect for many women.

The Austrian tax system provides additional incentives for one partner in dual-earner households to work part-time. In the case of married couples, the incentive for one spouse to work part-time is stronger than the incentive to work full-time. The Marginal Effective Tax Rates (METRs) are relatively low for a spouse moving from inactivity to part-time employment when the married partner is already in full-time employment (Figure 31). Thus, the incentives should be strong. Inactivity-to-part-time METRs are higher for second-earners with children (25%) than for second earners without children (22%). This could exaggerate the problem of low participation of second earners as families with children face additional barriers, such as arranging for childcare. Ideally the marginal effective tax rates on second earners in the presence of children should not be higher than where children are absent.

METRs are much higher when spouses move from part-time to full-time work. These tax rates are approximately 45%, providing some disincentives for second earners to shift from part-time to full-time work. This effect is also a function of the progressivity of the Austrian tax code, which partly explains why the shift from part-time to full-time work is taxed at a higher rate than the shift from inactivity to part-time work: the levels of income are higher.

Box 19. Encouraging women to return to employment after parental leave

For examples on employer practices, see Challenge 10.

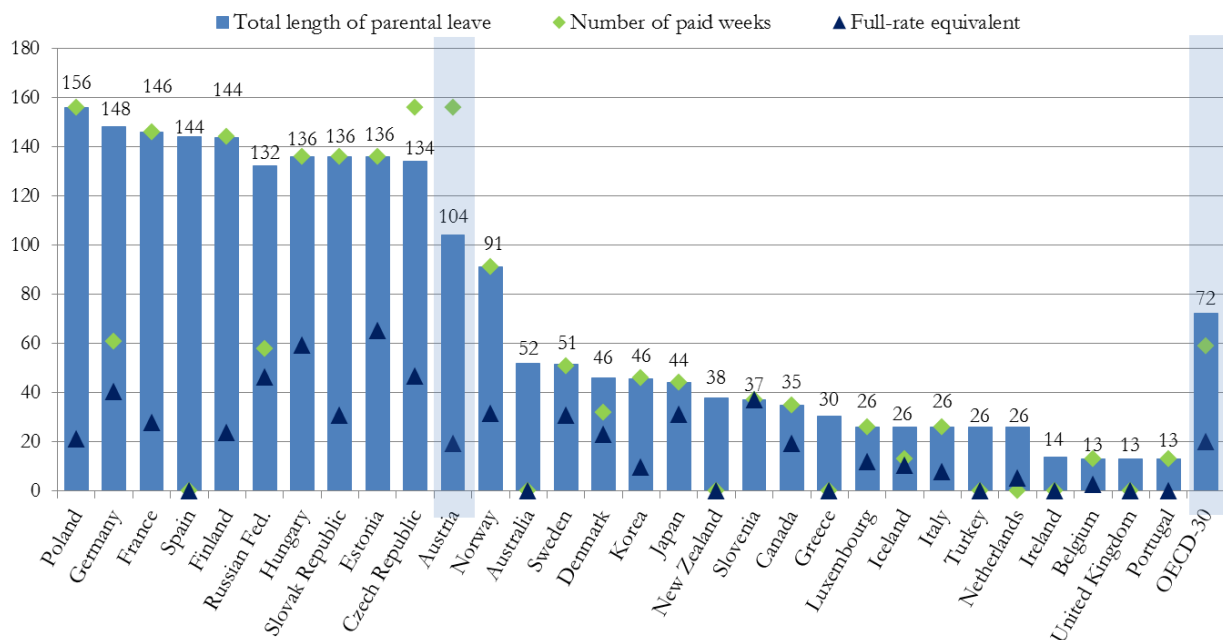
Korea, financial incentives for leave takers to return to employment: In 2011, Korea made the final leave payment conditional to the actual return of leave-takers to their original employer. Korea pays 40% of the regular income during parental leave from the employment insurance fund, but 15% of the amount are reserved during the parental leave. The workers can get the last 15% after 6 months upon return to work; this provides workers with financial incentives not to quit during the period of parental leave. (OECD, 2011a, p. 131).



Source: OECD (2011a), *Doing Better for Families*, OECD Publishing, <http://dx.doi.org/10.1787/9789264098732-en>.

Figure 30. In Austria, parental leave can exceed the employment-protected period

Length in weeks of parental leave (1) and full-rate equivalent (2) for the average worker, selected countries, 2008



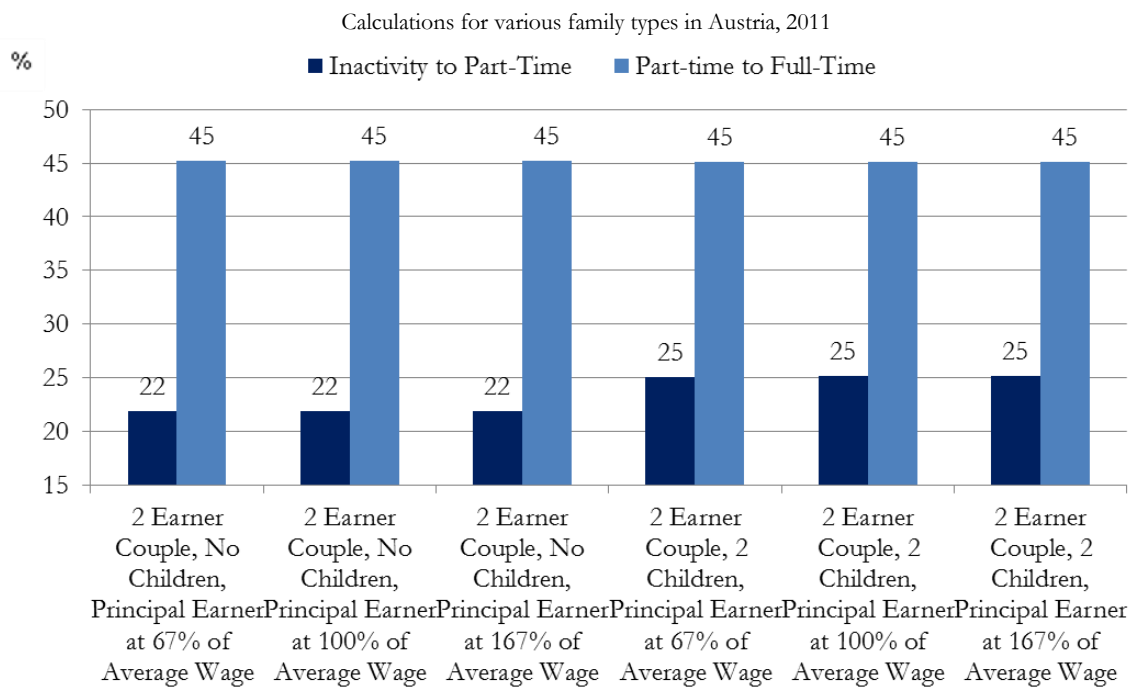
Note: Total length of maternity leave refers to the sum of paid and unpaid entitled weeks: the numbers above the bars refer to the total length of employment-protected maternity/parental leave in 2008.

(1) Information refers to parental leave and subsequent prolonged periods of paid and unpaid leave women can take after maternity leave to care for young children (sometimes under a different name as for example, “childcare leave” or “home-care leave”, or the “Complément de libre choix d’activité” in France). In all, prolonged periods of home-care leave can be taken in Austria, the Czech Republic, Estonia, France, Finland, Germany, Norway, Poland and Spain and since 2008 in Sweden. Values for parental leave refer to the number of weeks women can take after maternity leave, and thus can be added to the weeks of maternity leave. Weeks of maternity leave to be taken after childbirth are deducted from the length of parental leave in countries where entitlements are set up to an age limit of the child. Parental leave is unpaid in the Netherlands, but there is a tax advantage to stimulate take-up, which is reflected in this chart. For Canada, the federal Employment Insurance programme provides for 35 weeks of paid parental leave; unpaid leave periods can be longer. For example, the province of Québec provides up to 52 weeks of unpaid leave, during which period eligible clients can claim benefits under the Québec Parental Insurance Plan.

(2) Full-rate equivalent (FRE) = Duration of (maternity/parental) leave in weeks' payment as a percentage of average workers' earnings received by the claimant over this period.

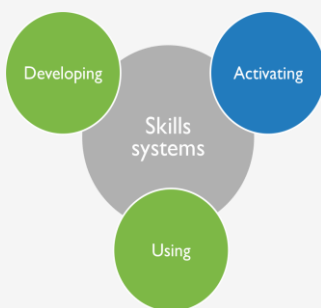
Source: OECD (2011a), *Doing Better for Families*, OECD Publishing, Figure 4.1, p. 134, <http://dx.doi.org/10.1787/9789264098732-en>.

Figure 31. Marginal effective tax rates on full-time working second earners are high



Note: This graph shows the marginal effective tax rates – the ratio of the change in tax paid to the change in gross income – for various family types and primary-earner income levels. The measure shows how the increase in income is taxed, when moving from inactivity to part-time employment and from part-time employment to full-time employment. It is assumed that the spouse is moving from inactivity, not unemployment, and so unemployment benefits are not modelled. It is also assumed that the spouse earns the average wage in Austria. Notably, moving from unemployment benefits to part-time work would be significantly more costly for families.

Source: OECD calculations.



How is the activation of women interlinked with other parts of the skills system?

Relatively low activation of women’s skills in Austria is strongly interlinked with the lack of a continuous, comprehensive childcare support network (Challenges 1, 2). The fact that women cannot count on the availability of ECEC may contribute to their decision to have no or fewer children. In turn, lower fertility will ultimately raise the dependency ratio (see country context). Women in partnerships with men tend to be the lower earner, which raises the likelihood for families to decide that mainly women will take parental leave. The gender wage gap is caused in part by the fact that most Austrian women choose less financially rewarding career paths, often already based on their track and subject choices in VET and in higher education (Challenges 2, 3, 4). The latter can be shaped by policy in schools (Challenge 2) and by means of career guidance (Challenge 6). The fact that women remain out of employment and in part-time work for relatively long periods in Austria raises their risk of skills loss, which lowers their employability and their ability to use their skills effectively in the workplace (Challenge 10). This makes it more important to provide women with adult education opportunities both outside workplace and at work (Challenge 5) and to support working parents to use their skills effectively (Challenge 10).

CHALLENGE 8: RETAINING OLDER PEOPLE AND PEOPLE WITH MODERATE HEALTH PROBLEMS IN THE LABOUR MARKET

According to workshop participants this challenge includes the following aspects:

"People retire early in Austria and many have the intention of leaving the labour market as early as possible; our country has an early-retirement culture"

"Austria needs higher participation of seniors in the labour market (e.g. a long term goal would be that 80% of men and women work until the statutory retirement age)"



OECD comparative data and analysis

Over the next 50 years, OECD countries including Austria will experience a steep increase in the share of older people in the population and a large decline in the share of the working-age population. People who are older than 65 years currently account for a quarter of the working-age population (aged 15-64) in Austria. By 2050 they will account for half of the working-age population. Despite recent pension reforms, the share of public pension spending in GDP is projected to stay one of the highest levels in the OECD (today at 12% and 14% projected for 2030) (OECD, 2013f, p. 26). This requires the mobilisation of all available skills reserves in order to sustain economic growth. It is urgent to act now as people from the “baby boom” generation, who are in their late-forties today, will soon approach the age in which they may retire early or need to be encouraged to stay in the labour market.

In Austria, integrating older workers into the labour market requires multiple actions, including raising their employability, which can be low due to health conditions and skills atrophy, and providing incentives to the individuals to carry on working and to the employers to employ older workers (OECD, 2006c, p. 9).

Inactivity of older workers is high

The hitherto decrease in inactivity of older people, from 70% in 2000 to 56% in 2012, presents a remarkable improvement compared to the situation a decade ago. However, the level of inactivity remains high compared to the 2012 OECD average of 41% (OECD, 2013k). Currently, the labour participation rate for 55-64 year-old men is 54% (OECD-total: 69%) and for women 35% (OECD-total: 50%).

Austria has the second lowest effective early retirement age in the entire OECD, for both men (58.5 years, second after Luxembourg) and women (58 years, second after the Slovak Republic) (OECD, 2011f). When accounting for the fact that the disability scheme has also been used as entry path into early retirement (see below), the actual average retirement age has not improved since the 2005 pension reform. In the disability scheme the average entry age is now below 50. Benefit entitlements in Austria continue to be exceptionally high – with one of the highest net replacement rates in the OECD – which partly explains why people leave as early as they are allowed to. In addition, the tax-benefit system discourages workers eligible for early retirement to stay

in the labour market. The implicit tax rate on continued work after eligibility is one of the highest across the OECD (OECD, 2013p, p. 268).

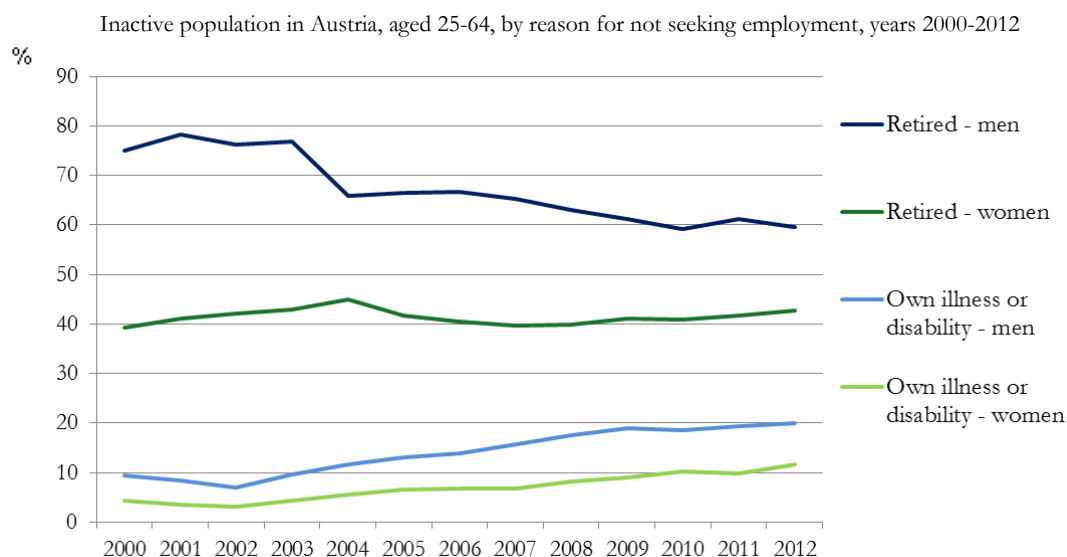
There are several remaining loopholes regarding early retirement in Austria. The main pathway is the “*Hacklerpension*”, a very generous pension without deductions for the long-term insured, which is accessible 3.5 years before the normal retirement age. Initially introduced as a temporary measure in the context of the major pension reform in 2005, the *Hacklerpension* has been extended repeatedly so that it eliminated almost the entire effect of the 2005 reform. The *Hacklerpension* is now restricted by 2014 but continues in a less generous form. In addition, civil servants who have access to separate pension schemes continue to receive overly generous pensions in many provinces accessible from the age of 60.

Disability benefits have always been a key pathway into retirement for those over the age of 57 when it becomes more easily accessible (this age will be increased to 60 by 2017). For people with a reduced work capacity, disability benefits are accessible without any age limit. In Austria, around 5% of the working-age population receives a disability benefit, which is similar to the OECD average of 6%. Among 50-64 year-olds, the share is 15%, which is above the OECD average. Thus, the average age at which people access disability benefits is higher in Austria than in other OECD countries (OECD, 2010c). Similar to other OECD countries however is the fact that today around 4 in 10 new disability pension claims are for mental illness (OECD, 2010c).

The proportion of people exiting the labour market on disability benefits has increased

Since the pension reforms, the share of people exiting the labour market through the disability benefit scheme has increased. Overall, the share of the retired population aged 25-64 has declined from 50% in 2000 to 41% in 2012. At the same time, the share of the population who is inactive because of illness or disability, has more than doubled from 6% to 15% (Eurostat, 2013a), suggesting that many people have started claiming disability benefits because it became more difficult to receive early retirement (Figure 32).

Figure 32. Increasing labour market exits based on the disability pension



Source: Eurostat (2013a), *Inactive Population*, Von Eurostat, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsa_ipga&lang=en.

Austria recently introduced restrictions to the disability pension...

In 2011 and 2012, the Austrian Government tightened eligibility to early retirement and disability schemes again. The aim of the reform is to “close” the disability benefit scheme except to those completely unable to work. From now on there are two options. People who are too sick to work and in need of treatment will be entitled to a *rehabilitation* benefit, which works like an extended sickness benefit. Before the reform people had to apply for a temporary disability benefit, which has now been abolished. Those who are fit enough to work but unable to perform their “learned” profession will be entitled to a *retraining* benefit, an unemployment benefit with a 25% top-up. They will receive retraining in a “comparable” profession taking into account their health situation, skills and personal interests. Disability pensions will only be granted in the case of permanent disability. Retraining will only be granted if the PES finds it “useful”, which leaves the PES with significant room for discretion. According to the Ministry of Labour, Social Affairs and Consumer Protection, the following example would not be a “useful” case: A 61-year-old man who would need to be retrained for three years, so that he would continue to work for one year before retirement (BMASK, 2012).

The reform will affect all workers under the age of 50 at the time of its introduction in January 2014. Civil servants, the self-employed and farmers are not included. Official forecasts suggest substantial gains from the reform in terms of older workers’ labour market participation.

...which may lead to a large increase in unemployed low-skilled older people with partial work capacity

Since Austria started keeping older workers longer in the labour market, the situation for those who lose their jobs has hardly improved. Half of the 55-64 year-old unemployed people are long-term unemployed. Unemployed people in this age group face a high risk of staying out of employment in Austria, as indicated by their low hiring rate of 4.7%, compared to the 5.9% OECD average in 2013 (OECD, 2013k).

The success of the disability pension reform will hinge entirely on its implementation, which requires better labour market integration of unemployed older people. The key actor for successful implementation is the PES who will suddenly have to cater for an increasing number of older workers with reduced work capacity due to poor health. Low-skilled people will likely be overrepresented. Among all participating countries in the Survey of Adult Skills, low-skilled people have the third highest likelihood for poor health in Austria, suggesting that low-skilled people are also more likely to receive disability pensions.

The PES needs additional resources and tools to manage this shift. For example, caseworkers need to be sufficiently trained and they need effective tools and measures to deal with the challenges of this group. So far, there has only been some additional funding from the pension insurance earmarked for the PES and necessary links with the health system are still missing. If the new retraining approach fails, there is a large risk that the new benefits would turn into new long term payments (OECD, 2014a forthcoming).

Many countries face a similar challenge when undergoing reforms to (re)integrate (older) workers and those with partial work capacity into the labour market. As a result, the PES usually faces a substantial change in the structure of its clientele. For example, forecasts in the UK suggest that in a few years some 80% of all employment service clients will have a health problem, most of them struggling with mental ill-health (OECD, forthcoming 2014b). Good practice is only slowly arising in this field (see Boxes 20-21).

Box 20. Labour market integration of unemployed older workers with partial work capacity

Belgium (Flanders), targeting people with disabilities and mental disorders using screening, training and guidance: In Belgium, job seekers with an indication of a work disability, including those with mental health problems receive specialised support. PES caseworkers pay particular attention to disabilities and mental health problems that are diagnosed in multidisciplinary screenings. Besides its internal active labour market measures, the PES cooperates with specialised centres for the training, guidance and intermediation of job seekers with a work disability. According to evaluations conducted by the PES, comparing the outcomes of people with and without disabilities, after 12 months, 52% of people with disabilities were still on unemployment benefits, compared to 41% of people without disabilities (OECD, 2013q).

Estonia, job clubs for older workers: In 2009, the Estonian PES introduced job clubs to create a small community where jobseekers can share their views and the difficulties they face and learn how to network. Various interactive activities and role plays are pursued contributing to the development of the social skills of participants (European Commission, 2012, p. 18).

Germany, Perspektive 50+ employment pact for older long term unemployed in the regions: The 50+ programme, launched in 2005, aims at integrating the long-term unemployed over 50 into the labour market, to initiate and launch innovative projects and strategies at the regional level, to develop a supportive regional network and raise awareness of active ageing among employers. The programme is based on the cooperation between job-centres and regional partners such as enterprises, employers' chambers and associations, municipal and educational institutions, trade unions, churches and charitable organisations. Measures include counselling, training, integration subsidies, and coaching for better self-images. Coaching is available after return to the labour market as well. In 2011, 200 000 older persons got involved in the programme, out of which 70 000 found employment. One third (34 %) were employed using integration subsidies (European Commission, 2012, p. 16).

Poland, improving PES staff skills: In 2008, Poland introduced a comprehensive programme to adjust PES-work to the specific needs of older workers. PES staff received e-learning and specific counsellor training to improve their ability to respond to the needs of this client group (European Commission, 2012).

Sources: OECD (2013k), *OECD Employment Database*, www.oecd.org/employment/emp/onlineoecdemploymentdatabase.htm#scoreboard; European Commission (2012), PES and Older Workers. Toolkit for Public Employment Services.

Employers could play a greater role in retaining older workers

Employers are best placed to prevent many of the potential future barriers to employment participation. This includes the early promotion of both skills and health. Currently, older workers hardly benefit from work-based training in Austria, where the age gap in training participation is particularly large (OECD, 2011f, p 74; see also Challenge 5).

Austria launched initiatives to improve the health-related employability of older workers, such as consulting services on health at the workplace ("fit2work") and better streamlined occupational medical examinations ("*Gesundheitsstraße*"). However, little has been done to improve the access of particularly low-skilled prime-aged and older workers to education and training opportunities, and to incentivise employers to support training of older workers (see Challenge 5).

Box 21. Engaging employers and social partners in retaining older workers

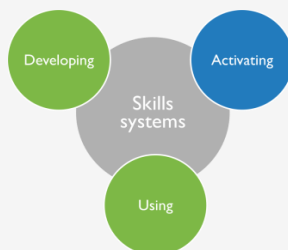


Belgium, occupational fund: In 2004, Belgium set up an Occupational Experience Fund to improve working conditions of prime-aged and older workers (SPF ETCS). The fund is used to support projects designed to improve working conditions in companies and sectors for workers aged 45 years or above. The best of the subsidised projects are held up as examples of good practice. In 2010, the Fund received 332 requests. More than half of them were conducted by SMEs.

Flanders, Belgium, a comprehensive strategy involving social partners: The social partners and the Flemish government have entered into a “career agreement” for 2012 and 2013, which includes provisions for placing more people in careers for longer average periods and in more acceptable working conditions. The package included an employment bonus for those over 50 and support for unemployed persons in this age group. Moreover, a large-scale training programme was introduced. These measures will enable all companies to construct an age pyramid of their staff, which can be compared with those of other companies in the same area of activity and provide employees and workers with a basis for discussion and peer-learning.

Germany, qualification counselling for SMEs: The German PES has piloted different models to skills counselling to firms in order to identify the best way to facilitate on-the-job training activities in SMEs. In all the three models, counsellors use analyses of the age structures and up-skilling needs as tools to identify workforce development needs with firms. As a second step, they motivate SMEs to make better use of their employees' potential for systematic on-the-job training, e.g. maintaining employment opportunities in the company for older employees in the long run or improving the skills of low-skilled workers. The pilots confirmed that PES-provided counselling was well received by employers (for more information on the three models, see European Commission, 2012, p. 10).

Sources: OECD (2012), *OECD Thematic Follow-up Review of Policies to Improve Labour Market Prospects for Older Workers. Belgium*, OECD Publishing; European Commission (2012), *PES and Older Workers. Toolkit for Public Employment Services*, p. 10.



How is the activation of older people interlinked with other parts of the skills system?

Low foundation skills (Challenge 5) undermine the employability of older workers. This issue can be addressed through adult education, both formal and work-based (Challenge 5), requiring effective cooperation between ministries, adult education institutes, the PES and employers. Availability of career and education guidance (Challenge 6) is important for older people to find the right further education opportunities.

CHALLENGE 9: ACTIVATING THE SKILLS OF MIGRANTS

According to workshop participants this challenge includes the following aspects:

"The skills of both high- and low-skilled migrants and non-native speakers are not used effectively"

"Inactivity and unemployment of migrants need to be reduced"

"Foreign-born often lack networks and language skills"

"Foreign-born often have problems to receive recognition of their formal qualifications and informally acquired skills"

"Refugees are not allowed to work after arrival and can become distant from the labour market"

"Migrants may be particularly unaware of the opportunities in self-employment"

"In the long run, Austria should be perceived as attractive country for potential immigrants"



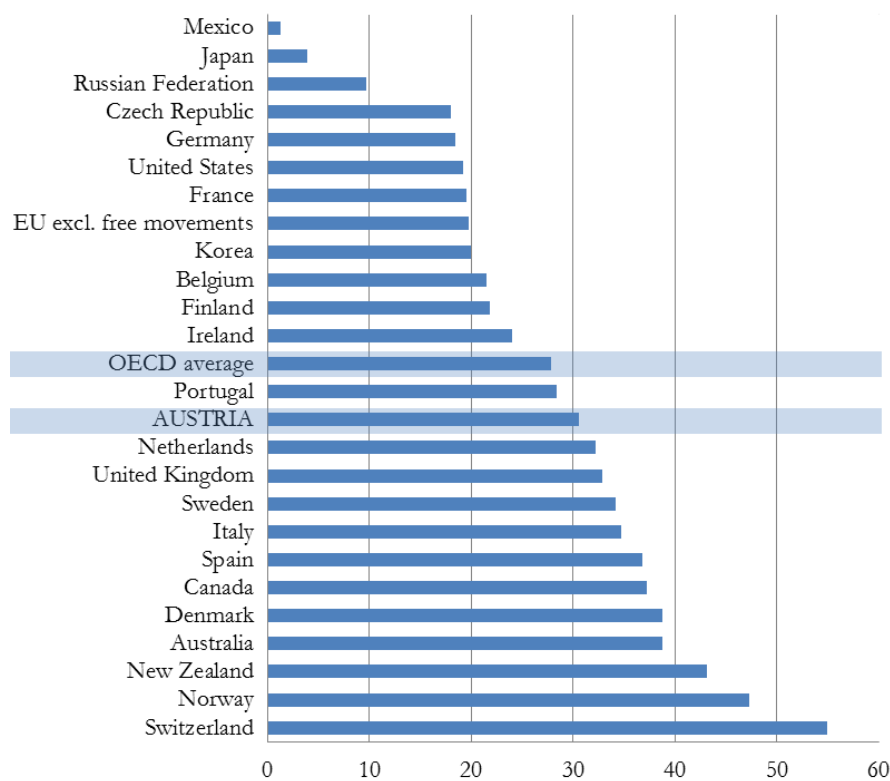
OECD comparative data and analysis

To maximise the potential advantages of migration, Austria needs to better integrate people with a migrant background into both its skills system and the labour market. International migration in Austria already accounts for a third of new entries into the working-age population (Figure 33). The share of foreign-born people in the Austrian population is, at 19%, above the OECD average of 12.5% in 2011. In light of Austria's demographic development, this share is likely to rise in the future. The share of native-born 15-24 year-old children of immigrants will more than double by 2020.

In Austria, people with a migrant background (both first and second generation) encounter much higher unemployment and inactivity, particularly when they are from lower-income countries (here: all non-OECD countries plus Mexico and Turkey). The gaps to native Austrians are largest for women at all ages, including the female native-born offspring of immigrants. First and second generation immigrants are penalised most compared to native Austrians when they have high skills levels.

Figure 33. Migration accounts for a third of new entries into Austria's working-age population

Permanent movements as estimated percentage of entries into the working-age population, selected countries, 2010



Note: The OECD average is the unweighted average of 25 OECD countries.

Source: OECD (2012j), *International Migration Outlook*, OECD Publishing, http://dx.doi.org/10.1787/migr_outlook-2012-en.

People with migrant background are less likely to supply their skills to the labour market

Unemployment is much higher among those foreign-born than among natives and it is currently increasing rapidly (8.9% in the 1st quarter 2012, 11.3% in the 1st quarter 2013). However, unemployment of foreign-born is still lower in Austria (8.2%) than in most other OECD countries in 2011 (OECD average: 11%) (OECD, 2013r). Compared to other OECD countries, Austria's performance is particularly unfavourable for women with a migrant background, in particular female native-born offspring of immigrants, and high-skilled migrants.

For both foreign-born men and women, the gap in employment rates to native-born is larger in Austria than average among OECD countries (see Figure 34). In addition, the share of the 20-64 year-old inactive population with a foreign nationality more than doubled from 8% in 2000 to 17% in 2012. This is driven by both the declining inactivity of the native population and an increase in the number of inactive foreign-nationals from 106 000 in 2000 to 185 000 in 2012 (Eurostat, 2013c).

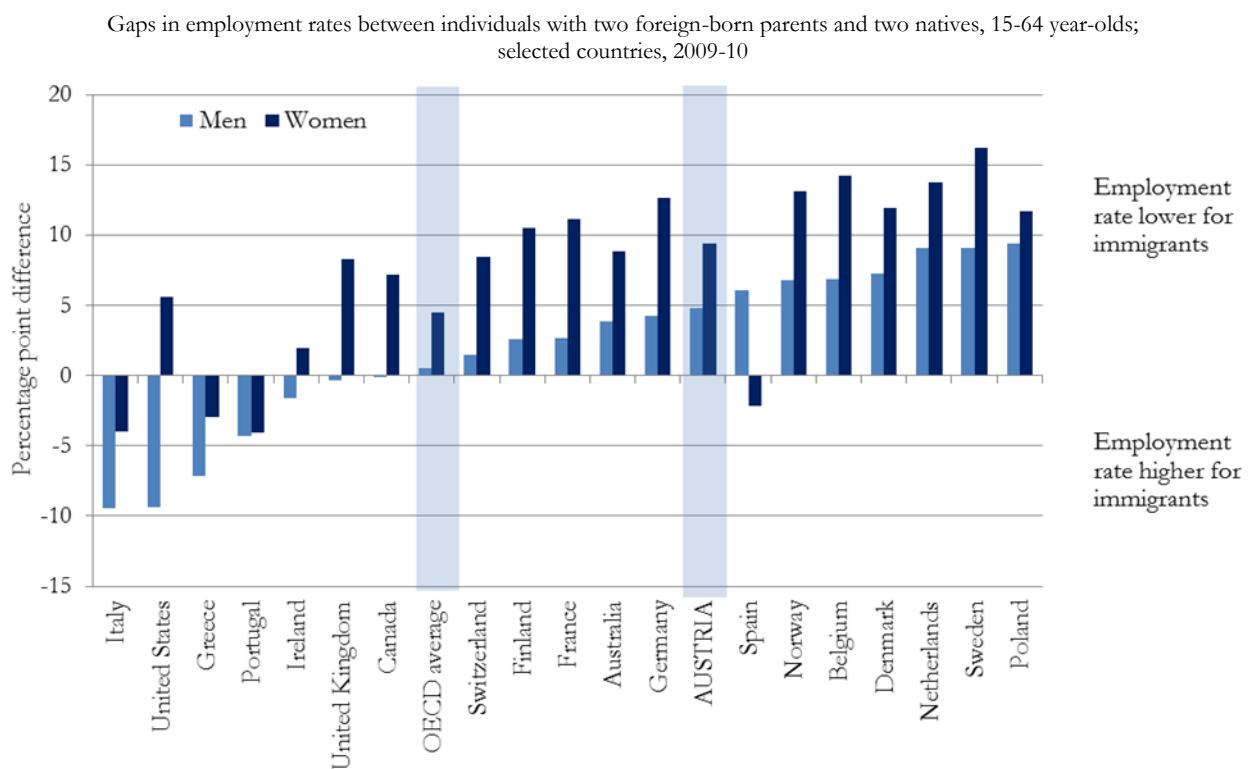
The challenge is concentrated in Vienna, where 42% of the immigrants reside. However, the gap in the unemployment rate between foreign-born and native-born men is, at 3.7%, actually smaller in Vienna than, at 4.6%, in the rest of Austria (2008-10) (OECD, 2012f, p. 53).

Foreign-born women have worst labour market outcomes

In 2008/9, about 30% of native-born and 40% of foreign-born women were inactive. The unemployment rate of foreign-born women is about twice as high as the rate of native-born women (OECD, 2012f, p. 107).

Native-born mothers are more often part-time working (45%) than foreign-born women (33%). Foreign-born mothers are more often not in employment (37%) than native-born mothers (19%). Half of the foreign-born mothers of children, who are enrolled in ECEC, are not employed (Statistik Austria, 2013e, p. 43/52), suggesting that a lack of ECEC is not the main labour market barrier of mothers with migrant background (compare Challenge 7).

Figure 34. Individuals with migrant background encounter disadvantages on the labour market



Notes: OECD average for 31 countries.

Sources: Liebig, T. (2013), *The Strengths and Challenges of Austria's Skills System*, presentation at the Diagnostic Workshop in Vienna, June 2013., based on European Union Labour Force Surveys (Eurostat); Australian and Canadian Labour Force Surveys; US Current Population Surveys.

Labour market outcomes differ by sending countries

The migrant population in Austria mainly consists of people from Turkey, former Yugoslavia and EU countries. Most immigrants from high income countries have rather favourable labour market outcomes. Individuals from EU-/EEA countries and Switzerland have an employment participation rate of 72%, close to the one of natives. Individuals from former Yugoslavia have a lower employment participation rate of 66%. The rate is lowest for individuals with a Turkish background at 56% (Statistik Austria, 2013e).

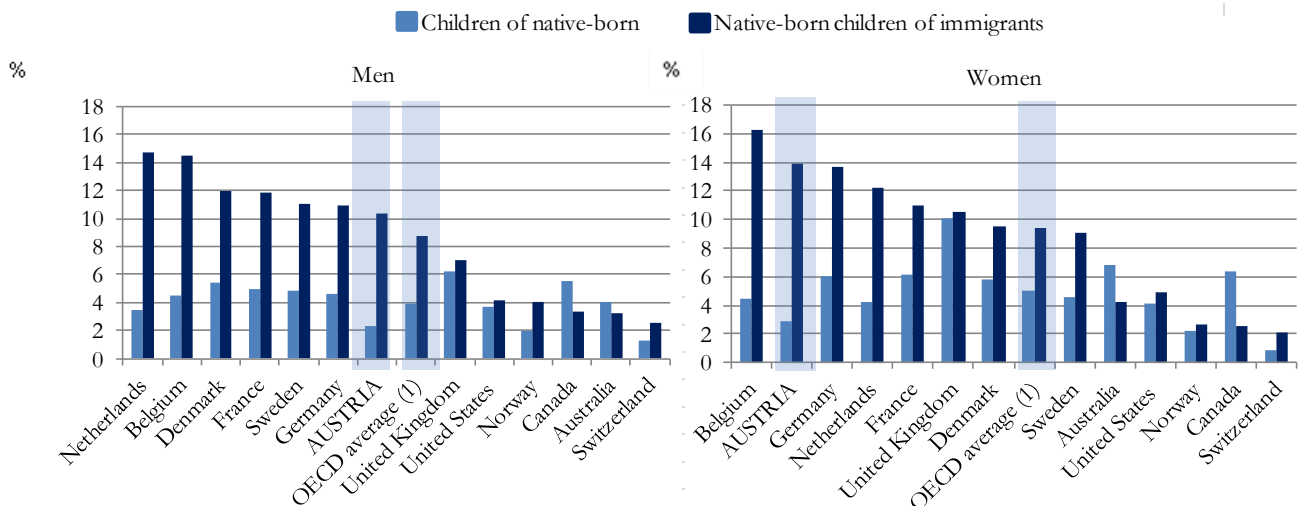
Employment rates of women differ even more by sending country. Only a minority of Turkish women (43%), about half of the women from other non-EU countries (54%), and 60% of women from the former Yugoslavia (excluding Slovenia) were employed in 2012 (*ibid.*). By contrast, the employment rate of women from EU-/EEA countries and Switzerland (67%) was only slightly lower than the one of native women without migrant background (70%) (Statistik Austria, 2013c, p. 52).

Labour market outcomes of the children of immigrants are a major cause for concern

The 20-29 year-old offspring of immigrants is four times more likely to be both low-educated and neither in employment nor in education and training (NEET) than their native-born counter-parts without a migrant background (OECD, 2012f, p. 107). While the employment rates of male native-born offspring of immigrants are relatively favourable by international comparison, employment rates of female native-born offspring are particularly unfavourable: 14% belong to the low-educated NEET group (OECD average: 10%). Only Belgium ranks lower in the comparison group (Figure 35).

Figure 35. Female children of immigrants are particularly at risk in Austria

Percentage of "population at risk" among native-born children of immigrants and the children of native-born, by gender, aged 20-29, around 2007



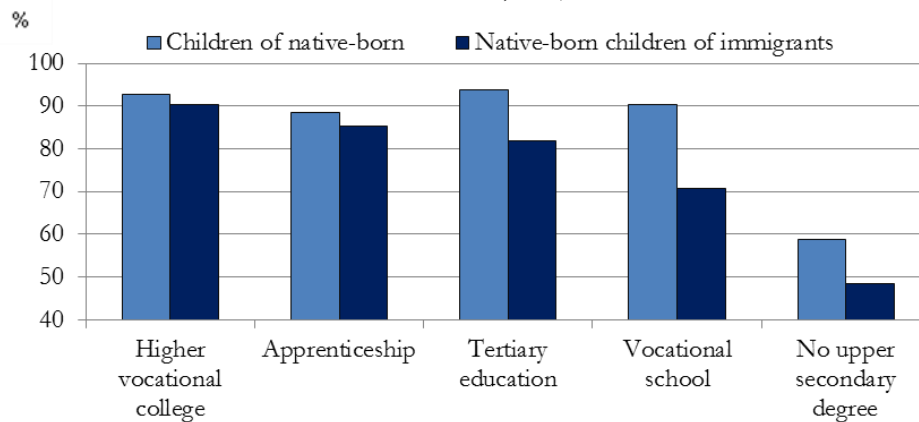
Note: (1) The OECD average refers to the unweighted average of the countries included in the Figure.

The "population at risk" is defined as being low-educated and not employed. Native-born children of immigrants are aged 20-29 years and not in full-time education; young immigrants are immigrants aged 20-29, not in full-time education and arrived before the age of 18. Data on younger migrants are too small to be statistically reliable.

Sources: OECD (2012f), "The labour market integration of immigrants and their children in Austria", in *Jobs for Immigrants (Vol. 3): Labour Market Integration in Austria, Norway and Switzerland*, <http://dx.doi.org/10.1787/9789264167537-en>, p. 52, based on Australia and Canada: Census (2001); Denmark, Norway and Sweden: Population register (2004); Austria: Microcensus (2008); Belgium: Labour Force Survey (2003/2004/2005); France: Labour Force Survey EEC (2006/2007); Luxembourg: Labour Force Survey (2008); Germany: Microcensus (2005); Netherlands: Labour Force Survey (2004/2005); New Zealand: Census (2006); Switzerland: Labour Force Survey SAKE (2008); United Kingdom: Labour Force Survey (2008); United States: Current Population Survey March Supplement 2008.

Figure 36. The employment rate of immigrant offspring differs by educational attainment

Employment rate by highest educational attainment in Austria, children of natives vs. native-born children of immigrants, aged 15-34 and not in education, 2009/2010



Note: Those whose highest qualification is from an upper secondary academic school are not included as this applies only to a small group. Moreover, this is not a vocational qualification, but is usually supposed to be followed by a tertiary degree. Employment rates are 89% for the children of native-born and 77% for the native-born children of immigrants.

Source: OECD (2012f), "The labour market integration of immigrants and their children in Austria", in *Jobs for Immigrants (Vol. 3): Labour Market Integration in Austria, Norway and Switzerland*, <http://dx.doi.org/10.1787/9789264167537-en>, p. 93, based on Austrian Microcensus (data provided by Statistics Austria)

As discussed in Challenges 2 and 6, children of immigrants are overrepresented in the lower educational tracks. This partly explains their negative labour market outcomes. However, immigrant offspring with tertiary qualifications have lower employment rates than those with vocational qualifications and they face a larger gap to the rate of native-born, which remains even after controlling for socio-economic characteristics (Figure 36). Reasons likely include a lack of networks and information about labour market functioning and discrimination patterns (OECD, 2012f).

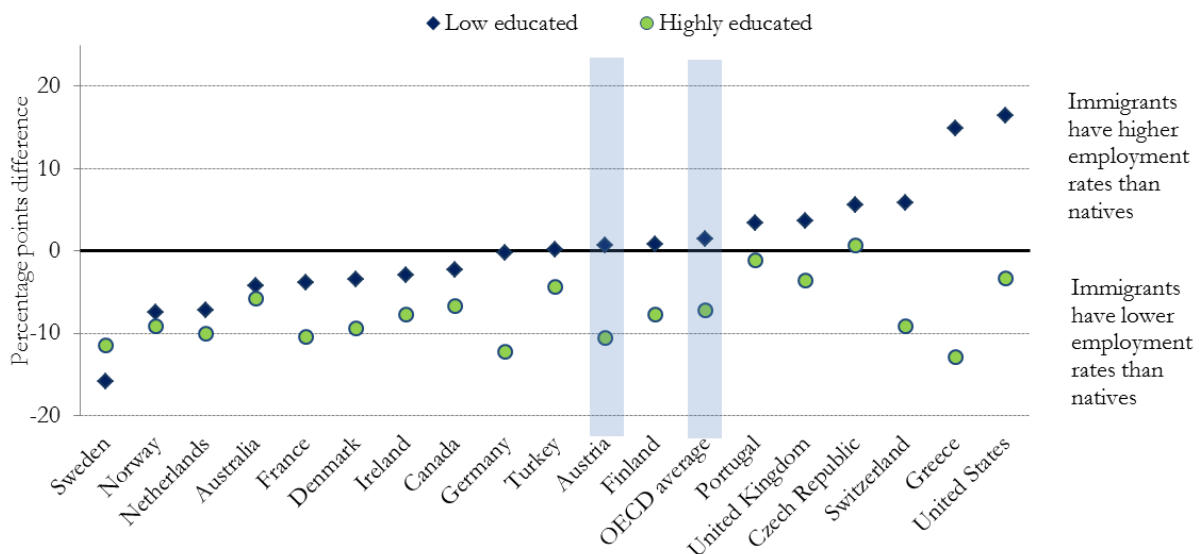
The higher their educational level, the more foreign-born people are penalised

Immigrants in Austria are strongly overrepresented among the low-educated. Thirty per cent of all foreign-born and 44% of immigrants from lower-income countries have not completed upper secondary education compared with only 13% of the native-born. Immigrants from lower-income countries are three times as likely to be low-educated as the native-born. However, like in other OECD countries, recent arrivals have higher educational attainment than past immigrant cohorts. Among those who have arrived over the past decade, 23% are highly-educated (OECD, 2012f, p. 76).

In Austria, highly-educated migrants are often unemployed or over-qualified for their jobs. Fifty five per cent of the highly-educated immigrants are employed in high-skilled jobs but 70% of the highly-educated native-born are also (OECD 2012f, pp. 76-77). Austria also has one of the largest proportions of highly-educated foreign-born from low-income countries working in low-skilled jobs (OECD 2012f, p. 77). In general, employment gaps between native-born and foreign-born tend to be larger for highly-qualified immigrants than for the low-educated. In Austria, as well as in Germany, France and Switzerland, this tendency is particularly pronounced. It is again the immigrants with qualifications from lower-income countries and women from lower-income countries who face the largest disadvantages (Figure 37; OECD, 2012f, p. 76).

Figure 37. Highly-qualified foreign-born people are most disadvantaged

Difference in employment rates of foreign- and native-born populations by educational level, 2009-10, 15-64 (excluding persons still in education)



Source: Liebig, T. (2013), *The Strengths and Challenges of Austria's Skills System*, presentation at the Diagnostic Workshop in Vienna, June 2013.

Complex processes for the recognition of foreign qualifications hinder high-skilled immigrants

To a large extent, the disparities between natives and foreign-born people, described above, can be explained by recognition problems of foreign diplomas. According to the OECD report on migrant integration, there are two major factors. First, employers value degrees which have been acquired in a foreign education system less, and second, the recognition processes for foreign qualifications are highly complex and protracted. However, Austria is currently reviewing and changing its recognition framework for foreign qualifications, putting more emphasis on transparency, guidance and efficient recognition processes.

Labour market restrictions hinder asylum seekers and accompanying family members to work

In contrast to most other OECD countries, Austria does not offer full and automatic labour market access to all permanent-type migrants upon entry (OECD, 2012f, p. 109). Austria still has many different permits with varying degrees of labour market access, and a unique system of numerical limits for new work permits that can be granted in a given year (OECD, 2012f). Asylum seekers in particular are subject to severe restrictions. In the case of individuals, full labour market entry can be retarded for years (OECD, 2012f, p. 109). The restrictions also hinder employment participation of (some) newly arrived immigrant women from lower-income countries, since they are among the few groups where the restrictions have been binding (OECD, 2012f, p. 109).

Austria lacks targeted employment integration approaches for both low- and highly educated migrants

Austria lacks a comprehensive support network and targeted offers to integrate people with a migrant background effectively into the labour market and the skills system (see also Challenges 5 and 6). Newly arrived immigrants have to pass a language test. For those who are unemployed, measures of the Austrian Employment Service (PES) include German-language classes and special counselling (PES, 2011). In addition, there is a patchwork of guidance and education services available. Recent Austrian policy initiatives include the National Action Plan for Integration, developed in 2010 by the Federal Ministry for the Interior, and the creation of a State Secretariat for Integration, which is asked to coordinate nationwide integration measures (OECD, 2012f, p. 66).

Box 22. Centralised qualification recognition and complementary education



Germany, integrated qualification recognition for immigrants: Germany developed an extensive information network about its new recognition procedures based on a network of offices participating in the Integration through Qualification Programme (IQ Programme). The IQ Programme provides a dedicated website (Recognition Finder) and a hotline. A new Recognition Act adopted by the federal Government that entered into force in April 2012 provides the ground for systematic recognition of foreign vocational qualifications in the occupations regulated by federal law. The Act provides for improvement and harmonisation of procedures and criteria guiding the recognition of qualification. (OECD, 2013v, pp. 97-98).

Sweden, centralised recognition and complementary education: Immigrants looking for a job in Sweden may have their upper secondary diplomas or degrees recognised through the National Admissions Office for Higher Education. The recognition of academic degrees is carried out by the Swedish National Academic Recognition Information Centre. The criteria applied in evaluating foreign degrees include the objectives and duration of programmes and the theses or papers required. The product of the evaluation is not a Swedish qualification but an assessment of the equivalence to such a qualification to provide guidance to employers (Lemaître, 2007). In addition, the government has assigned universities and colleges to arrange supplementary courses for people with foreign university degrees in law, education, the health sector and high level practical training. (Swedish Ministry of Integration and Gender Equality, 2008).

Sources: OECD (2013v), *International Migration Outlook*, OECD Publishing, http://dx.doi.org/10.1787/migr_outlook-2013-en; Lemaître, G. (2007), *The Integration of Immigrants into the Labour Market*, OECD Social, Employment and Migration Working Papers No. 48, OECD Publishing, <http://dx.doi.org/10.1787/235635254863>; Swedish Ministry of Integration and Gender Equality (2008), *Memorandum. Update on Policy Developments*, www.oecd.org/sweden/41706122.pdf.

Box 23. Labour market integration of people with migrant background



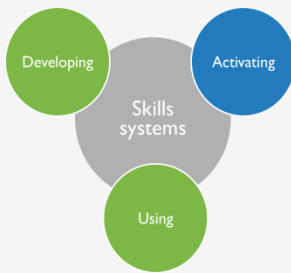
Denmark, a mentorship programme for foreign-born women: Since 2003, Denmark's Kvindeforbund mentorship programme is run nationwide by four regional branch offices, financed by the Integration Ministry. The project brings together foreign-born women, in particular refugees, and native-born working women. In order to achieve an appropriate match, interested potential mentees and mentors are first interviewed and tried to be matched based on interests. The mentor is expected to share her experiences, to advise the immigrant and open her network to the respective mentee. The mentorship relation is originally established for a fixed period of time by means of a formalised agreement, generally lasting from six months to one year. (Liebig, 2007, p. 44).

Germany, Counselling and Information Network: The Federal Government started the counselling and information network "Integration by Qualification – IQ" as pilot projects for the labour market integration of persons with migrant background, co-sponsored by the EU Initiative EQUAL. The approach includes tailored counselling services, skills evaluation procedures, targeted further training, occupation-related promotion of language skills, support with start-ups and intercultural personnel development (German Authorities, 2008).

Sweden, Introduction Programme for Asylum Seekers: At the beginning of the Introduction Programme, the municipal refugee reception service, in consultation with the PES, carries out a preliminary assessment to determine if the immigrant is ready for the labour market. If not, the programme develops an action plan in cooperation with the immigrant. This involves, at the very least, language training and introduction to life in Sweden, but may also involve specific vocational upgrading or training, as required (Lemaître, 2007).

Sweden, "step-in jobs": Step-in jobs are subsidised jobs in the public or the private sector which offers possibilities for new arrivals to combine language training with part time employment. The wage subsidy amounts to 75 percent of the gross salary (max. SEK 750 per day). The salary is regulated by collective agreements. According to a follow-up by the PES, in nearly half of the cases the scheme has resulted in regular employment (Swedish Ministry of Integration and Gender Equality, 2008).

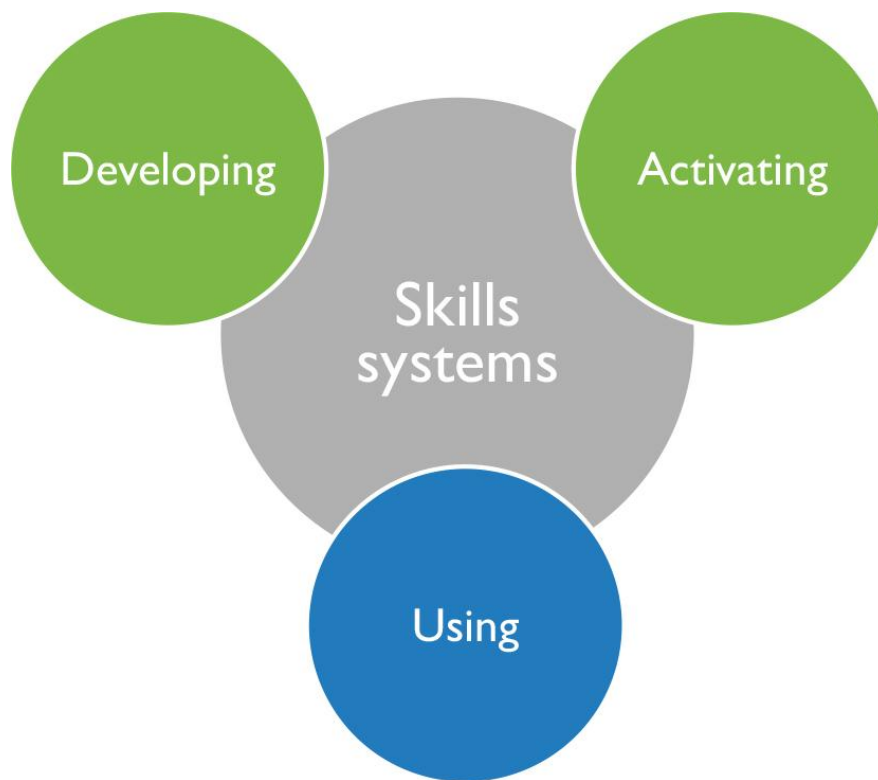
Sources: Liebig, T. (2007), *The Labour Market Integration of Immigrants in Denmark*, OECD Social, Employment and Migration Working Papers No. 50, OECD Publishing, <http://dx.doi.org/10.1787/233783261534>; German authorities (2008), *Update on Recent Developments*, www.oecd.org/germany/41705934.pdf; Lemaître, G. (2007), *The Integration of Immigrants into the Labour Market*, OECD Social, Employment and Migration Working Papers No. 48, OECD Publishing, <http://dx.doi.org/10.1787/235635254863>; Swedish Ministry of Integration and Gender Equality (2008), *Memorandum. Update on Policy Developments*, www.oecd.org/sweden/41706122.pdf.



How is the activation of migrants interlinked with other parts of the skills system?

Activating the skills of migrants requires improving their employability through labour market measures and lifelong learning (Challenges 1-6). In this process, the availability of guidance (Challenge 6) is important to help immigrants in finding the right further education opportunities (Challenge 5) and in tackling the recognition of skills that have been acquired abroad.

USING SKILLS



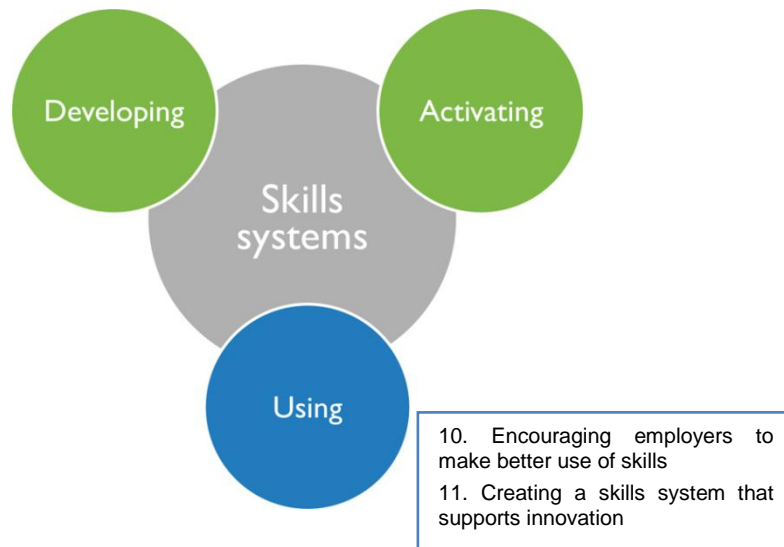
IV. USING SKILLS EFFECTIVELY

A selection of challenges identified by Austrian workshop participants:

- *High degree of over-qualification especially among people with apprenticeships*
- *The skills of migrants are not used effectively in the labour market*
- *The skills of elderly are not used effectively in the labour market*
- *Using skills for innovation*
- *Lack of data on how skills are used at workplaces*

At the aggregate level the Austrian population seems to use its skills relatively effectively, considering that Austria's labour productivity is relatively high, although people have only average to below average information-processing skills (see Challenge 5). However, there are challenges related to the effective use of high-level skills and the effective use of skills at workplaces, particularly of some groups such as foreign-born and women, who are more likely to be over-qualified, and the elderly, who are more likely to be under-skilled.

The problems described by workshop participants have been expressed by the OECD as two key challenges: Challenge 10 focuses on the individual level and the use of skills in the workplace. Challenge 11 addresses the question of what is the right skills mix for Austria to promote innovation.



CHALLENGE 10: ENCOURAGING EMPLOYERS TO MAKE BETTER USE OF SKILLS

According to workshop participants this challenge includes the following aspects:

"Labour productivity is declining"

"Austria needs a skills system that promotes innovation more effectively"

"There seems to be some skills mismatch and over-qualification, especially of people with VET-degrees and apprenticeship graduates"

"Due to demographic change companies compete for youth "

"The skills of both high- and low-skilled migrants and non-native speakers are not used effectively and migrants are often overqualified for their work"

"The skills of older workers should be used more effectively, for example as mentors for younger workers"

"Less full-time jobs may be a challenge for skills-use"



OECD comparative data and analysis

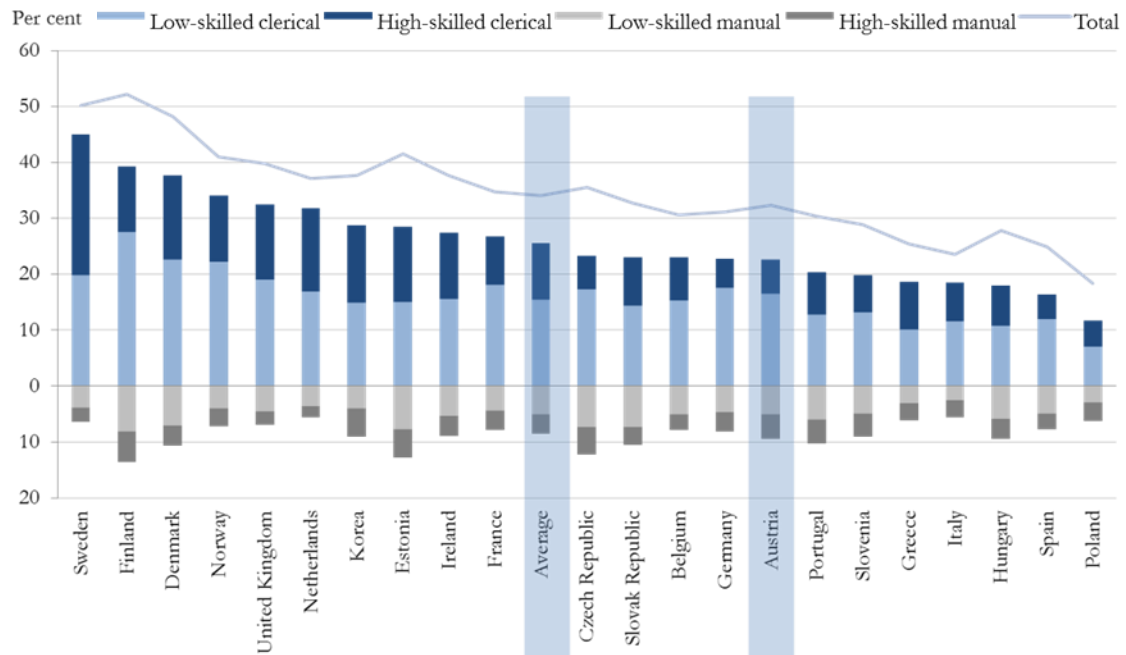
Effective skills use at work is strongly correlated with labour productivity (OECD, 2013h). In Austria, labour productivity is high but there is no reason for complacency as productivity gains have slowed down in recent years (see Introduction). Current Austrian workplaces have been less affected by restructurings and the introduction of new technologies than in most other countries (Figure 38). Workers in Austria also reported below average use of problem solving skills in technology-rich environments and computer use at work. Both aspects suggest that employers and workers in Austria are at risk of missing opportunities related to new technologies. A key tool to improve skills and their use at work is work-based learning, yet Austrian workers use the skills that are related to skills development at work less frequently than their counterparts in other countries. In addition, there are strong skills mismatches on the job in Austria, with respect to both the use of information-processing skills as well as the skills related to a person's field of study. In particular, the skills of women, older workers and people with a migrant background in particular are not used effectively at work.

Below average use of ICT-skills and work-based learning is a severe risk to future productivity

The fact that labour productivity has been high in Austria (see Introduction) despite approximately average information-processing skills (Challenge 5) suggests that – at the aggregate level - the skills of the working-age population in Austria have been used effectively in international comparison. Compared to other countries, people in Austria report higher and more frequent use of their skills “in concert at work” (several skills used together at work) and of task discretion (choosing or changing the sequence of job tasks, the speed of work and working hours), which may be linked to previous relatively high productivity (Figure 40; OECD 2013h, pp. 146-149).

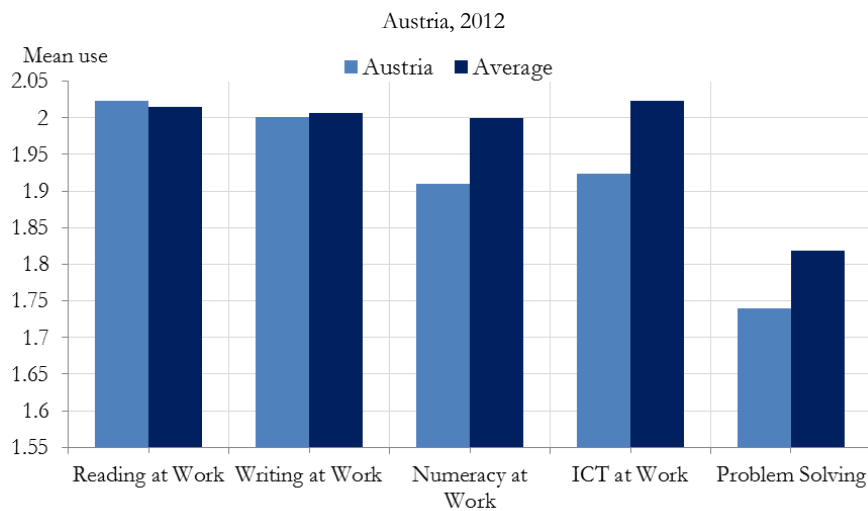
Figure 38. Austria has been less exposed to restructuring than most other countries

Share of workers who reported substantial restructuring or reorganisation in their current workplace during previous three years that affected their work



Source: European Working Conditions Survey, 2010.

Figure 39. Average use of information-processing skills at work

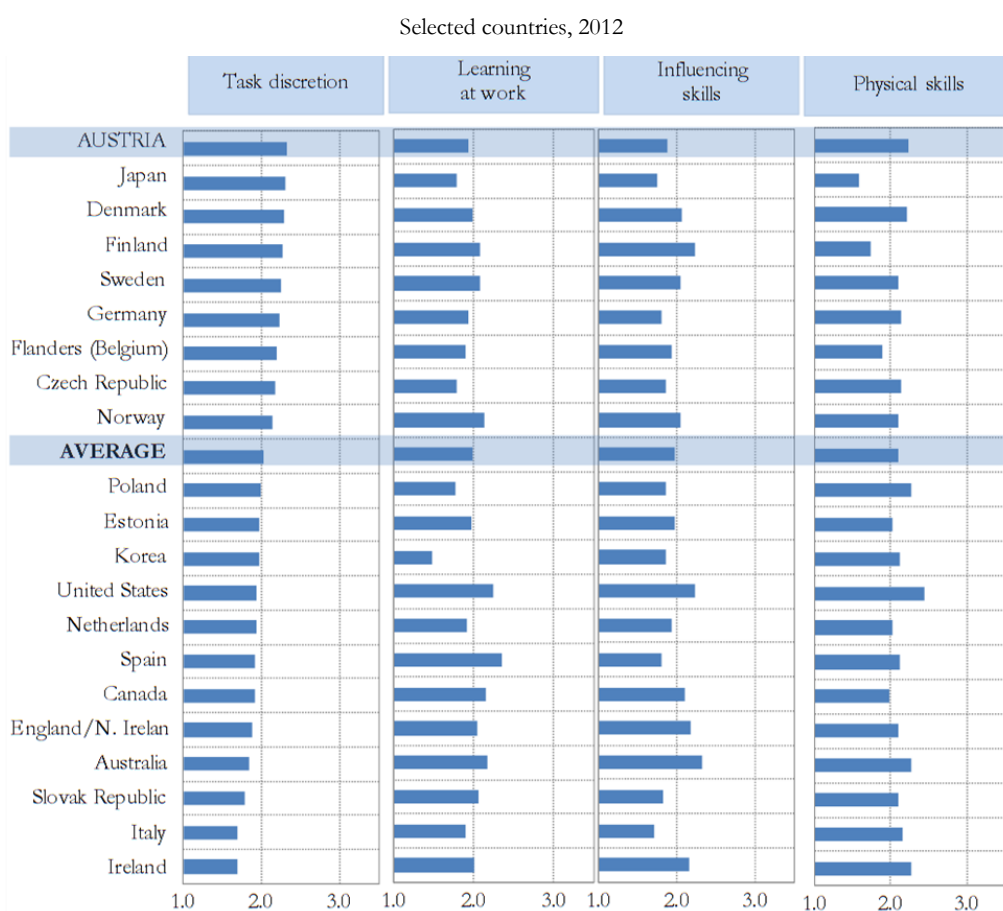


Note: Skills use indicators are standardised to have a mean of 2 and a standard deviation of 1 across the entire survey sample.

Source: PIAAC country note Austria, based on OECD (2013h), *Skills Outlook: First Results from the Survey of Adult Skills*, OECD Publishing, Table A4.1, <http://dx.doi.org/10.1787/9789264204256-en>.

Tomorrow's work environment requires the vast majority of workers to use their skills to complement new technologies. In Austria, both high- and low-skilled workers have not encountered substantial restructuring at their workplaces in recent years, especially when compared to the Netherlands, Nordic countries and the United Kingdom. The same holds for the introduction of new processes and technologies (Figure 38). In particular, a low proportion of high-skilled clerical workers reported substantial restructuring and reorganisation, while the proportion of low-skilled clerical workers being affected was average (Figure 38). As substantial restructuring, especially related to automation can be expected in the near future, Austria needs to look more closely into how industries, occupations and workplaces will be affected by new technologies and how work-based learning can be used to improve skills and their use at work.

Figure 40. Average use of generic skills at work



Note: Countries are ranked in descending order of the average use of task discretion at work. Skills use indicators are standardised to have a mean of 2 and a standard deviation of 1 across the entire survey sample.

Source: OECD (2013h), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing, Table A4.2, p. 145, <http://dx.doi.org/10.1787/9789264204256-en>.

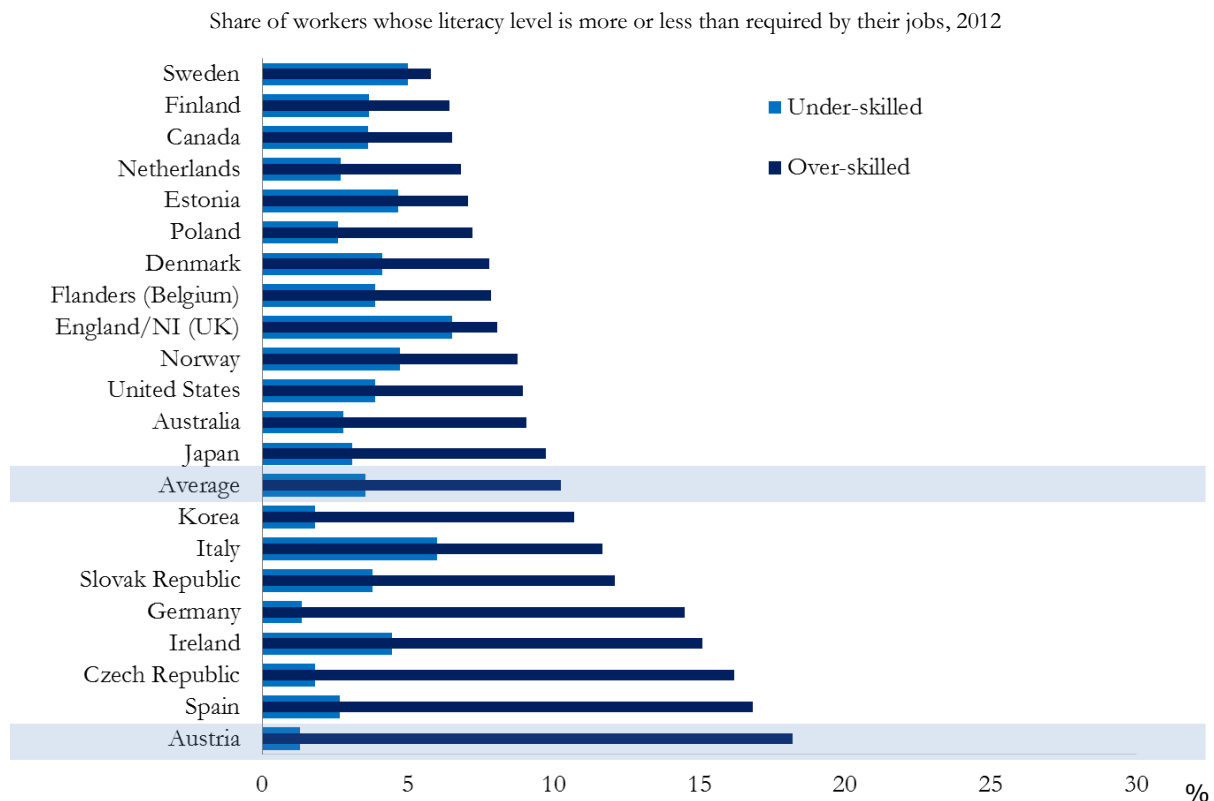
In Austria, people reported below average use of numeracy, problem solving and ICT at work (Figure 39). People all ages in Austria report only average use of ICT-skills – both at work and at home (Figure 39, OECD, 2013h, p. 155) which corresponds to the average proficiency in problem-solving in technology-rich environments (see Challenge 5). In contrast, Austria has the highest reported use of dexterity (using skills or accuracy with one's hands or fingers) and very high use of physical skills (working physically for a long period) (Figure 40).

Work-based learning is the key tool to improve these skills as well as their use at work. This makes it even more worrying that the Survey of Adult Skills found below average use of the two skills that are related to skills development at work - learning at work and influencing skills (instructing, teaching or training others) (Figure 40). In contrast, in particular Australia, Finland and the United States have a higher use of these skills (Figure 40).

Many workers are mismatched to their jobs

According to the Survey of Adult Skills, the incidence of over- and under-qualification is about average in Austria: about 21% of workers consider themselves as over-qualified and 14% as under-qualified. Considering Austria's below average outcome in literacy skills (Challenge 5), it is surprising that Austria has the largest proportion of workers who are over-skilled in this category (share of workers whose literacy level is more than required by their jobs) and among the lowest who are under-skilled (share of workers whose literacy level is less than required by their jobs) (Figure 41). Apart from Spain, Austria has the largest overlap between those who consider themselves as under-qualified and who are over-skilled (about 18% of all workers). This finding may be related to the fact that many workers have acquired skills and knowledge on the job, without having a recognised formal certification of these skills (OECD, 2013h, pp. 173-174). In addition, more than 20% consider themselves as over-qualified and are over-skilled.

Figure 41. Workers in Austria tend to be over-skilled with regard to information-processing skills

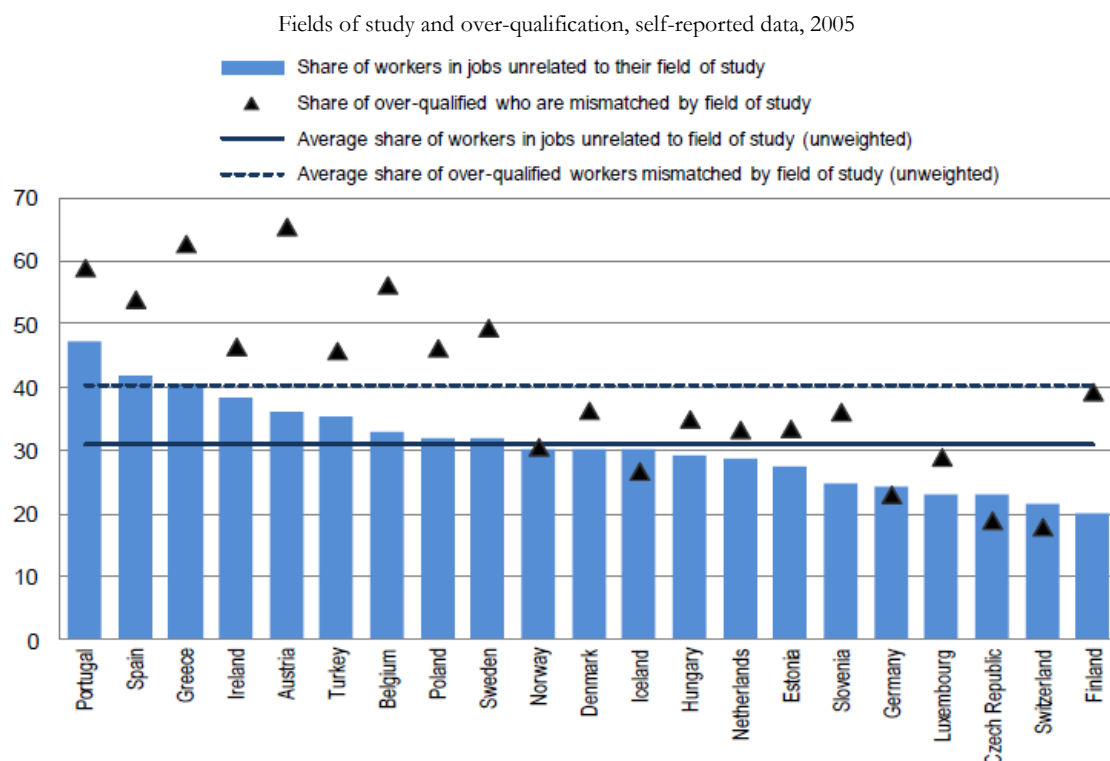


Note: Over-skilled workers are those whose proficiency score is higher than that corresponding to the 95th percentile of self-reported well-matched workers – i.e. workers who neither feel they have the skills to perform a more demanding job nor feel the need of further training in order to be able to perform their current jobs satisfactorily – in their country and occupation. Under-skilled workers are those whose proficiency score is lower than that corresponding to the 5th percentile of self-reported well-matched workers in their country and occupation. Countries are ranked in ascending order of the percentage of workers over-skilled in literacy.

Source: OECD (2013h), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing., p. 172, Table A4.25, <http://dx.doi.org/10.1787/9789264204256-en>.

Results from the European Survey of Working Conditions actually show a different picture. According to this survey, a quarter of all workers reported the need for further training to cope well with their work duties. In Austria this incidence was largest among the sample from 2010 (OECD, 2012a, p. 82). This could mean that many workers are over-skilled in some foundation skills domains – hence the high incidence of over-skilled work according to the Survey of Adult Skills - but still feel under-skilled with regard to some of the more specific skills domains. The exact relation and impact remain unclear. The finding is likely to be related to the fact that many workers hold jobs in areas that do not correspond to their fields of study. According to the 2005 European Working Conditions Survey, more than a third of workers in Austria reported holding jobs in areas unrelated to their field of study, which was substantially higher than in other “dual system” countries such as Germany and Switzerland (Figure 42). Field-of-study mismatch explains about two thirds of over-qualification in this survey which affects about a quarter of workers in Austria.

Figure 42. Workers in Austria tend to be over-qualified and mismatched by their field of study



Notes: On average across the 22 OECD countries covered by the ESS, 31% of workers hold jobs in areas that are unrelated to their field of study and this is the case for 40% of the over-qualified. In Austria, 36% of workers hold jobs in areas that are unrelated to their field of study, and it is also the case for 66% of the over-qualified.

Source: Quintini, G. (2011a), *Right for the Job: Over-Qualified or Under-Skilled?*, OECD Social, Employment and Migration, Working Paper No. 120, OECD Publishing, <http://dx.doi.org/10.1787/5kg59fcz3tkd-en>.

The use of skills is strongly determined by occupational and educational characteristics

The type of job held is the single most important factor determining how individuals use their skills at work - and this factor plays an even larger role in Austria than elsewhere. The average proficiency in information-processing skills in Austria may be related to the average use of these skills, and the average share of workers in occupations with high use of these skills. Austria only has an average share of workers in managerial and technical occupations, while the use of information-processing skills increases substantially from elementary occupations up to professionals and managers (OECD, 2013h).

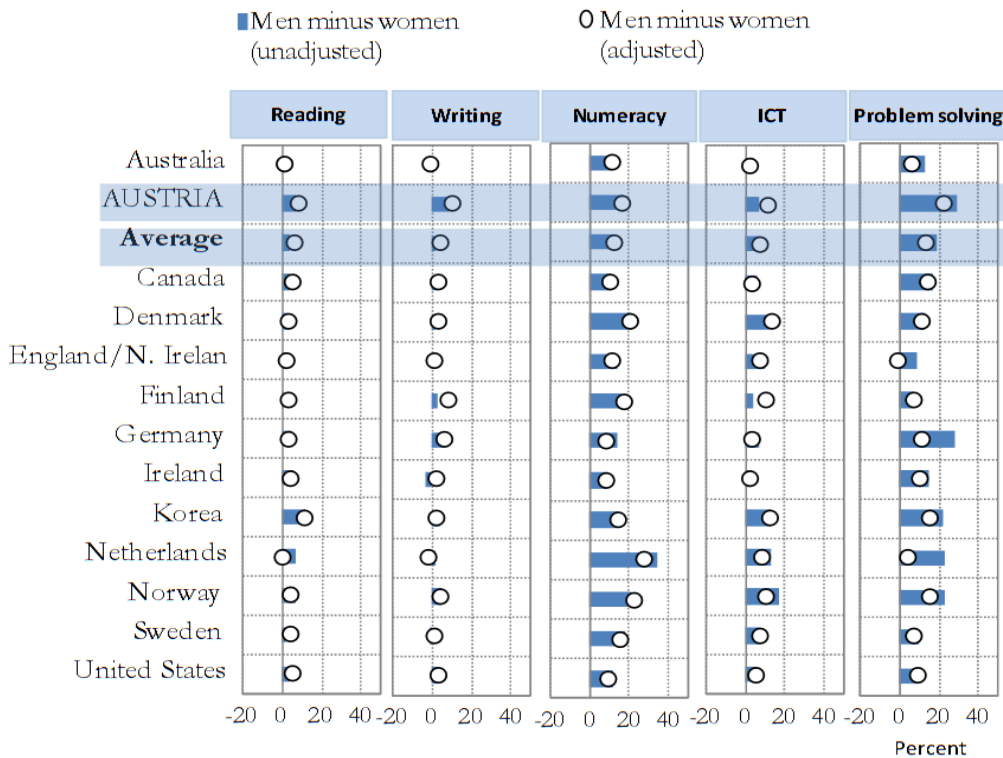
Workers with higher educational qualifications also use their skills more intensively in their jobs. In Austria, workers with below upper secondary education report below average use of reading, writing, numeracy and ICT, and above average use of problem-solving skills. Tertiary-educated workers, in particular, reported more use of problem-solving and influencing skills than upper-secondary educated workers in Austria, and both gaps are larger than elsewhere (OECD, 2013h, p. 156).

Using the skills of women more effectively and better preparing them for a technology-rich future

In the context of future economic restructuring and automation, women in Austria are especially at risk of encountering worse labour market outcomes than men. Austria has a significant gender gap in the use of both information-processing and generic skills at work (Figure 43; on the gender gap related to generic skills see OECD, 2013h, Figure 4.6). The gender gap is particularly pronounced with regard to the use of numeracy and problem solving skills in technology-rich environments as well as when it comes to the skills needed for work-based learning. When adjusted for proficiency levels for example, Austria’s gap in problem solving is three times the size of the gender gap in Germany (Figure 43).

Figure 43. Austria has a large gender gap in the use of skills at work

Adjusted and unadjusted gender differences in the mean use of skills; selected countries, 2012



Note: Countries are listed in alphabetical order. Adjusted estimates are based on OLS regressions including controls for literacy and numeracy proficiency scores, hours worked, and occupation dummies (ISCO 1 digit).

Source: OECD (2013h), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing., Tables A4.5a and A4.5b, <http://dx.doi.org/10.1787/9789264204256-en>.

To some extent this pattern is interlinked with two other factors. First, women tend to choose social and services-oriented occupations, and second, they often work part-time, which requires less intensive use of skills (see also Challenge 7). Working full-time reduces the likelihood of over-qualification and there are more over-qualified women than men in Austria. However, even when controlling for literacy and numeracy proficiency scores, hours worked, and occupation, the large gender gaps found in Austria remain striking (Figure 43). Thus, factors such as women's lower proficiency in ICT-skills, presumably less appetite for computer-use at work, and work assignments that may reflect certain gender stereotypes could play a stronger role. Identifying the exact factors would appear to merit further research. Effectively addressing this issue should build on, but cannot be limited to, two aspects: attracting more women to high-skill, high value-added occupations and improving conditions to reconcile family life and careers (see Challenges 6 and 7).

Box 24. Engaging employers in the promotion of flexible and family friendly workplaces



Flexible workplaces and work arrangements are vital for people to combine careers and other short-term or long-term activities, including care-responsibilities and further education and training. Research shows that employees with flexible schedules tend to work more intensely and have higher job satisfaction than their co-workers with more rigid schedules. Temporary part-time work can be one element of flexibility but it is often not effective or sufficient for people who want to combine care-responsibilities and careers (Challenge 7). In Austria, there seems to be room for more flexibility at workplaces to better allow for the reconciliation of family responsibilities and careers beyond the traditional part-time work arrangements. For example, according to the European Survey on Working Conditions (2009), only half of all employees in Austria reported some say in their working times whereas in Nordic countries, up to two thirds of employees reported some flexibility (OECD, 2011a, pp. 155). Other flexible work arrangements may be important and in many cases more effective than part-time work, including telework and job-sharing arrangements.

Japan, encouraging employers to review the family-friendliness of their workplaces: Since 2003, Japan obliges employers to establish two to five-year action plans to improve the employment environment that supports parents in balancing work and childcare. The obligation includes companies with more than 100 employees. Employers with fewer employees need to establish less concrete plans. The government incentivizes employers to develop very concrete action plans and to implement them by providing grants when actions meet nine conditions, including: "at least one male employee took parental leave during the period of the plan; and the parental leave take-up rate for female employees during the period of the plan is at least 70%" (Nakazato and Nishimura, 2013).

Austria, auditing family-friendly companies: The Austrian organisation "Family and Work" (Familie & Beruf Management GmbH) audits companies, colleges, communities and care facilities, and promotes need-based child-care. It also organises the Austrian State Prize for family-friendly companies. The organisation has collected a range of good practice examples of family-friendly company projects (Familie und Beruf, 2013). Examples include:

The Austrian Baxter AG (4 099 employees) developed its own website to inform employees about the possibilities to better reconcile work and family life. The company supports its male employees in taking parental leave, and according to the company, the proportion of paternity-leave continues to increase. The company offers holiday trips for 6-10 year-old children of its employees during 3 weeks of the year. It offers cleaning and laundry services and employees on parental leave are regularly invited to "Stay Connected" baby breakfasts to stay in touch with their managers and colleagues.

The Austrian TRAUNER Druck GmbH & Co KG (46 employees) offers flexibility to change from full-time to part-time work and vice versa, help and support in finding accommodation, life stage-oriented flexible working time arrangements, and seminars on ageing as well as health activities.

Microsoft Austria (350 employees) offers flexible working time and teleworking. Staff on parental leave stays connected to their work based on regular "Stay Connected Breakfasts" and a mentoring system. In addition, the company introduced "Papa weeks" - two weeks of special paid leave for fathers after having children.

Sources: OECD (2011a), *Doing Better for Families*, OECD Publishing, <http://dx.doi.org/10.1787/9789264098732-en>; Nakazato, H. and J. Nishimura (2013), "Japan country note", in P. Moss (ed.) *International Review of Leave Policies and Research 2013*, www.leavenetwork.org/lp_and_r_reports/; Familie und Beruf (2013), *Best Practice Examples*, familie und beruf, www.familieundberuf.at.

Better matching skills of older workers with their job requirements

In Austria, the intensity of the use of information-processing skills differs less between workers of different age than in most other countries. This suggests that workplaces and requirements hardly differ by age. While the Survey of Adult Skills shows that young people are more proficient in problem solving in technology-rich environments, prime-aged and older workers reported higher use of ICT at work. This finding underlines the necessity to invest in training prime-aged and older workers so that they develop the ICT skills and other skills they need on their jobs. The finding also raises the question whether the skills of young people are used effectively (OECD, 2013h, p. 153).

Older workers also report less learning at work than prime-aged workers and at 10% the gap is about average according to the Survey of Adult Skills (OECD, 2013h, Figure 4.9). Although a strong role of older workers in mentoring and teaching others might be expected, older workers report only slightly more use of influencing skills than do prime-aged workers in Austria. Yet in Austria, the average use of influencing skills of older workers is 2.5% higher compared to prime-aged workers, while it is even 3% lower for the average of countries that participated in the Survey of Adult Skills (OECD, 2013h, Figure 4.9; regressions control for literacy and numeracy proficiency and contract type). Further research is needed to understand to what extent the challenges of retaining older workers in the labour market (Challenge 8) requires not only targeted adult education but also a change of the working culture with a view to the strengths and needs of older workers.

Using the skills of people with a migrant background more effectively

Foreign-born workers are clearly more likely to be over-qualified than native-born workers (OECD, 2013h, Figure 4.28a). In Austria, the likelihood is the fifth highest among the 19 countries with available data (OECD, 2013h, p. 175). This seems to be strongly related to the fact that foreign qualifications are only rarely recognised in Austria, so that highly-qualified migrants often work in low-skilled jobs (OECD, 2013h, p. 175; see also Challenge 9).

Box 25. Tackling under-use of the skills of people with migrant background

Denmark, assessing the skills of immigrants: Denmark established regional knowledge centres in 2004 to assess the skills and qualifications of immigrants. The project is run jointly by the Ministry of Employment and its social partners. The assessment is generally conducted in the workplace and participants obtain 'competence cards' that link their skills to labour market needs. The centres also help migrants to find employment that matches their skills.



For more information on the **labour market integration of immigrants**, see Challenges 9 and 13.

Source: OECD (2012a), *Better Skills Better Jobs Better Lives: A Strategic Approach to Skills Policies*, OECD Publishing, p. 90, <http://dx.doi.org/10.1787/9789264177338-en>.

Box 26. Promoting workforce development and innovative workplaces



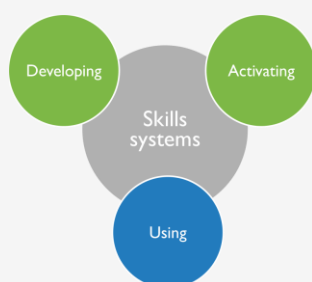
In the light of rapid demographic change, firms need future-oriented approaches to workforce development (European Commission, 2012), which account for both firm- and workforce-related characteristics. As these change constantly, employers need to regularly assess their practices in terms of future skills demand, competition within a sector, whether the business has a domestic- or export-orientation, the distribution of workers across occupations, occupational requirements, and the organisational context and management structure, among others. Workforce related challenges that need to be accounted for include age, qualifications and skills levels, health and care responsibilities. In addition, the way firms use skills and engage in workforce development is influenced by the wider institutional landscape, shaped by tax incentives, wage and labour regulations, among others.

Sweden, job design and re-organisation of factories: Sweden started with the LOM Programme (1985-1990), which emphasised democratic dialogue to promote workplace change. It was followed by the Work Life Fund Programme (1990-1995), with more than 25 000 projects. Two new agencies, FAS (Swedish Council for Working Life and Social research) and VINNOV A (Swedish Agency for Innovation Systems), were created in 2001. The objective of FAS is to support applied research relevant for working life, while VINNOV A concentrates on research activities and enterprise- or network-development projects.

Finland's first national development programme, TEKE programmes, introduced in 1996, provided funding for more than 670 projects, involving 135 000 persons and about 1 600 firms. Projects were conducted in enterprises, aimed to improve work processes, personnel management, team-based work and external networking. More ambitious and recent policy approaches involve a larger number of firms, including less progressive ones, to encourage them to undertake organisational change to improve workplaces.

Australia, Skills Connect: This project links businesses and industry to promote workforce development and training programmes that focus on workforce development. Companies can access advice, expertise and resources specific to their industry, business size and regional location. The programme also helps firms to access information and to apply for funding.

Sources: European Commission (2012), *PES and Older Workers. Toolkit for Public Employment Services*; OECD (2012a), *Better Skills Better Jobs Better Lives: A Strategic Approach to Skills Policies*, OECD Publishing, p. 82 and p. 85, <http://dx.doi.org/10.1787/9789264177338-en>.



How is the use of skills at work interlinked with other parts of the skills system?

Groups that already have been found to encounter high barriers to labour market participation also tend to face greater challenges in making effective use of their skills at work. This is particularly significant for **women and migrants (Challenges 7 and 9)**, who are often over-qualified and over-skilled. **Older workers (Challenges 5 and 8)** seem to encounter the same working requirements as prime-aged workers, yet their skills can be outdated and they participate less in adult education and work-based learning.

CHALLENGE 11: CREATING A SKILLS SYSTEM THAT SUPPORTS INNOVATION

According to workshop participants this challenge includes the following aspects:

"In the long run, Austria should have more economic and employment growth in high-skills sectors "

"Austria should become more internationally competitive in research and both radical and incremental innovation"



OECD comparative data and analysis

Countries need to find the right skills mix to underpin their capacity to innovate. Across the OECD, there are several fundamental trends driving the demand for skills. There is a rapid decline in the demand for skills that are needed to carry out routine activities since these activities can be automated or outsourced to countries with lower labour costs. In contrast, the demand for more advanced skills is increasing worldwide - in particular, for the skills needed for analytical and interactive non-routine activities, skills to apply knowledge to new contexts and to work effectively with information and communications technologies (ICT), as well as the “soft” skills of communicating and collaborating effectively with others. Not only do occupational profiles keep changing but some industries benefit and others lose. The service sector has gained substantially from economic development across OECD countries and is projected to increase further (OECD, 2013f; OECD, 2009a). High-skills industries are currently generating a major share of new jobs in countries, such as Austria. ICT has become a key driver of this growth and a basis for many new entrepreneurs and start-ups (OECD, 2012m). In addition, societal and environmental trends are driving economic change. In many OECD countries, substantial new opportunities are arising in areas such as healthcare, elderly care, energy and green technologies (OECD, 2013t; OECD, 2013u; OECD, 2012m).

With recent policy initiatives, such as Austria’s Research, Technology and Innovation (RTI) Strategy, Austria has shown the political will to encourage more dynamic research, innovation and growth in knowledge-intensive industries. However, the success of this strategy depends upon Austria’s skills system and the capacity of the workforce to acquire and supply the right skills mix as well as the capacity of employers to use these skills effectively (Challenge 10).

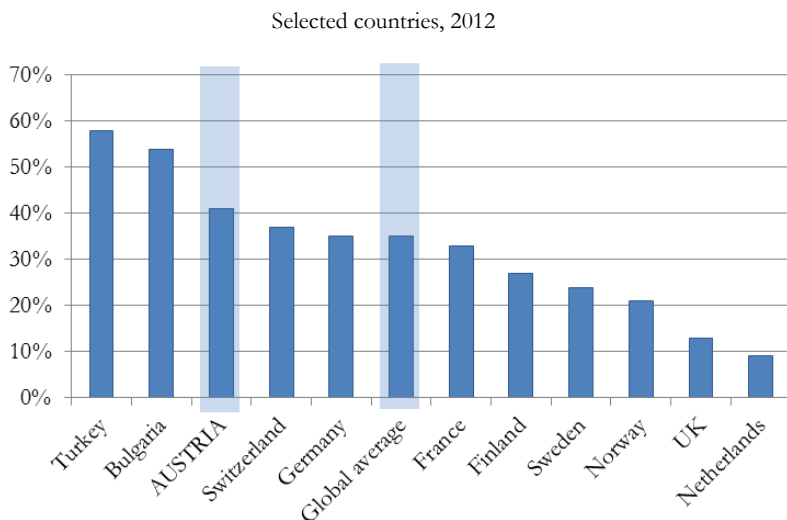
Without the right skills mix growing sectors may be hindered by skills shortages in the future

The increasing intensity of knowledge-based capital in the economy inevitably generates demand for high-level skills which in some cases risks not being met because of skills shortages. Recent indications of emerging skills shortages raises the question of the extent to which the Austrian skills system supplies the right skills mix needed in an innovation-driven economy. Granted, the evidence base is relatively limited and mainly based on employer surveys yet it deserves consideration. For example, in the Manpower Talent Shortage Survey from 2013, over 38 000 employers across 42 countries and territories were asked whether they experience talent shortages and how this affects their businesses. In Austria, 40% of employers reported having difficulties filling

specific jobs, which is above the global average of 35% and is a figure which has increased since 2006 (Figure 44).

While the Manpower Talent Shortage Survey points to skills shortages especially in the medium-skilled and, to a lesser extent in the high-skilled segment, other Austrian sources see more severe skills shortages related to low-skilled occupations and apprentices, who are in short supply due to demographic change (Lassnigg, et al., 2013, p. 19).

Figure 44. Percentage of employers having difficulty filling jobs



Source: Manpower (2013), Talent Shortage Survey. Research Results.

Employers reported the following top ten shortage occupations for Austria:

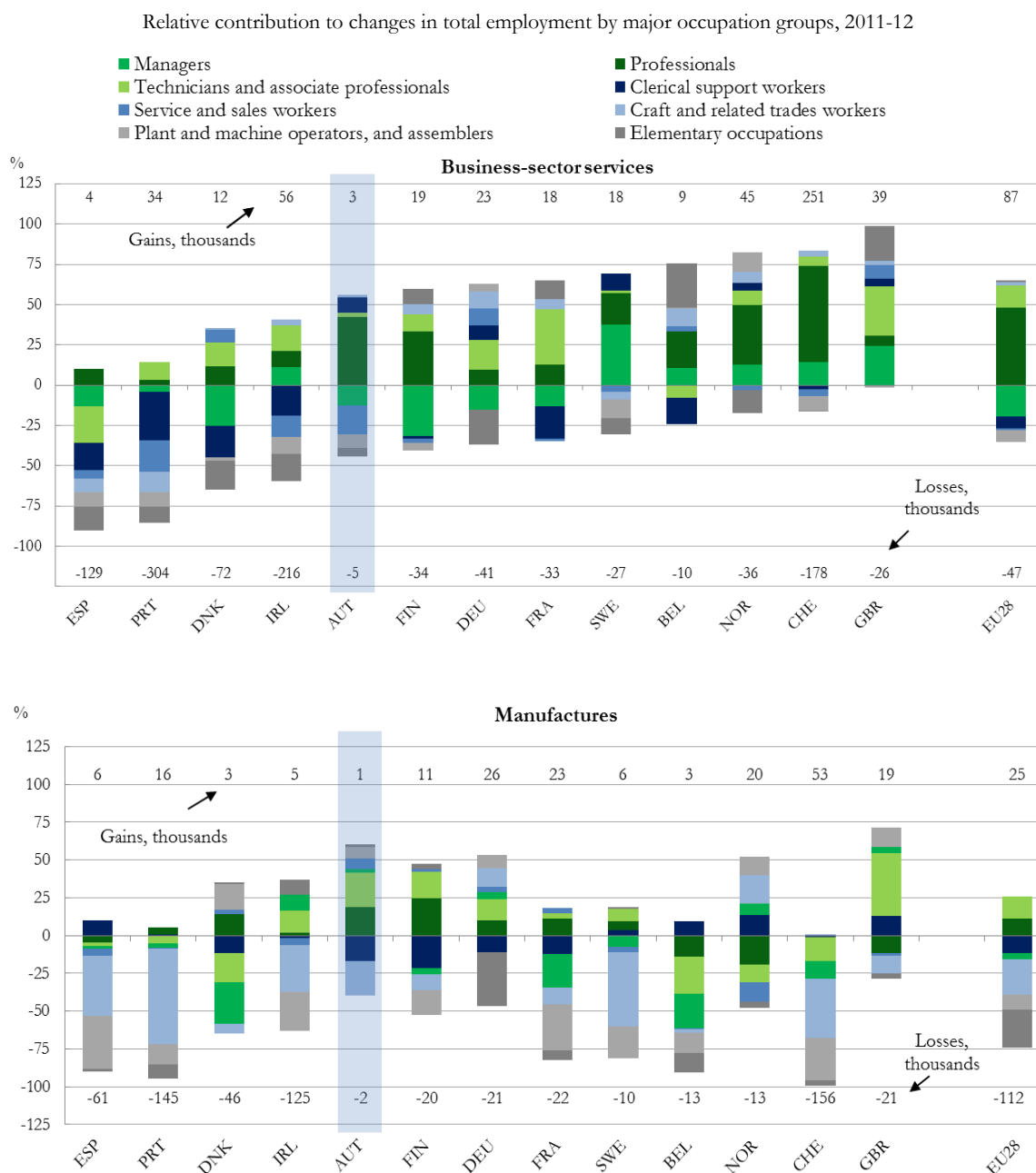
1. Skilled Trades
2. Sales Representatives
3. Executive Management
4. Technicians
5. Secretaries, & Office Support Staff
6. Doctors and Health Professionals
7. Engineers
8. Restaurants & Hotel Staff
9. Accounting & Finance Staff
10. IT Staff

Demand for high-level skills is increasing

Increasingly, countries are trying to anticipate future skills demand. Cedefop conducted an EU-wide forecast of occupational skills demand up to 2020 based on European Labour Force Survey data (Cedefop, 2008). The study projects that by 2020 demand for highly-qualified people across the EU will grow the fastest, by more than 20%, while the demand for medium-level skills will grow by 4% and the demand for low-qualified people is projected to fall by almost 30%. This would mean that by 2020 more than 35% of all jobs in the EU would demand high-level qualifications, 50% medium-level qualifications and 15% low qualifications (Dohmen, Timmermann, 2010, based on Cedefop, 2010).

Occupational demand projections draw a similar picture of Austria's medium-term and long-term skills demand. Up to the year 2020, Austria's strength is projected to be rooted in vocationally oriented medium-level skills. But in a long-term perspective, analysts agree on the trend towards accelerating demand for high-skilled people as reflected in above-average growth rates for occupations that currently require tertiary degrees. Austrian experts from the IHS and WIFO, who complemented the Cedefop study with additional national analysis, project a labour market polarisation trend for Austria, which means increasing demand for high-level and low-level skills and decreasing demand for medium-level skills (Lassnigg, et al., 2013, p. 4). This trend has already begun to appear in several affluent OECD economies, such as the US. The extent to which the Austrian economy will experience the same trends is unclear (e.g. Autor, Levy and Murnane, 2003).

Yet already today, these trends can be observed across OECD economies (Figure 45). Demand has dropped particularly for medium and low-skilled workers in both business services and manufacturing. Craft workers, service and sales workers as well as plant and machine operators and assemblers have all been affected by the largest losses in employment. In contrast, a growing demand for professionals is a common trend in all European countries (Figure 45).

Figure 45. Short-term trends in occupation shares in services and manufacturing


Note: To see the occupations most affected by rises and falls in employment between 2011 and 2012, changes in the levels of employment in occupation groups were “normalised” to show their relative contributions to the total change in each country. This is achieved, for each country, by expressing changes in the level of occupation groups as a percentage of the sum of absolute change.

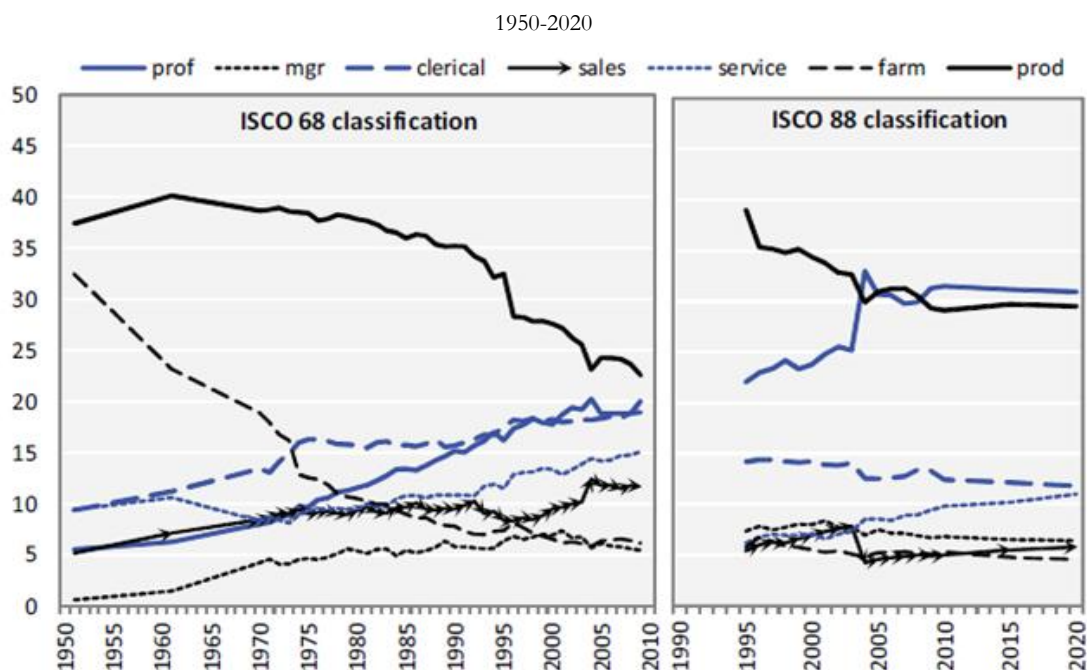
Occupations are defined according to the International Standard Classification of Occupations 2008 (ISCO-08). Gains and losses, in thousands, represent the sum of the occupations with positive changes and the sum of the occupations with negative changes, respectively. With a finer activity breakdown (for example, 3-digit ISCO-08), estimates of total gains and losses would differ, although the balance would remain the same.

Source: OECD (2013t), *OECD Science, Technology and Industry Scoreboard*, OECD Publishing, http://dx.doi.org/10.1787/sti_scoreboard-2013-en, based on Eurostat, European Labour Force Surveys, June 2013.

Austria's economic strength, the production sector, is shifting towards more high-skilled employment

The strength of the Austrian economy lies in trade-oriented manufacturing, which has shown a strong output and productivity performance. Strong SMEs supply high quality, niche products to the global market. Austria has profited from its role as a trade hub for south-eastern Europe. Trends in job skill demand raise the question if the strength of the production sector can be maintained in the long run. In continental European countries including Austria, the share of production and related jobs (according to ISCO 68 classification) has halved since the 1960s (Figure 46, Handel, 2012). As a positive sign for Austria, when focussing on the ISCO 88 classification the proportion of production and professional workers has stabilised and is projected to stay on this level for the next five to ten years (Handel, 2012).

Figure 46. Long-term trends in occupation shares in Austria



Note: The big difference in the development of professional and clerical occupations can be explained by the change in the classification system; occupations in which the workers have mainly legislative, administrative or managerial tasks and duties are classified as managerial according to the ISCO 88 classification whereas in ISCO 68 they were partly classified under other major groups, including clerical.

Source: Handel, M.J. (2012), *Trend in Job Skill Demands in OECD Countries*, OECD Social, Employment and Migration Working Papers, No. 143, p. 28, <http://dx.doi.org/10.1787/5k8zk8pcq6td-en>.

The extent to which Austria will be able to maintain its competitiveness in the production sector in the long run will depend on a higher degree of innovation in order to capitalise on specialised high quality products. Projections agree that this would result in the sectoral employment structure shifting towards more high-skilled employment with fewer opportunities for low- and medium-skilled workers.

Demand is projected to increase particularly for high-skilled professionals and scientists...

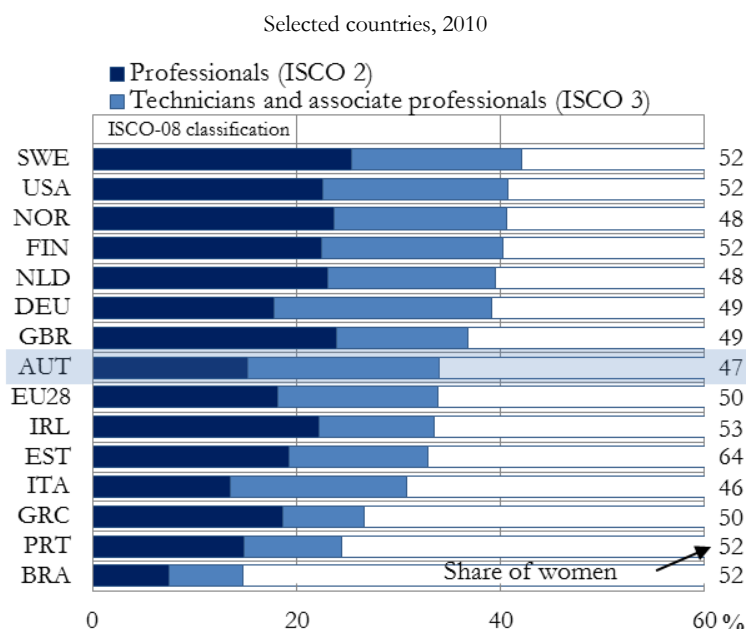
The strongest rise in demand for high-skilled people seems to be related to scientific and technical occupations, which play a key role for innovation (OECD, 2013y; Schappelwein, et al., 2013; Handel, 2012; WIFO, 2012). In Austria, science and technology occupations represented about 35% of total employment in 2012 with professionals accounting for about 15% and technicians and associated professionals accounting for approximately 20 % of total employment (Figure 47). In contrast, in most Nordic countries and in the United States, this trend is even more distinct with human resources in science and technology accounting for

more than 40% of the workforce. The balance between professionals and associate professionals in science and technology is relatively untypical in Austria where the share of associated professionals is higher than the share of professionals (Figure 47), suggesting that more medium-skilled people are employed in typically high-skilled sectors than in other countries.

However, focusing only on increasing demand for high-skilled people is too simplistic as also some high-skilled occupations may also be affected by shrinking employment opportunities. For example, currently the demand for managers is falling in all European countries (Figure 45) while the winners in terms of employment gains are projected to be:

- physical, mathematical and engineering science professionals and technicians, including physicists, biologists, ecologists, geoscientists, and computer scientists;
- life science and health professionals, including doctors and nurses; and
- teaching professionals.

Figure 47. Human resources in science and technology



Note: "Professionals" and "Technicians and associate professionals" are defined according to the International Standard Classification of Occupations 2008 (ISCO-08) major groups 2 and 3 respectively, except for Brazil, for which the corresponding ISCO-88 groups are reported. For Brazil data are drawn from the Labourstatistics Database maintained by the International Labour Organization (ILO) and refer to 2009. For the United States, data refer to March 2012, based on the Current Population Survey (CPS). CPS data were converted from US 2010 census codes to 1-digit ISCO-08 major groups via published correspondences with US 2010 Standard Occupational Classification (SOC) codes.

Sources: OECD (2013t), *OECD Science, Technology and Industry Scoreboard*, OECD Publishing, http://dx.doi.org/10.1787/sti_scoreboard-2013-en, based on European Labour Force Surveys, Eurostat, July 2013; ILO Labourstatistics Database, July 2013; and national sources.

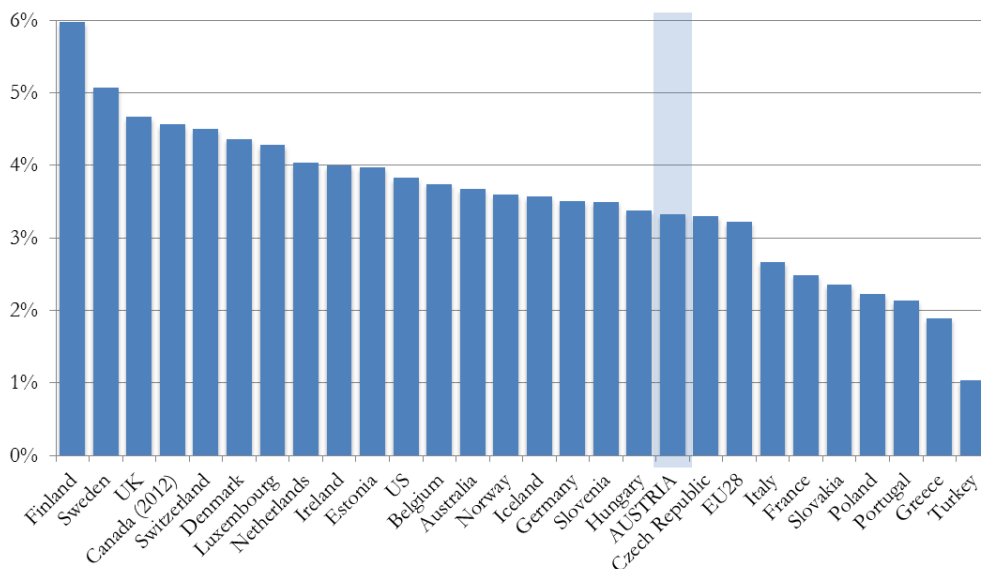
...depending on Austria's capacity to embark on new growth areas, such as ICT...

As economies become more digital and work processes become more ICT-intensive, the demand for ICT skills increases. This applies to the ICT sector itself as well as to other sectors such as financial services and automobile manufacturing (OECD, 2013s; OECD, 2013u).

In Austria, over 20% of occupations in the total economy were ICT-related in 2010. The share of ICT-related occupations increased more strongly than in most other OECD countries between 1995 and 2010, but 2010-levels are lower than in other affluent economies. A similar trend can be observed for ICT-specialists, i.e. workers who have the ability to develop, operate and maintain ICT systems and for whom ICT constitutes the main part of their job, e.g. programmers, software developers and cable layers. In Austria, ICT specialists are projected to account for 3.3% of total employment in 2013. In contrast, Finland's proportion is about twice as high (Figure 48). Only 12% of ICT specialists are women in Austria, compared to the 20% OECD average.

Figure 48. ICT-specialists in the total economy

As a percentage of total employment; selected countries, 2013



Source: OECD (2013y), *ICT Jobs and Skills, New Estimates and the Work Ahead*, Working Party on Indicators for the Information Society, DSTI/ICCP/IIS(2013)6.

Box 27. Approaches to promote ICT skills



Better provision of labour market information has been an important measure during the crisis in order to better match the demand for and supply of ICT workers. In most cases this is done by providing Internet-based portals for job ads and searches. Some governments also provide lists of occupations and skills, in which shortages have been observed or are most likely to occur in the near future. Establishment of these lists is often linked with migration policies. For example: **Korea** has established the E@B system that can be used by university students for recruitment as well as for IT mentoring, IT internship, and cyber lectures. In **Canada**, the Labour Market Information portal provides detailed labour market information, including job and skill requirements, wages and salaries, as well as employment prospects by occupations and locations.

The promotion of ICT skills in higher education in close collaboration with industry also ranks high on the agenda. This is particularly the case in emerging fields such as green ICTs, where ICTs are used to improve environmental performance. For example, **Korea** supports university education programmes in this area through cooperation and information exchange between universities and companies. Its Nurturing Excellent Engineers in Information Technology (NEXT) programme allows universities to quickly adapt to the IT firms' skills demand. In **Australia**, the Government's National Workforce Development Fund, as another example, is the vehicle through which the government and industry can share responsibility to deliver high-quality training places.

The support of specific user groups is considered important in many OECD economies. Germany, for example, promotes ICT skills for various of societal groups: i) female employees through the "National pact for women in 'MINT' occupations", (mathematics, informatics, natural sciences and technology), ii) young talent through the initiative "Germany: IT Powerhouse", iii) older workers through the Federal Government initiative "IT 50 plus", which is conducted in collaboration with the ICT business association BITKOM and the national metalworkers' union.

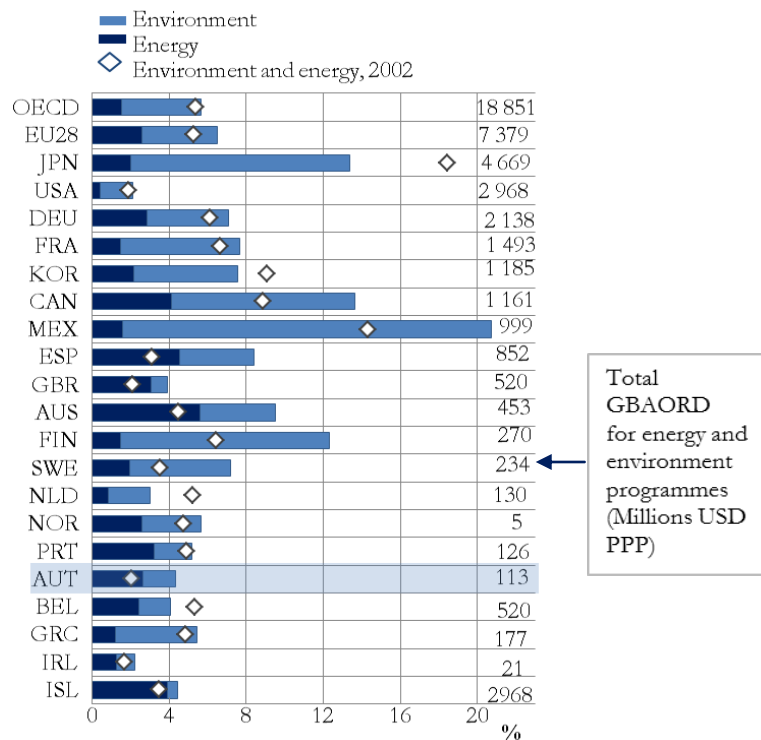
...and green innovation

Austria already encourages the creation of markets for and the uptake of "green" technologies. For example, Austria adapted a sustainability strategy in 2002 and the Master Plan "green jobs" in 2010. However, indicators such as Austria's R&D budget for energy and the environment (Figure 49) suggest that Austria could do more to promote green growth and innovation. Government budget appropriations or outlays for R&D (GBAORD) have been increasing since 2002 but the Austrian share devoted to energy and the environment is in the bottom third of OECD countries in both absolute and relative terms.

However, aspects like what is actually meant by green skills and jobs and how a greener economy changes the skills system are still very unclear. Further research is needed to understand the consequences of green innovation for skills demand. Especially in some sectors, such as construction, legislative changes impact work practices and this needs to be reflected in education and training curricula (Lechner, et al., 2014). As with other upcoming skills needs, such as in terms of ICT skills, working towards a better skills match, requires effective cooperation between research, industry, government, education institutes and those involved in updating education programmes and curricula.

Figure 49. Low public R&D expenditure for the energy and environment sector

As a percentage of government budget appropriations or outlays for R&D, selected countries, 2002 and 2012



Note: The figure shows the funds that governments allocate to R&D on energy and the environment. These are defined on the basis of the primary purpose of the funder and include control and care for the environment as well as energy.

Data refer to 2002 and 2012 except for Canada (2010), EU28 (2011), France (2011), Korea (2011), Mexico (2002), the OECD (2010), Spain (2011), Sweden (2011), and the United Kingdom (2011).

Source: OECD (2013t), *OECD Science, Technology and Industry Scoreboard*, OECD Publishing, http://dx.doi.org/10.1787/sti_scoreboard-2013-en, based on Research and Development Statistics Database.

Future demand for medium-skilled white-collar workers is unclear

The share of clerical jobs, which tend to be medium-skilled in Austria, doubled since the late 1950s but is projected to stabilise at 10% by 2020. Given the likelihood of increasing labour market polarisation, many medium-skilled routine activities are likely to be automated in the long run.

Austria's underdeveloped services sector has a high potential in the long run

The Austrian WIFO institute has projected that the Austrian services sector will be the main driver of job growth in Austria by 2016, in particular in the fields of health and social services, education and retail. Especially with more women and older workers working full-time, demand for services that have traditionally been provided in the home will increase, including child and elderly care. Service occupations are projected to account for 15% of all occupations by 2020 in Austria (Handel, 2012, pp. 25-26).

Currently, productivity in the Austrian services sector lags behind the best performing countries. Regulated professions and strict entry rules have limited competition and innovation (OECD, 2009, p. 45). Reform of the services sector would offer an even higher potential for substantial growth in the long run, even beyond the current projections of 15%.

Employment for low-skilled is about to shift from production to the services sector

There is a risk that this employment growth will be mostly in the form of low value added, low-skilled jobs, taken up mainly by women. For low-skilled people, employment opportunities are projected to shift from production to services (WIFO, 2012) because there are more possibilities to automate tasks in production than in services.

This development has an important gender dimension. The WIFO institute projects that about two thirds of the expected employment growth in services will be taken up by women as new jobs are created in areas in which there are already high proportions of women (WIFO, 2012). Thus, the question of how the skills of men and women are used in different occupations in Austria will become even more pronounced and challenging in the future, given the gender implications of increasing labour market polarisation.

What is the right skills mix for Austria?

In Austria, skills demand and supply – predominantly of medium-level skills – have matched relatively well at the aggregate level. However, is the current skills mix useful for a more innovation-driven future? According to occupational long- and short term trend analyses for Austria (based on WIFO, 2012; Handel, 2012; Lassnigg et al., 2013) the Austrian skills system would need to address the following:

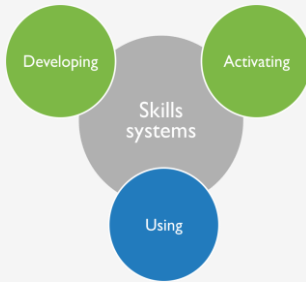
- **Advanced requirements across all occupations**, requiring people to gain higher levels of foundation skills, including problem solving skills in technology-rich environments, to be better prepared for the jobs they have as well as for lifelong learning.
- **Demand for high-level skills** is increasing rapidly, particularly for high-skilled professionals and scientists. The economic competitiveness of Austria's significant production sector may well depend on a higher degree of innovation in order to capitalise on specialised, high quality products.
- **The future of medium-skilled (vocational) occupations** is most unclear and depends upon two aspects: a) to what extent will skills demand require academic knowledge acquired in tertiary education; b) to what extent can the quality of VET in Austria be enhanced in a way that participants acquire more advanced skills, which may well be developed in university education in other countries.
- **Demand for low-level skills** tends to decrease in the medium-term due to a reduction of low-skilled employment in the production sector. Low-skilled employment may increase in the long run if new jobs are created in the service sector.
- **Labour market polarisation risks increasing the gender gap** with more high-skilled employment opportunities in currently typically male occupations, such as scientific professions, and more low-skilled opportunities in currently typically female service sector occupations.

In addition, Austria's **demographic trends** need to be taken into account. Due to demographic change, younger cohorts are much smaller than the current adult generation. In fact, "the total number of medium and highly qualified among the younger cohorts is less in 2020 than in 2010" (Dohmen, Timmermann, 2010, p. 6). As a result, the higher tertiary graduation rates of youth will only have minor effects on the skills mix of the overall workforce because the substantially larger adult generation with lower educational attainment is still going to dominate the skills mix of Austria's workforce in the medium-term (Dohmen, Timmermann, 2010).

Finally, **regional variations in skills demand and supply** need to be taken into account. There is no single, correct skills mix which would apply across Austria. The pace of economic change is such that it is impossible to project skills demand in detail. Any skills policy aimed at promoting innovation will need to allow for a degree of local flexibility in design and implementation to meet employers' needs and that of local communities.

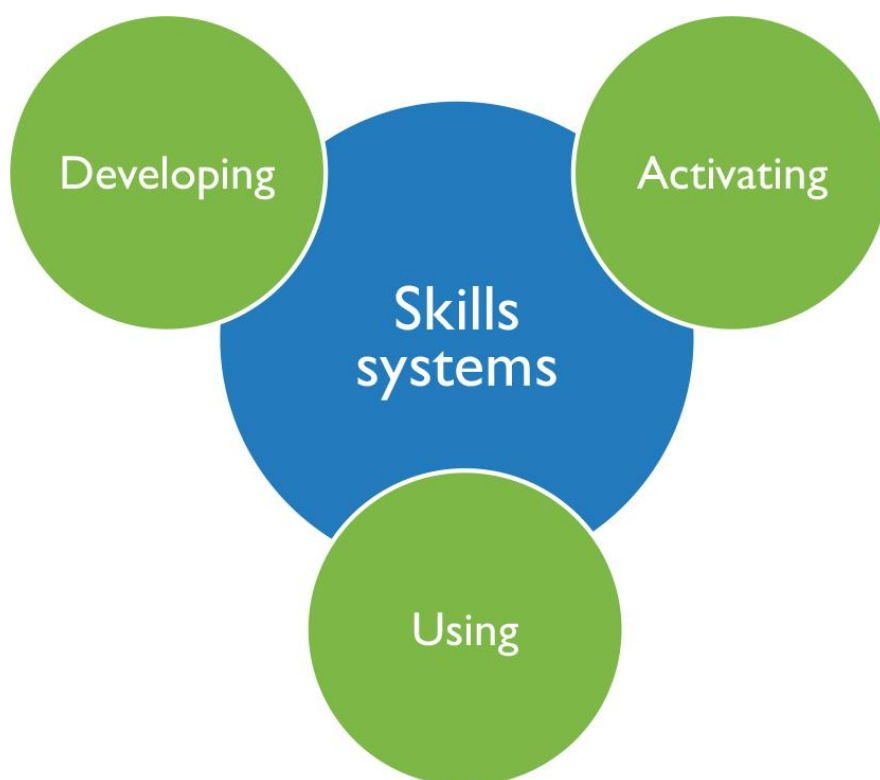
Working towards a dynamic and responsive skills system which can ensure a better skills match requires efforts in at least three areas. First, adequate information and transparency throughout the system so that people can make informed education and career decisions. Second, the skills system needs to encourage flexibility, upward mobility and adult education. Finally, it requires effective cooperation between research, industry, government, education institutes and those involved in developing and updating education programmes and curricula for both formal and work-based learning.

How is innovation interlinked with other parts of the skills system?



The more a skills system strives to rely on innovation, the more it needs to supply the relevant high level skills, currently mainly developed through higher education (Challenge 4). In the future, more high level skills could be acquired in high quality upper and post-secondary VET programmes that would need to incorporate more advanced curricula and encourage transitions between VET and higher education (Challenges 3, 6). A lack of interest to pursue high skilled careers (such as science-related careers for women) often stems from limited attraction to these subjects in schools (Challenges 2). Apart from school education, career guidance can help to raise girls' and boys' interests in pursuing careers in specific high skills areas (Challenge 6).

STRENGTHENING AUSTRIA'S SKILLS SYSTEM



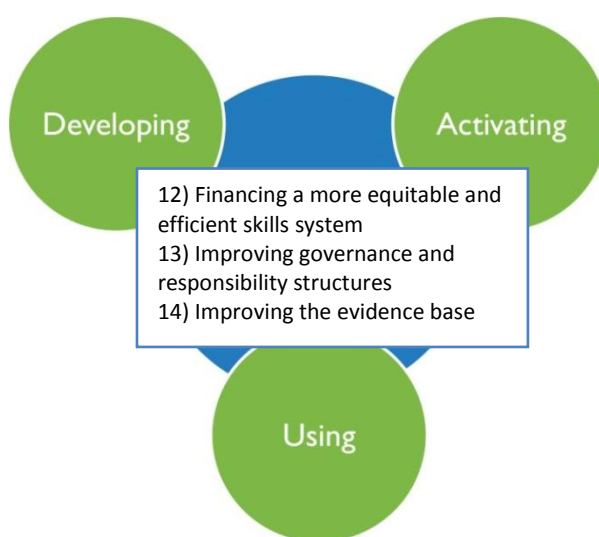
V. STRENGTHENING THE SKILLS SYSTEM

A selection of challenges identified by Austrian workshop participants

- *Ensuring that responsibility lines and coordination mechanisms within the complex governance system work in an efficient and effective way*
- *Lack of strategic steering of the skills system*
- *Policy process is resistant to reforms*
- *No political agreement on school reforms*
- *Inadequate resource efficiency (high costs of the school system)*
- *The skills system lacks an effective approach to financing*
- *Lack of data and analysis of future skills demand*
- *Inadequate information: many labour market relevant qualifications are not included in education statistics*
- *Education debates are often too ideological and not evidence-based*
- *Reluctance to change policies*
- *Cultural challenge to focus on skills instead of qualifications*

Austria has a highly complex skills governance system, involving various actors on different levels - national, regional and local. This has evolved into an inclusive policy process, leading to a high stability in policy making and a high degree of ownership, especially among social partners. However, Austria also faces several system-related challenges that will determine the country's success when tackling its specific skills challenges identified earlier in this report.

The problems described by workshop participants in the list above were distilled by the OECD into three strongly interlinked key challenges as shown below:



CHALLENGE 12: FINANCING A MORE EQUITABLE AND EFFICIENT SKILLS SYSTEM

According to workshop participants this challenge includes the following aspects:

"High costs of the school system while it does not provide high-level education according to PISA, PIRLS and other studies"

"There is no strategy on effective financing of the skills system"



OECD comparative data and analysis

Due to the multitude of positive social and economic spill-over effects of skills, governments are well advised to step in and manage the organisation as well as the financing of skills development. Successful skills financing approaches combine effectiveness, equity and efficiency.

Effective skills development enables all individuals to participate in both society and the economy while at the same time supporting innovation and economic growth. An equitable skills system also aims to generate equal opportunities for disadvantaged groups. Public support for skills should thus be proportionate to the income and needs of individuals. An efficient system makes good use of the available resources, reflecting the benefits to individuals, employers, and society as a whole. This requires a holistic whole-of-government approach in order to avoid negative consequences of fragmentation in financing arrangements. Efficiency also requires transparency and financial control mechanisms to be embedded in the skills system.

High public debt and population ageing require Austria to spend public money more efficiently. Austria's total government debt, at 66%, was well above the OECD average of 51% in 2010 (OECD, 2013l). Austria currently devotes less of its national wealth to education (5.8% of GDP) than the OECD average (6.3%) (OECD, 2013a, p. 182). The fiscal consolidation programme balances budget cuts and stimuli for sustainable growth, foreseeing additional funds for universities, full day care schools, and research activities, among others (OECD, 2013f). It would be advisable to complement this increased funding with greater attention to ensuring efficient public spending on the skills system.

Considering that Austria, in terms of quality and equity, has, at best, average skills outcomes (Challenges 1-6) yet has relatively high education investments in terms of per-student spending, it would appear that the education and training system is substantially less efficient than in many other OECD countries (compare Lassnigg, et al., 2007). In Austria, the complex system of multi-level governance and fiscal equalisation system hinders the steering capacity of the skills system. The lack of transparency of this system makes it very difficult to monitor and evaluate the efficiency of expenditure. The complexity of the process inhibits the effective expansion of areas in most need, particularly that of adult education which remains

underdeveloped. Equity needs to be improved across the different educational levels by ensuring that public investments effectively reach disadvantaged and low-skilled people.

Austria's complex fiscal equalisation system may be a bottleneck to effective skills financing

Education policies, from ECEC to adult education, are very difficult to steer in Austria due to complex (financial) responsibility structures and financial negotiation processes between administrative levels. Austria's fiscal equalisation system has long been criticised for its complexity and lack of transparency (e.g. Bröthaler, et al., 2012; Bauer, Schratzenstaller, 2012; Lassnigg, et al., 2007). Fiscal equalisation is a historically evolved transfer system, which organises public finance responsibilities as well as revenue and expenditure flows between the federal, regional and communal levels in both horizontal (between regions) and vertical (between administrative levels) dimensions. The system is mainly used in policy fields with strong regional involvement, such as education, infrastructure or social services. The difficult negotiation cycles of the administrative units, resumed every four to six years (Bröthaler, et al., 2012, p. 911) may slow down or even hinder the expansion of certain areas, particularly that of adult education which remains underdeveloped. In addition, the system is characterised by a lack of transparency that limits financial efficiency. Some have estimated that between one-third and half of all expenditures are spent in a non-transparent way (Lassnigg, et al., 2007). The federal level lacks information on federally-financed educational planning and spending, such as for the personnel costs for teachers, which would be necessary to monitor and control the expenditure of the *Bundesländer*. As a result, Lassnigg, et al. find that it is almost impossible for the federal level to understand or control *Bundesländer* demand for federal financing (Lassnigg, et al., 2007).

The distribution of public and private expenditure does not favour those who need better skills most

As in most OECD countries, education, from pre-primary to tertiary education, is mainly publicly funded (OECD, 2013a, B3). In Austria, the proportion of all funds for educational institutions covered by public sources is 91% (OECD average 84%). Nine percent are financed by individuals, businesses and other private sources (OECD, 2013a, Table B3.1). In Austria, public sources finance about 72% of pre-primary education (OECD average: 82%), 96% of primary up to post-secondary non-tertiary education (OECD average: 92%) and 88% of tertiary education (OECD average: 68%) (Figure 50).

Financing of early childhood education and care does not ensure equitable access

The provision of ECEC services in Austria is characterised by relatively high private expenditure despite low private service provision. Currently, municipalities, non-profit associations and churches run 96% of ECEC services in Austria while private for-profit companies provide only 1% of services (Statistik Austria, 2013c). Many other countries, such as Australia, Finland, the Netherlands, Norway, and Sweden rely more on private provision. Private provision can bring benefits, such as increasing capacity relatively quickly, as well as challenges, such as quality assurance, limiting the costs of ECEC and ensuring equity in access, among others. Action can be taken through regulation, setting incentives and monitoring. To lower the burden on households, and share costs of ECEC more evenly, in some countries (e.g. the Netherlands) employers are required to pay for a share of the childcare costs. In other countries (e.g. Germany, Box 28), employers can be involved in offering ECEC services which helps to improve the access to ECEC services for working parents.

People who are financially better off have better access and are more incentivised, through the tax system, to make use of the limited number of childcare places. In Austria, private expenditure on ECEC is above average due to relatively high household investments (Figure 50). Tax deductions are the major mechanism to help parents with the costs of ECEC. In 2009, Austria introduced a tax allowance for childcare costs up to EUR 2 300 per year. From an equity perspective, tax exemptions are generally regressive as they provide more relief to those with incomes above the tax-exempt limit and because the tax relief often increases with income (Dohmen, Timmermann, 2010, p. 37). A more equitable funding system would foster access of disadvantaged families through more direct funding and targeting approaches, such as free access or vouchers (OECD, 2012i, p. 72; see Challenge 1).

Box 28. Using the private sector for the expansion of ECEC services



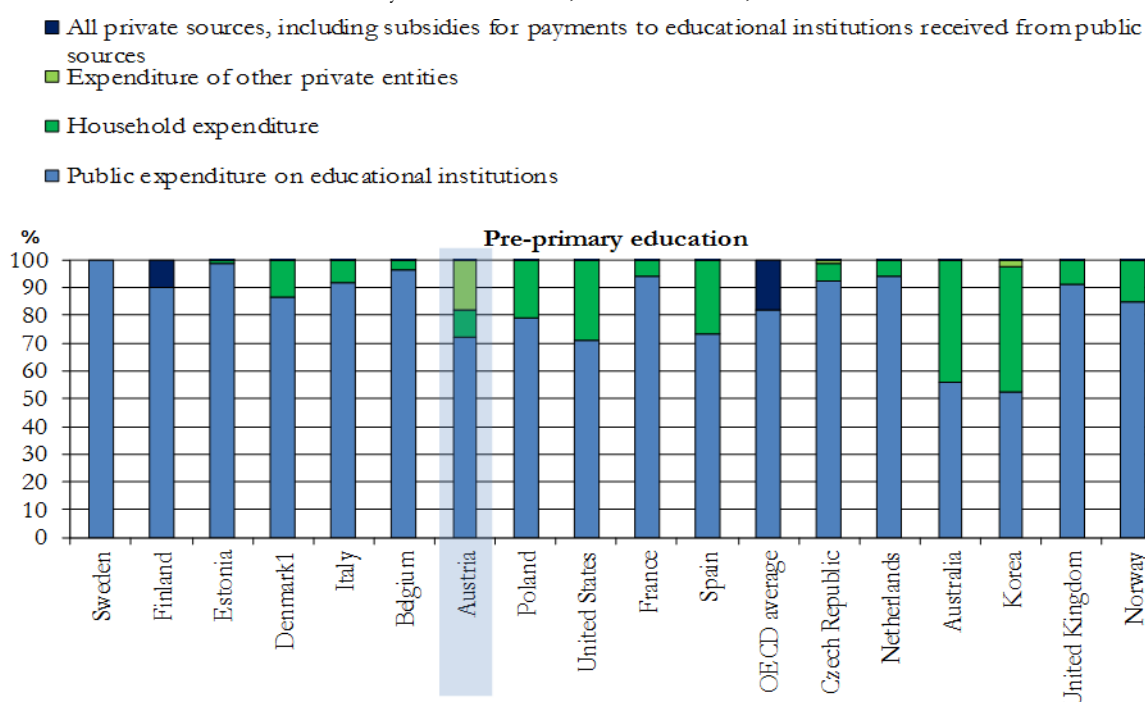
Australia, expanding capacity based on private provision: Government ECEC subsidies in Australia are largely in the form of fee reimbursements to parents whose children participate in services that meet quality assurance requirements. These services may be operated by government authorities (local councils) or non-government providers (both for profit and not-for-profit), which has helped to create a substantial private market for ECEC services. Australia's National Quality Agenda encompasses all types of services, whether delivered by government or non-government (for profit and not-for-profit) providers.

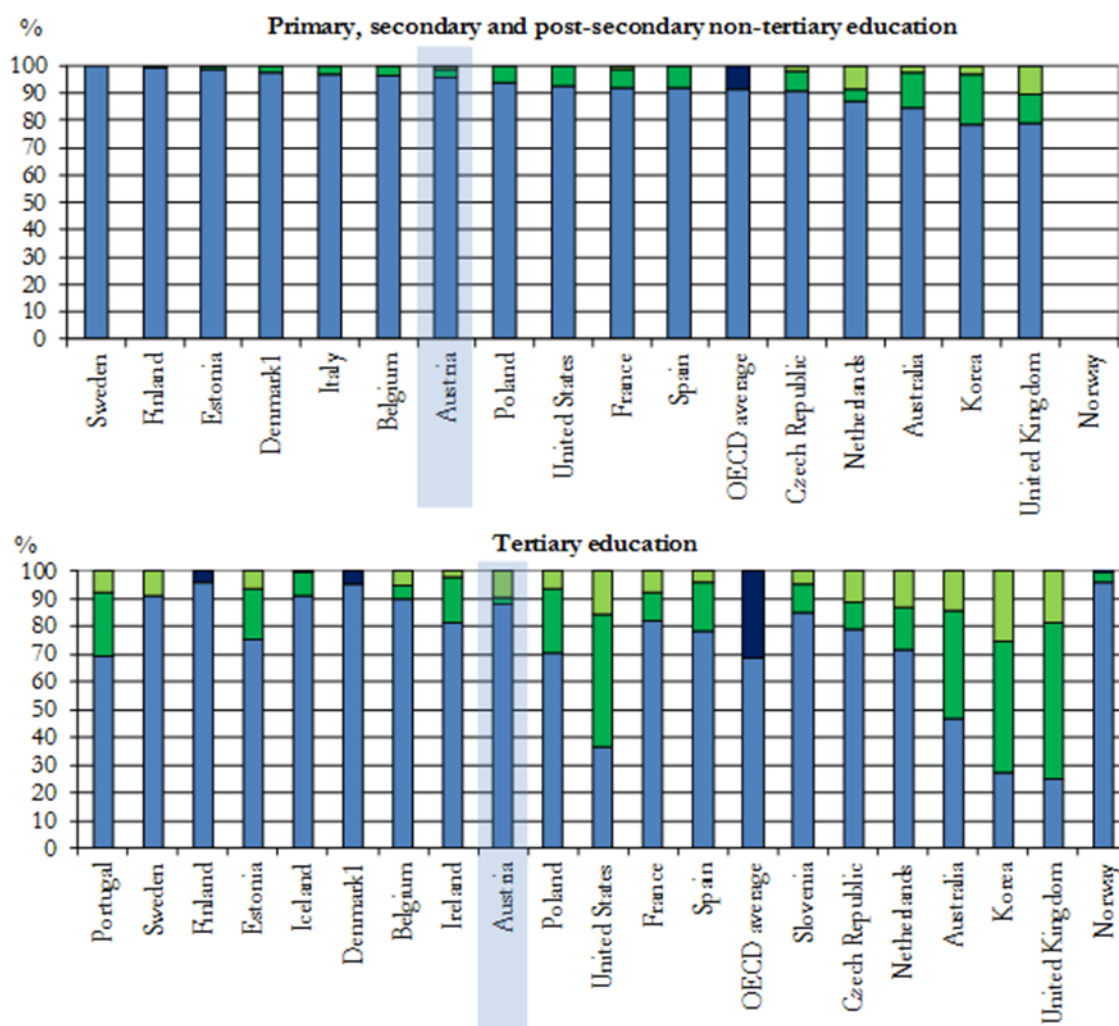
Germany, raising employer engagement in ECEC provision: From the age of one year onwards, every child has a legal entitlement to a place in a child-care institution. The legal entitlement was introduced in August 2013. Both federal level and *Bundesländer* have financed the rapid expansion of ECEC services. Also because capacity is not yet large enough to guarantee places for all children, employers are increasingly interested in offering company-based services for the children of employees to attract skilled staff. Rapidly rising demand in Germany has created a market for private providers to establish and operate services on behalf of employers, who do not want to handle the set-up themselves. However, national research has pointed out that Germany lacks a binding and comprehensive quality standards framework that would also apply to private providers.

Sources: OECD (2012e), *Starting Strong III. A Quality Toolbox for Early Childhood Development and Care*, OECD Publishing, p. 71, <http://dx.doi.org/10.1787/9789264123564-en>; Bertelsmann Stiftung (2012), *Stellungnahme der Bertelsmann Stiftung. Öffentliche Anhörung Kinderförderungsgesetz (KiföG)*, www.bertelsmann-stiftung.de/bst/de/media/xcms_bst_dms_24785_24786_2.pdf.

Figure 50. Relative proportions of public and private expenditure on educational institutions

By level of education, selected countries, 2010





Note: Some levels of education are included with others. Refer to “x” code in Table B1.1a (OECD 2013a) for details.

Source: OECD (2013a), *Education at a Glance 2013: OECD Indicators*, OECD Publishing, Chart B3.2, <http://dx.doi.org/10.1787/eag-2013-en>. OECD 2013a,

Financing of primary and secondary education does not foster equitable outcomes

The financing of primary and secondary education in Austria faces two main challenges, among others. First, funding formula for education could better reflect educational needs of disadvantaged students and provide more flexibility to schools to invest this budget effectively (see also Challenges 2 and 12), and second, teachers’ salaries need to become more flexible and attractive as one tool to raise interest in the teaching profession.

Many countries have funding formula to account for various cost-sensitive criteria, such as target groups, neighbourhoods or regions. Most countries base additional funding on target group criteria (Lassnigg, et al., 2007, p. 132). So-called “weighted” student-funding means that funding follows the students to the school they attend and this amount depends of the educational needs of the children. As a consequence, disadvantaged students become more attractive to schools as they bring more funding compared to “regular” students (Musset, 2012, p. 41). In Austria, formula funding for schools takes certain student characteristics into account, such as the number of students in courses for special educational needs, and pupils with a non-German mother tongue. However, other important characteristics are not taken into account, such as the social background of students. In addition, in Austria schools and school principals seem to have very low

flexibility to allocate resources while PISA shows that schools with more autonomy tend to perform better overall (see Challenge 13). Austria could look more closely into how institutional autonomy and financial flexibility could be part of a strategy to achieve better and more equitable outcomes at schools.

Box 29. Weighted student funding



The Netherlands, formula funding: In 1985, the Netherlands adapted a progressive voucher scheme for all primary schools so that schools with substantial numbers of weighted students receive more funds. There is no requirement that schools use these extra resources on these students. They can for example choose to reduce the number of students per class. The “weight” of each student is determined by their parents’ educational level. Empirical research conducted by Ladd and Fiske (2009) shows that the reform has succeeded in distributing resources to schools according to their different needs. On average, primary schools with a high proportion of weighted students have about 58 % more teachers per pupils, and also more support staff.

Source: OECD (2012i), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*, OECD Publishing, p. 76, <http://dx.doi.org/10.1787/9789264130852-en>; Musset, P. (2012), *School Choice and Equity: Current Policies in OECD Countries and a Literature Review*, OECD Education Working Papers No. 66, OECD Publishing, p. 41, <http://dx.doi.org/10.1787/5k9fq23507vc-en>.

Austria has one of the oldest teacher workforces in the OECD with large numbers of teachers who are close to retirement (OECD, 2013m, p. 3). Attracting more talented people to the profession is vital to avoid accelerating teacher shortages (PISA, Volume IV). The federal education ministry expects the greatest shortages to be for teachers of science subjects (Schwarz, 2010). Salaries can play a role in attracting talented people to the profession but they must go along with other factors that determine the attractiveness of the job, such as the public standing of the profession and working conditions. In Austria, high per student spending is driven by high teacher salaries (OECD, 2013a, p. 379). However, the current structure of the salary scales is not very attractive for new recruits. For example, it takes an average of 34 years for a teacher in Austria to reach the top of the salary scale (the OECD average is 24 years) (Table D3.2). Reforms to reorganise teacher training and to train teachers according to the same standards could help to balance teachers’ salaries across the levels of education. (OECD, 2013m, p. 3).

Low levels of funding for higher education risks limiting the supply of high-skilled people

Guaranteeing the supply of sufficient numbers of highly skilled people in Austria requires attention to two main issues. First, providing enough resources and the right financial incentives to universities so that they can offer relevant programmes, and second, providing enough resources and the right incentives to individuals so that they – irrespective of their socio-economic background – perceive higher education as a financially attractive pathway.

High private returns to tertiary education suggest that private contributions to the costs of education are reasonable as long as there are ways to ensure that funding is available to students regardless of their economic background. In Austria, private funding for higher education is, at 12%, far below the OECD average of 32%. Of the 12% private sources of higher education funding in Austria, 2.6% is household expenditure and 9.5% comes from other private sources, mainly funding by firms (Figure 50). Recent policy changes have generated an on-going debate about tuition fee policies. Introducing higher tuition fees would need to be accompanied by a means-tested loan and grant system to offset the negative equity effects that result from increased tuition fees. In Austria, the level of grant support is around the OECD average; while the level of loan support to students is well below the OECD average (OECD, 2013a).

In Austria, earnings differences between tertiary-educated and upper secondary educated people are close to the OECD average initially, but they increase less with age than in most other countries (OECD, 2013a; A6). The internal rate of return for private individuals on tertiary skill investment is a measure of the incentives individuals have to up-skill, when taking into account the tax system, the direct costs of education, and foregone earnings. In Austria the rate of return for men, at 12%, is similar to the OECD average (OECD

average: 13%) and is 9% for women which is relatively low (OECD average: 11.5%) (OECD, 2013a, Tables A7.3a and A7.3b). This is related to the relatively high level of tax progressivity in Austria. It is not known, however, whether this has a discouraging effect on young people when making their education decisions. A mitigating factor is, however, the deductibility of education costs from personal income tax return foreseen in the Personal Income Tax code, which raises the incentives to invest in education. Prospects for finding jobs have been good for both graduates from post-secondary non-tertiary programmes as well as for higher education graduates.

Box 30. Scholarships and grants, personal income tax and private costs for education



Norway, grants and loan system: The government provides an extensive grant scheme to university students on lower incomes, while providing a student loan system to all students regardless of income. These loans are given at a below-market rate and re-payment begins upon leaving university. Interest on these loans is tax deductible. Finally, these loans are written off for those whose incomes are low over a prolonged period, as well as for those who take jobs in remote regions of the country. The income value of these write-offs is not taxed.

In Germany, tax allowances: Parents whose children are in vocational training are entitled to children's allowance and a training tax allowance. A necessary condition for the latter is that the children are of age and not living with their parents.

In the United States, tax exemptions: investment income and withdrawals from designated savings accounts are tax exempt if they are less than expenses of graduate or undergraduate university programmes. Qualifying expenses consist of tuition fees, books, supplies, expenses for special needs services, and in some cases, room and board. Contributions to these accounts are capped.

Source: Torres, C. (2012), *Taxes and Investment in Skills*, OECD Taxation Working Papers, No. 13, OECD Publishing. <http://dx.doi.org/10.1787/5k92sn0qv5mp-en>.

The financing of adult education in Austria does not benefit low-skilled people

Adult education has become a vital policy area in many OECD countries that are expanding programmes in order to maintain and increase the employability of all adults throughout their entire working lives. Effective financing of adult education leverages the interests and engagement of the state, individuals and employers or social partners. Benefits for individuals include income and employability gains and a lower unemployment risk. For employers, investing in work-based learning for employees can result in better equipped, more satisfied and potentially more productive employees, as well as better firm reputation. The state can benefit from a more productive and innovative workforce and less long-term unemployment (adapted from OECD, 2014c forthcoming; FIBS, DIE, 2013).

As noted in Challenges 5 and 10, many adult education opportunities in Austria do not reach those who need them the most, namely the low-skilled, especially when they are women and older. Improving participation of low-skilled people means addressing their individual constraints - such as low income, a lack of information and/ or motivation, fear of education - and finding targeted solutions to overcome these barriers. The fact that Austria does not effectively achieve equitable outcomes in early stages of education leads to relatively large low-skilled adult cohorts. Existing adult education programmes in Austria do not successfully target those who need it most. Adult education is mainly financed through private investments, either self-financed mostly by high-skilled individuals or funded by employers which benefit medium- and high-skilled employees. State investment in adult education is mainly provided through the public employment service (PES), financed through the unemployment insurance scheme. This approach limits the group of potential beneficiaries to the unemployed although the vast majority of low-skilled people are either in a job or inactive. Beyond the budget from the unemployment insurance, the state finances less than 10% of adult education and many of these public programmes do not effectively reach the low-skilled target group either.

The PES and employers are the main investors in adult education in Austria

Participation rates in adult education in Austria are moderate but Austria is one of the countries with the highest adult education expenditure levels as a percentage of GDP in 2011. Expenditure levels range from about 1.3% in Denmark to 0.3% in Canada. Like Sweden and Denmark, Austria spent more than 1.2% of its GDP on adult education in 2009 (FIBS, DIE, 2012, p. 16). Compared to Sweden, the country with the highest participation rate at 63% Austria, with a participation rate of about 50%, has even slightly higher overall spending in percentage of GDP (AES, 2011). Thus, while the overall level of expenditure is not correlated with participation rates, the choice of funding approaches and tools matters.

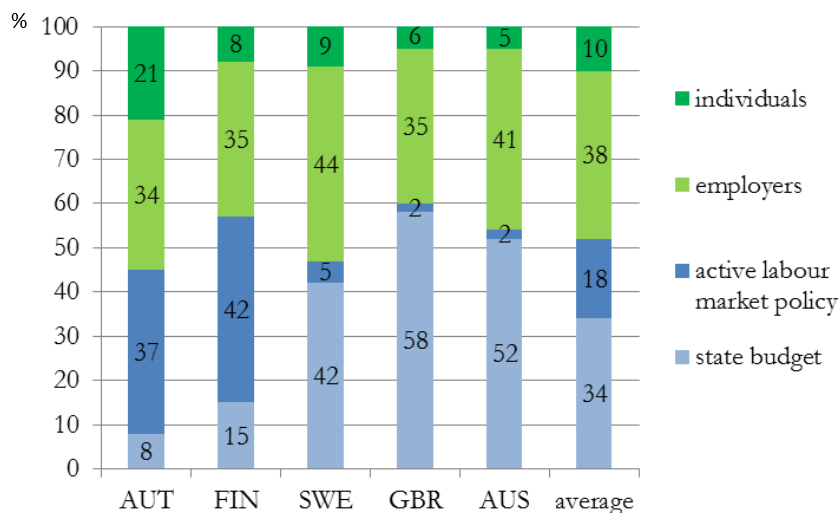
Countries with higher state funding tend to have higher participation rates (adapted from FIBS, DIE, 2012, p. 20). In international comparison, the distribution of funding for adult education in Austria is atypical due to the strong role of the PES and the weak role of other state investments (Figure 51):

- **Active labour market policies and the public employment service (PES)** covered about 37% of all adult education expenditure in Austria in 2009 (Lassnigg, *et al.*, 2012, p. 40). The investments are financed with the unemployment insurance scheme that all employees above the income threshold pay into. In Austria, training measures accounted for 55% of the total expenditure on active labour market programmes in 2008 (OECD average: 25%). In 2010, the PES placed almost half of those registered as unemployed in training courses (117 309 persons out of 262 683 registered) (Eurostat). Beneficiaries are supposedly mainly low- to medium-skilled unemployed people. However, a detailed skills-related beneficiary analysis is not available.
- **Employers** covered about 34% of the direct investments in 2009 (includes only direct costs; costs for SMEs with less than 10 employees were estimated) (Lassnigg, *et al.*, 2012, p. 40). Employers tend to invest in those who already have high skills levels (see Challenge 5).
- **Individuals** covered about 21% of all adult education expenditure in 2009 through self-organized and self-financed adult education (Lassnigg, *et al.*, 2012, p. 40). Those investing in their skills are particularly the medium- and high-skilled, who have the financial resources and better access to information on programmes.
- **Remaining state programmes** cover by far the smallest part of about 8%. Compared to most countries with higher participation rates, Austria has a relatively small public budget devoted to adult education (e.g. 58% in Great Britain, 52% in Australia, 42% in Sweden (Lassnigg, *et al.*, 2012, p. 12).

From the above, it can be seen that the bulk of all expenditure on adult education in Austria currently benefits people with medium to high skill levels. The largest funding source – active labour market policies – only reaches unemployed people. Yet as noted in Challenge 5 only about 5% of the low-skilled target group is actually unemployed, while those who are inactive have the lowest mean skills levels (OECD, 2013h, p. 226; see Challenge 5).

Figure 51. Expenditure on adult education and training per person

Distribution of expenditure on adult education (25-64 year-olds) in percentages by funding source (purchasing power standardised); Selected countries, 2009



Note: Data on state budget exclude expenditure on active labour market policy (ALMP). In contrast to the general state budget, ALMP spending comes mainly from unemployment insurance schemes. For more information on the methodology, see Lassnigg, *et al.* 2012.

Source: Lassnigg, L., S. Vogtenhuber and I. Osterhaus (2012), *Finanzierung von Erwachsenen- und Weiterbildung in Österreich und ausgewählten Vergleichsländern*, IHS, Vienna., p. 12, based on OECD, EUROSTAT, Australian Bureau of Statistics.

Corporate tax treatment favours employer investments in skills for high-skilled people

In Austria, employers play a very limited role in adult education for the low-skilled (see Challenge 5). Strikingly, the low-skilled participate even less in non-job related education measures. Participation of low-skilled people in both job-related and non-job related adult education and training is lower in Austria than the average in other countries (Challenge 5). Particularly in Norway, Denmark, Sweden and Finland, both job related and non-job related measures reach the low-skilled more effectively than in Austria.

In Austria, the state incentivises employers to invest in the skills of their employees. Austria is more generous than the OECD average when it comes to the treatment of skills investments in its Corporate Income Tax code. Corporate tax allows not only for the deductibility of educational expenses from the corporate income tax base but also for an additional tax allowance for companies of 20% of the costs of education and training, which can also be replaced by a 6% tax credit in some cases. This provides significant incentives for firms to invest in firm-specific training. However, there are no particular incentives to invest in more generic skills that may not have an immediate benefit for the company, or to invest in people with lower skills levels who can be replaced more easily.

Austria's tax progressivity does not encourage people with low incomes, who are often also low-skilled to invest in skills

With the tax deductibility of education costs and its tax progressivity Austria tends to encourage people with higher income to invest in their skills. Overall, the progressivity of the Personal Income Tax Code in Austria is higher than the OECD average. The Austrian tax code is more progressive than the OECD average at lower income levels, while less progressive than average at higher income levels. This may have particularly detrimental impacts on incentives to up-skill of those on lower incomes, as their increased skill premium in the form of higher wages is sharply taxed away. The progressivity of the tax code and its potentially negative impacts on incentives to up-skill must be balanced against broader needs for equity in the tax code.

Box 31. Details of the skill provisions in Austria's tax code

Personal Income Tax

- Tax Allowance for Education and Training which must be related to improving skills used in one's current job, or to prepare for a change in occupation.
- Tax Exemption for Scholarship Income (but not Scholarship Income provided by Employers).
- Tax Exemption for the value of Employer-Paid Training.

Social Security Contributions

- Employers have no health or accident insurance contribution liability in the first year of an apprentice's training.

Corporate Income Tax

- Employee training costs are fully deductible from Corporation Tax, but only for post-university training. The costs must also be related to the work of the firm (to prevent compensation through education).
- 20% extra deduction from corporation tax base available, which can be replaced by a 6% tax credit from tax liability. While the 20% deduction can be spent on either internal or external education costs, the 6% credit can only be claimed for external expenses.

VAT

- As per EU VAT directive (2006/112/EC), provision of children's or young people's education by recognised institutions is exempt from VAT.
- Tuition given privately by teachers and covering school or university education is exempt from VAT.

State investments in adult education do not effectively reach low-skilled people

Currently, Austria has two major public adult education policy programmes – the programme for educational leave (*Bildungskarenz*) and the broader “adult education initiative” (*Initiative Erwachsenenbildung*). According to national studies, only the latter has effectively reached low-skilled people, but participation rates remain low.

Austria introduced educational leave in 1998, which has proven a valuable instrument particularly for medium- and high-skilled people to further invest in their education. An educational leave may be agreed between employers and employees as of the seventh month of work for a period of at least two months to a maximum of one year. Employees also have the possibility to agree on part-time educational leave for four months up to two years. Participants receive income from the unemployment insurance. In general, the programme has been seen as a success by Austrian stakeholders and experts. However, an evaluation from 2011 showed that people without formal qualifications and older workers were almost absent (Lassnigg, *et al.*, 2011).

The adult education initiative is a joint initiative of the federal level and the *Bundesländer* to promote “second chance education”. Implemented in 2012, the goal is to enable adults to acquire basic skills and educational qualifications free of charge after initial education. In addition to education courses, the programme offers counselling to help participants with the transition into work or to further education at the end of the programme. The initiative tries to encourage implementing institutions to avoid participants' dropping out as it provides additional funding to the institutions if participants graduate successfully (*Initiative Erwachsenenbildung*, 2012). Full evaluations of this initiative are not yet available but initial data points to relatively low participation rates: 0.4% of the target group had participated in 2012 in Austria compared to 7.2% in comparable programmes in Canada and 12.2% in Hungary (FIBS, DIE, 2013, p. 34). Future evaluations should analyse why take-up has not been higher. If it is caused by limited offers, an expansion of the approach might be considered.

In sum, low-skilled people are underrepresented in adult education in Austria and are not targeted effectively. It is questionable to what extent the strong role of the PES in adult education is effective

considering that the PES can only benefit unemployed people while many low-skilled are either in employment or inactive. This would call for a greater role of the state in collaboration with employers, social partners and adult education institutions. The strong engagement of social partners in Austria could be utilised more strategically to the benefit of the low-skilled. In addition, this would call for a reorientation of publicly funded programmes towards disadvantaged groups (FIBS, DIE, 2013, p. 48).

Box 32. Adult education approaches oriented towards target groups, including low-skilled



There are various approaches to adult education financing. In order to target low-skilled adults grants and vouchers have been used by countries. **Grants** can provide effective incentives as they fully or partly cover the costs of participants. However, huge deadweight-losses can also be associated with grants when their target-group is not well defined (compare FIBS, DIE, 2013, p. 32). Employers are often used as an intermediary actor to target low-skilled workers as the grants can also be paid to the employer when investing in low-skilled employees. **Vouchers** can allow for relatively easy targeting. However, countries often experience difficulties in effectively reaching low-skilled populations with voucher-programmes. These programmes often need intermediary institutions that can effectively reach the target group, raise their awareness and provide guidance. In addition, **education and training funds** can provide an effective alternative financing approach, either organized by employers themselves or by social partners or in cooperation with governments providing co-funding.

Beyond the financing mechanism chosen, the success of adult education programmes depends on other aspects, such as effective ways to reach out to participants and quality assurance. Whenever adult education is heavily subsidised, there is a strong need to implement quality assurance as training providers can take advantage of an automatic funding situation by providing low-quality training (Dohmen, Timmermann, 2010, p. 30).

The following provides a brief overview of some country examples divided into these three broad categories. Less utilised tools such as saving schemes are not covered here (see FIBS, DIE, 2013). Some of the following examples could be assigned to more than one category since they combine different financing tools.

1) Grants and fee reductions for target groups

- Outreach through employers (target group: low-skilled employees):

Germany, WeGebAU-project, training grants for low-skilled and older employees: WeGebAU was launched by the Federal Employment Agency in 2006 in order to improve the employability of low-skilled and older employees, particularly of those working in SMEs with less than 250 persons. The programme aims at raising the awareness of the importance of investing in training and it offers concrete training options. The programme offers certified training outside companies lasting for at least four weeks and provides finances for further training. Employers need to apply to the Federal Employment Agency, and for employees over 45 years old, 75 % of all costs are funded by the programme. The company is obliged to ensure leaves of absence. Approximately 340,000 adults have participated in the programme since 2006 (Federal Institute for Vocational Education and Training, 2013). According to the Federal Employment Agency, 85 % of participating companies indicated the positive effects of training, and there has been a trend to continue and launch new training activities (European Commission, 2012; based on information of the *Bundesagentur für Arbeit*).

Norway, the Basic Competence in Working Life Programme (BKA) for low-skilled employees: In 2006, the Norwegian government launched the BKA programme, which is now administered through Vox, the Norwegian Agency for Lifelong Learning. Funding comes from the Ministry of Education and Research. Any employer in Norway can apply for the full financing of training measures for reading, writing, mathematics and the use of ICT. Learning activities are often linked with work and other job-related practices. The learning activity often takes place in the workplace environment and the course contents are contextualized. The courses have to relate to the competence goals in the Framework for Basic Skills for Adults. "Since its creation, the number of applicants for the BCWL programme has steadily increased from 167 to 498 applications in 2012. (...) Since a number of applications involved clusters of enterprises, nearly 700 enterprises benefit from the grant. The total amount allocated to this programme has increased from 14.5 million NOK in 2006 to 105 million NOK (14.8 million Euro) in 2012." (UNESCO, 2013) More than 30 000 adults have participated in the programme so far. (OECD, 2013h, p. 210, based on European Commission, 2011).

Box 32. Adult education approaches oriented towards target groups, including low-skilled (continued)

- Outreach through municipalities (target group: low-skilled unemployed):

Sweden, Adult Education Initiative: The initiative was implemented in all municipalities in 1997 and ran until 2002 when it became the basis for a municipal adult education and training reform. The programme focused on providing general basic skills, such as Swedish, English and mathematics, at upper secondary level. The programme is implemented by the municipalities and funded both by municipalities out of local tax revenues and a general government grant to municipalities (GHK, Research voor Beleid, 2011, p. 11). Participation in courses provided by the initiative is free of charge. Unemployed participants received supplementary “special education support”, equivalent to unemployment insurance payments for a maximum of one year. Some studies found that young men participating in this initiative had better chances of returning to the labour market compared to those who did not take part in the programme (OECD, 2013h, p. 210, based on Albrecht, et al., 2004; Ericson, 2005).

2) (Cost-sharing) vouchers

- Outreach through employers (target group: employees with low skills, without qualifications and foreign-born):

North Rhine-Westphalia, Germany, education and training vouchers for low-skilled and foreign-born: The German *Bundesland* North Rhine-Westphalia has a voucher programme for employees (*Bildungsscheck NRW*), which tries to reach particularly low-skilled and disadvantaged groups, such as people without qualifications and foreign-born. The education voucher can be used by both employees individually for their professional development as well as by SMEs to offer appropriate training for their employees. Unskilled and semi-skilled workers can do a vocational qualification with the help of training vouchers. Vouchers can be used for programmes that serve to improve participants’ professional qualification and teach technical skills or key skills, such as: (vocational) qualifications, language courses, IT courses, learning and working techniques. The voucher subsidizes up to 50% and 2 000 Euro of the costs of an education or training programme. Selected contact points in North Rhine-Westphalia grant the vouchers that can be submitted directly to the training providers. Contact points are, for example, chambers, economic development agencies, community colleges or training networks that exist in some regions. These points offer free consultations to inform individuals and institutions about the personal requirements for the voucher and to advise companies on training needs of their employees (MAIS, 2013).

3) Education and training funds:

Australia, National Workforce Development Fund: Australia has allocated AUD 558 million offered under the auspices of the National Workforce Development Fund to address emerging skills needs within key industry sectors over the next four years. Businesses are encouraged to identify current and future development needs, and apply for funding to upskill existing employees or attract skilled new hires. Targeted grants for particular groups of employees, such as indigenous people and older workers ensure that employers also include disadvantaged groups.

The Netherlands, sectoral training funds: Many sectors established training funds in the Netherlands, which are based on collective labour agreements (CLA). The sectors developed organisations to implement the collective agreements and to administer the funds. All employers of a sector are obliged by the CLA to pay a certain percentage of their wage bill to the fund. The fund invests the contributions and reimburses employers for employee training and education investments as stipulated in the CLA.

England, United Kingdom, Workforce Development Programme of the Higher Education Funding Council (HEFC): The HEFC conducts a Workforce Development Programme, which provides funds for universities and colleges to adapt the design and delivery of programmes to employer and employee needs. For example, HEFC funded the Kingston University Building Interaction with SMEs-project, which is focused on local SMEs to develop work-based learning opportunities for employees in the manufacturing sector. The project creates learning opportunities for employees with few formal qualifications, but with a lot of work-based knowledge. Programmes aim at being relevant to the learner’s work experience and are designed in collaboration with employers. Participants can earn Foundation Degrees up to Masters level degrees (HEFC, 2013).

Box 32. Adult education approaches oriented towards target groups, including low-skilled (continued)

4) Framework strategies with multiple actors:

Germany, National Strategy for literacy and basic adult education: In 2012, the federal Ministry for Education and Research, the *Bundesländer*, the public employment service and several stakeholders agreed on a common national strategy to reduce the number of functional illiterates and to improve the reading and writing skills of adults. The initiative includes a wide range of actions including a nationwide TV and radio campaign on the importance of foundation skills; the expansion of course offerings, in particular in cooperation with adult education centres and the public employment service, the creation of networks and regional adult education coordinators. The *Bundesländer* agreed to expand the exchanges of good practices. The initiative is financed by the federal government, the *Bundesländer* and some projects are co-financed by the European Social Fund and the public employment service (BMBF, 2012).

Sources: FHR (2013), *FH Council, Oesterreichischer Fachhochschulrat*, www.fhr.ac.at/index_en.htm; Dohmen, D. and D. Timmermann (2010), *Financing Adult Learning in Times of Crisis*, Background report for the Workshop, GHK; European Commission (2012), *PES and Older Workers. Toolkit for Public Employment Services*, Brussels; UNESCO (2013), *The Basic Competence in Working Life Programme. Country Profile: Norway*, www.unesco.org/uii/litbase/?menu=8&programme=126; OECD (2013h), *Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing, <http://dx.doi.org/10.1787/9789264204256-en>; Ericson, T. (2005), *Trends in the Pattern of Lifelong Learning in Sweden: Towards a Decentralized Economy*, Göteborg University, <https://gupea.ub.gu.se/bitstream/2077/2735/1/gunwpe0188.pdf>; MAIS (2013), *Berufliche Weiterbildung mit dem Bildungsscheck, Arbeitspolitik in Nordrhein-Westfalen*, Ministerium für Arbeit, Integration und Soziales NRW, www.arbeit.nrw.de/arbeit/erfolgreich_arbeiten/angebote_nutzen/bildungsscheck/; HEFC (2013), *Workforce Development Programme*, HEFC, www.hefce.ac.uk/whatwedo/kes/ee/; BMBF (2012), *Nationale Strategie für Alphabetisierung und Grundbildung Erwachsener*, BMBF, www.bmbf.de/de/426.php.

CHALLENGE 13: IMPROVING GOVERNANCE AND RESPONSIBILITY STRUCTURES

According to workshop participants this challenge includes the following aspects:

"Austria needs to make responsibility lines and coordination mechanisms within the complex governance system work in an efficient and effective way"

"Lack of strategic steering of the skills system"

"Policy process is resistant to reforms"

"Reluctance to change policies"

"No political agreement on school reforms"

"Cultural challenge to focus on skills instead of qualifications"



OECD comparative data and analysis:

The OECD Skills Strategy highlights the broad range of policy fields that shape a national skills system including education, science and technology, family, employment, industrial and economic development, migration and integration, social welfare, taxation and public finance. Policy coherence requires the coordination of programmes and projects as well as effective cooperation among actors.

Fragmented responsibilities and a lack of transparency limit efficiency and steering capacity

In Austria, responsibilities are divided between the federal level, the nine *Bundesländer* and the municipalities. Legislative as well as executive powers can lie with both *Bundesländer* and the federal level - in some areas responsibilities are even shared. In the field of education, *Bundesländer* have the main legislative power, and executive responsibilities. This fragmented system has many challenging implications for skills policy making and policy outcomes.

Striking the balance between nationwide standards and flexibility at the local and institutional level proves difficult

In Austria, the *Bundesländer* enjoy a significant degree of autonomy in the implementation of skills policies. For example, in the area of early childhood education and care (ECEC), the *Bundesländer* have the executive power. This has clearly hindered the strategic ECEC expansion and implementation of nationwide quality standards (Challenge 1). The federal level has started trying to guide the ECEC system in a more common strategic direction for example by providing a common quality framework and co-funding. However, to a large extent the success of these initiatives hinges upon the efforts made by the *Bundesländer* to ensure implementation of such national frameworks.

Bundesländer are also by and large responsible for primary and secondary education legislation and implementation. Decision making authority for financial, personnel, and other policy decisions is divided across the Federal Ministry of Education and Women, *Bundesländer*, federal and provincial school authorities, and school leaders, among others. Regional Education Boards (*Landesschulräte*) are responsible for executing national legislation at state level and for supervising schools.

Despite the significant level of regional responsibility and hence flexibility in education policy-making, there is little flexibility at the school level in Austria. PISA 2012 shows that systems where schools have more autonomy over curricula and assessments tend to perform better overall (OECD, 2013x). The rationale is to raise performance levels by encouraging responsiveness to student and school needs at the local level (OECD, 2013z, p. 130; based on Whitty, 1997; Carnoy, 2000, and others). According to reports of school principals that were conducted by PISA 2012, schools in Austria have among the lowest responsibilities for resource allocation as well as for the curriculum and instructional assessment within schools in international comparison (OECD, 2013z, pp. 131-132.). In addition, teachers in Austria seem to have little involvement in the management of schools (providing staff with opportunities to make decisions concerning the school, engaging teachers to help build a culture of continuous improvement in the school and asking teachers to participate in reviewing management practices) (OECD, 2013x, p. 140).

Box 33. School autonomy and cooperation between schools



United Kingdom, school leaders as drivers of effective initiatives: School leaders have far-reaching responsibilities that they execute in cooperation with a school governing body which is in charge of the delegated budget, and of the management of the school. The school governing body consists of the school leader, elected representatives of the parents, representatives of the teaching and the non-teaching staff and of the local authority (representatives of the local elected government). School governing bodies select teaching staff, establish salary and promotion policies, appoint and suspend teachers, among others.

England (United Kingdom), incentivizing cooperation between schools: The government has been supporting a variety of approaches to enhance cooperation among schools and school leaders since the early 2000s. Funding for school-innovation projects often required schools to partner together and apply as school clusters, rather than as individual schools. More recently, when schools were invited to assume greater autonomy by applying for “academy” status, the government also encouraged strong academies to work with weaker schools to raise standards. Several academies have joined a “chain”, which acts as a common trust for all of them. School-led partnerships among independent academies have also developed, such as the “Challenge Partners” network, which uses peer inspection as a way of fostering continuous improvement.

Scotland (United Kingdom), an online network to share experiences: “Heads Together” is a nationwide online community used by school leaders to share experiences, policies and ideas. It was launched after a successful pilot phase in 2003, and has since become part of the national intranet for schools, “Glow”.

Shanghai (China), incentivizing peer learning: In Shanghai, policies support collaboration between better- and lower-performing schools with the aim of transferring leadership capacity from the former to the latter. One aspect is called empowered administration, a school-custody programme in which the government asks higher-performing public schools to administer weaker schools. Under this scheme, the high-performing school appoints its experienced leader, such as the deputy principal to be the principal of the weaker school and sends a team of experienced teachers to lead in teaching. In this way, the ethos, management style and teaching methods of the good schools are transferred to the poorer-performing school. In addition, a consortium of schools is established, where strong and weak schools, old and new, public and private are grouped into a consortium or cluster, with one strong school at the core.

Sources: OECD (2013z). *PISA 2012 Results: What Makes Schools Successful (Volume IV): Resources, Policies and Practices*, PISA, OECD Publishing, <http://dx.doi.org/10.1787/9789264201156-en>; Huber, S. and H.M. Pont (2008), “The English approach to system leadership”, in B Pont, *Improving School Leadership Vol. 2 Case studies on systems leadership*, pp. 111-152, OECD Publishing; OECD (2011), *Strong Performers and Successful Reformers in Education: Lessons from PISA for the United States*, OECD Publishing, <http://dx.doi.org/10.1787/9789264096660-en>; Pont, B., D. Nusche and H. Moorman (2003), *Improving School Leadership: Volume 1, Policy and Practice*, OECD Publishing, <http://dx.doi.org/10.1787/9789264044715-en>; Sliwka, A. (2003), “Networking for educational innovation: A comparative analysis”, *OECD Networks of Innovation: Towards New Models for Managing Schools and Systems*, OECD Publishing, <http://www.oecd.org/site/schoolingfortomorrowknowledgebase/themes/innovation/41283632.pdf>

A fragmented education and training system, in which diversity is not complemented with co-ordination, lacks an overall “steer” which would optimise the benefits of the entire system to society (OECD, 2008). According to Lassnigg, et al. steering of the Austrian skills system is difficult in particular due to two interlinked factors resulting in a high resistance to reform: complex, often even unclear responsibility structures and a lack of information.

An example of complex responsibility structures is given by the VET system. In Austria, responsibility for postsecondary VET is distributed among the individual *Länder* and several federal ministries: Ministry of Education and Women (for VET colleges), Ministry of Science, Research and Economy (for apprenticeships and employer-based training, *Fachhochschulen* and university continuing VET courses) and the Ministry of Labour, Social Affairs and Consumer Protection (for workplace promotions (*betriebliche Förderung*), promotion of apprenticeships by the PES, and coaching of apprentices and companies in cooperation with the Ministry of Science, Research and Economy). In addition, the Ministry of Labour is responsible for the collective agreement law, which regulates wages and compensations of apprentices, among others). Other ministries are also involved (e.g. the Ministry of Agriculture, Forestry, Environment and Water Management, and the Ministry of Health).

Both social partners, the Economic Chamber (*Wirtschaftskammer*) and the Chamber of Labour (*Arbeiterkammer*) are involved through VET-councils, which deal with curricula of VET programmes, among others. In addition, the Economic Chamber is responsible for apprenticeship-leave and *Meister* examinations managed at the *Länder* level. Examination regulations are prepared by experts in professional associations of the Austrian Federal Economic Chamber and approved by the Federal Ministry of Science, Research and Economy. Industrial master examinations (*Werkmeisterprüfung*) are organised by part-time industrial master colleges (*Werkmeisterschule*) and approved by the Ministry of Education and Women. Institutions are often entangled in a web of local and political interests (Lassnigg, 2011; Leitner, 2006). The creation of the *Fachhochschulen* in 1994 involved new governance mechanisms. *Fachhochschulen* have more independence than VET colleges and universities (Pfeiffer, et al., 2000). The tasks of the national authorities are limited to external quality assurance and financing. A wide range of bodies are permitted to run *Fachhochschulen* (Musset, P., et al., 2013, pp. 30-31).

In the Austrian VET-system, fragmentation leads to:

- Lack of clarity for potential and current students faced with multiple pathways and competing offers.
- Lack of clarity for employers about the function and value of different qualifications.
- Difficulties in articulation and transitions between different institutions and programmes.
- Distorted incentives as funding support is stronger for some parts of the system than others.
- Obstacles in developing a strategy to address the overall needs of the labour market.
- Competition distorted by variable incentives, failure to realise the benefits of collaboration.

Austria’s skills system lacks strategic steering bodies

Many countries have established steering bodies involving all relevant actors to improve coordination within a fragmented system. Such bodies can ensure a strong link between skills supply and economic demand, coordinate the offer of programmes and curricula, ensure permeability between pathways and better transitions, and engage in common skills intelligence initiatives, such as data collection and analysis.

The OECD Skills beyond Schools Review of Austria suggests that a “national advisory body should be established to steer the entire VET system”. It should have responsibility for giving policy advice to government and include relevant ministries, representatives of the regions, the social partners, and key providers including the *Fachhochschulen* and vocational colleges. While it would be possible to limit the role of

the body to postsecondary VET, a broader role would be preferable in order to ensure co-ordination between the sectors, and a more seamless progression from upper secondary to postsecondary levels for students. Such a body might have sub-groups organised according to regional or sectoral dimensions (Musset, P., et al., 2013, p. 35).

Box 34. National strategic bodies to steer skills policymaking

Denmark, Council of Academy Profession Programmes and Professional Bachelor Programmes (i.e. short and medium-cycle postsecondary VET). The council was set up in 2008 to advise the Minister about the development of new programmes, the mix of provision, quality assurance and improvement. It also provides a yearly report, which reviews existing programmes and describes new initiatives. The Council meets six times a year and has a board of 21 members, including those appointed by the Minister of Science, Innovation and Higher Education after nomination by various employer organisations (8 members), trade unions (2), the organisation of Danish regions (1), organisation of local governments (2), student organisations (2), University Colleges (1) and Academies of Professional Higher Education (1).



United Kingdom, The Commission for Employment and Skills (UKCES) was launched in April 2008 with the aim of increasing the employer voice in the United Kingdom's VET system and promoting investment in skills to drive enterprise, jobs and growth. It is led by commissioners from large and small employers, trade unions and the voluntary sector. It also includes representatives of further and higher education institutions and from the Devolved Administrations. Its strategic objectives are: i) to provide world-class labour market intelligence which helps businesses and people make the best choices for them; ii) to work with sectors and business leaders to develop and deliver the best solutions to generate greater employer investment in skills; iii) to maximise the impact of changed employment and skills policies and employer behaviour to help drive jobs, growth and an internationally competitive skills base. The UKCES works with government departments and agencies, as well as with researchers across the UK to develop an evidence base and pool expertise. The UKCES also funds and manages the Sector Skills Councils and oversees their relicensing process. As a UK-wide body, it helps ensure a strategic approach to skills development that covers all four nations (with devolved administrations for education and training policy) of the UK.

A recent shift in the approach to employer engagement encourages employers to own their skills agenda and develop their own initiatives, rather than relying on a policy agenda set by government with incentives for employers to join in. In 2011 the Prime Minister announced a fund of up to GBP 250 million to test out approaches that empower employers to take control of skills development. The UKCES is working closely with government to develop this approach.

Source : Musset, P., et al. (2013), *A Skills Beyond School Review of Austria. OECD Reviews of Vocational Education and Training*, OECD Publishing, p. 37, <http://dx.doi.org/10.1787/9789264200418-en>.

Austria could build on existing cross-government structures and policy strategies ...

Austria already has a cross-cutting platform involving ministries, social partners and experts that regularly reviews policies and give advice on major challenges. The Austrian Economic and Social Council was set up in 1963 on the basis of an informal agreement between the four major bodies from the two sides of Austrian industry (the Federal Economic Chamber, the Federal Chamber of Labour, the Confederation of Trade Unions and the Chamber of Agriculture). Traditionally, the Council works in working groups that can include external experts from ministries, economic research bodies, universities and other relevant areas. If the Council accepts the reports unanimously, they are published and forwarded to the Government (Sozialpartner, 2013). However, the Council has not yet been activated to engage with Austria's skills system and the Council also does not represent many groups that would be relevant for the skill system, such as migrants or representatives from high-skilled sectors.

In addition, Austria has developed several cross-cutting strategies with skills-relevant content (Box 35). To develop a coherent national Skills Strategy and avoid duplications, existing strategies need to be taken into account when redesigning skills policies in Austria. Implementation of current strategies are often ensured by multiple inter-ministerial working groups and any future Skills Strategy would need to build upon, and ensure effective coordination among, these bodies.

Box 35. A selection of skills-related strategy processes in Austria

- Consolidation Programme 2012-2016
- Austrian Stability Programme
- FTI-Strategy
- Strategy for Lifelong Learning
- Strategy to Reduce School Dropouts
- Youth Strategy
- CSR Action Plan
- Sustainability Strategy
- Masterplan Green Jobs

Austria's Lifelong Learning Strategy: The Austrian Government adopted a Lifelong Learning Strategy in July 2011, which had been established by an inter-ministerial working group, in cooperation with stakeholders and experts. The Strategy formulates ten action lines and several targets and benchmarks for 2020. The five guidelines cover a lifecycle-approach to put the learners at the centre of the strategy, to provide for lifelong guidance, to focus on skills, and to support inclusive participation in lifelong learning. Implementation of the strategy is guided by a task force, including a national platform of social partners, regions, municipalities and education institutions.

... as well as the engagement of social partners and other stakeholders to improve skills outcomes

Social partnership provides formal institutional representation for employees and employers in both policy design and implementation. Austria has longstanding and effective working relations between the government and social partners. The government consults with social partners on all economic and financial matters. In addition, social partners carry out important functions in the skills system, including in steering the vocational education and training system and co-managing the public employment service. They are also involved in the administration of the social security system and in the enforcement of workplace safety and health at work.

However, there is room to expand social partnership initiatives on skills. Social partners could provide important contributions for example in finding strategies and establishing programmes or collective agreements in areas such as tackling skills mismatches, providing lifelong education and career guidance, expanding and improving adult education and work-based learning, and in developing and implementing better workplace practices for a more effective use of skills. Involving not only employers but also trade unions can be crucial for many reasons, such as better targeting the provision of adult education to low-skilled employees.

Finally, there is potential to expand the involvement of a wider range of civil society organisations in the formulation and implementation of skills policies. Such actors often have significant experience in reaching specific target groups – such as youth, inactive adults, foreign-born adults and people with disabilities – and could help design effective measures to help develop, activate and use their skills.

Better service coordination would improve the effectiveness of services at the local level

The coordination of services is vital to improve efficiency and is more effective than fragmented services provision particularly when reaching out to disadvantaged people. In Austria, there seems to be scope to improve service coordination for various target groups, such as foreign-born, unemployed and people with health problems.

In Austria, the integration framework for immigrants is very fragmented. This is particularly the case with respect to the assessment and recognition of foreign qualifications where there are still four different ministries and “a multitude of different procedures in place depending on the origin, domain and level of the degree” (Krause, Liebig, 2011, p. 81). The actors involved include the ministries for education, health, economy, as well as science and research, different agencies in the *Bundesländer*, and the universities for the recognition of tertiary degrees. However, there are some improvements under way (for country examples, see Challenge 9).

Another relevant area marked by a lack of service coordination concerns people with health problems. Following recent reforms to Austria's disability pension system, improving the labour market reintegration of this group of jobseekers will become a key responsibility of the PES (Challenge 8), which will need better tools to identify and address health barriers of their clients and better mechanisms to cooperate with the health and rehabilitation authorities, among others (OECD, 2012n).

CHALLENGE 14: IMPROVING THE EVIDENCE BASE FOR THE DEVELOPMENT OF THE SKILLS SYSTEM

According to workshop participants this challenge includes the following aspects:

"Lack of data and analysis of future skills demand"

"Inadequate information: many labour market relevant qualifications are not included in education statistics"

"Education debates are often too ideological, not evidence-based"



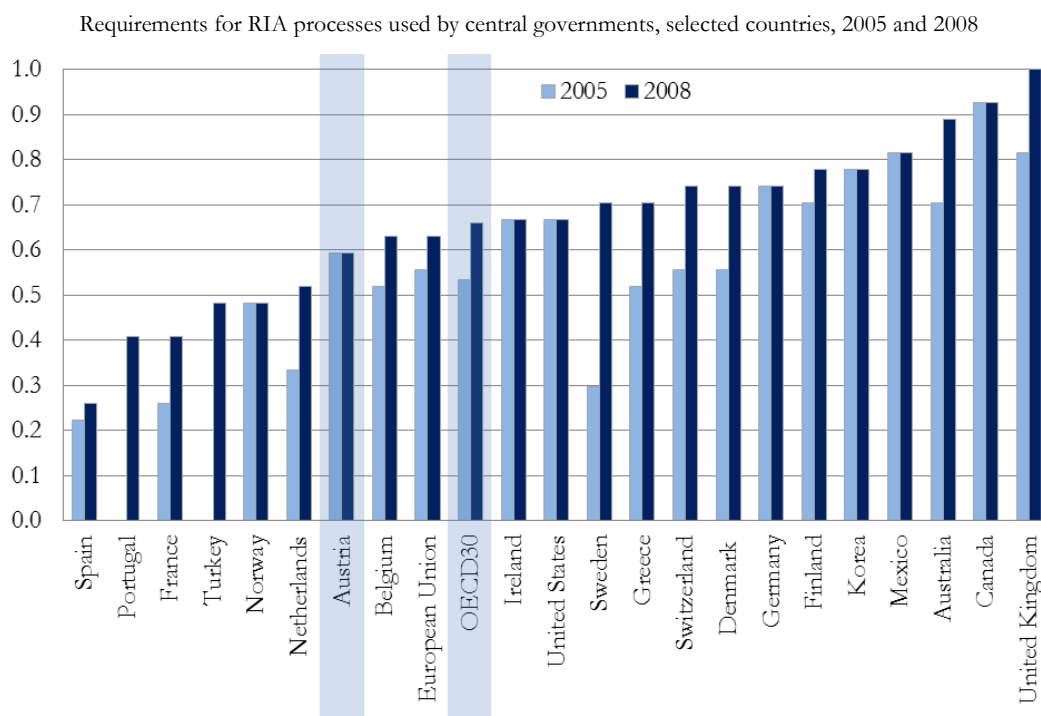
OECD comparative data and analysis:

Evidence-based policy making increases the legitimacy of public policy. The availability of relevant data and rigorous evaluation systems is a prerequisite for both the effectiveness and efficiency of policy design, a requirement for financial control and thus for efficient spending. However, the availability of data and evaluations can only be effective if policy processes are designed with a view to incorporating this evidence into decision-making. Evidence-based policy making should not be limited to the legislative decisions of the federal level. Various actors in a skills system can use data to understand skills challenges and to inform strategic as well as day-to-day decision making, comprising policy makers in regions and municipalities, leaders of institutions, including schools, higher education and adult education institutes as well as the employment service.

Compared to other countries with longer traditions of evidence-based policy making, Austria still faces major challenges in providing the relevant data and information necessary to evaluate performance in terms of both effectiveness and efficiency as well as in incorporating this information into its policy processes. The following non-exhaustive overview identifies three main challenges. First, the need to improve the data base at national and local levels; second, the effective use of this data in policy making, in particular with respect to Austria's fiscal equalisation system (see Challenge 14); third, the use of data gathered at the institutional level by education institutions and the employment service PES.

Evidence-based policy making is relatively new in Austria

In Austria, requirements for regulatory impact assessments are below the OECD average (Figure 52). Since 2001 the federal government is obliged to consider the effects of policy proposals in terms of their financial, economic, social, environmental, and consumer impacts when drafting or amending laws. Each legislative proposal has to include standardised supplementary sheets summarising the findings of the impact assessment. However, there are no common procedural rules and methodological guidelines such that the exercise has been described a "rough assessment" (Steiner and Wagner, 2008).

Figure 52. Austria has low requirements for regulatory impact assessment processes

Note: The indicators draw upon country responses to the OECD Regulatory Management Systems' Indicators Survey. Survey respondents were central government officials in OECD member countries. The composite index on requirements for RIA processes examines the extent to which OECD member countries have incorporated key elements featured in the OECD Guiding Principles for Regulatory Quality and Performance into their RIA systems at the central level of government. These key elements include: integrating RIA into the development, review and revision of significant regulations; supporting RIA with ex post evaluation to monitor quality and compliance; and ensuring that RIA plays a key role in improving the quality of regulation. It ranges between 0 (low level) and 1 (high level). The variables comprising the indexes and their relative importance are based on expert judgements. They are presented with the purpose of furthering discussion, and consequently may evolve over time.

Source: OECD (2009c), "Regulatory impact analysis", in *Government at a Glance 2009*, OECD Publishing, <http://dx.doi.org/10.1787/9789264067110-1-en>, based on OECD Regulatory Management Systems' Indicators Survey 2005 and 2008.

The lack of an effective evaluation system is a bottleneck to financial efficiency

Data collection and monitoring can help establish facts and collect evidence about the skills system, improve the quality of policies implemented, and contribute to more efficient resource allocation. Evaluating policy through ex-post impact analysis is necessary to ensure that regulations meet their policy objectives, remain up to date and do not impose unnecessary costs on business and citizens or on the government's fiscal framework (OECD, 2013o, p. 20).

Austria has recently adopted a new regulatory impact assessment system, which aims to compare objectives and expected impacts of regulations and policies with actual outcomes, within five years after their adoption. The results of this internal evaluation should subsequently be sent to a unit for "outcome controlling" within the Federal Chancellery. After their check for completeness and plausibility of the evaluation, it is then included in an annual report to Parliament (OECD, 2013o, p. 20, based on written communication with an Austrian government official, July 2012).

While most federally-funded programmes are regularly evaluated, state supported programmes have received far less scrutiny to date. The reasons for this gap are: first, the added complexity of evaluating state

and local programmes which often have a multiplicity of objectives; second, policy advocacy pressures that diminish the political commitment to evaluation; and third, resource constraints (OECD, 2004a, p. 29).

Particularly when it comes to pilot projects that are often run in provinces or at local levels, success and the potential expansion depend upon effective evaluation. Therefore all policy programmes, in particular pilot programmes, should already be designed with an eye to evaluation. Often observers and policy-makers are unable to state on what grounds they decide whether the ongoing project is a success or a failure and whether it is reasonable to expect that the project could also work in other regions or institutions as well. Therefore criteria for evaluation and the objectives of the programme or project need to be determined beforehand (compare Werquin, 2010, p. 84).

Box 36. Evaluating public services

United States, evaluation of the Public Employment Service: In contrast to most other countries, in the United States evaluations have become an integral part of many state and local employment welfare reform initiatives during the 1990s. This has been a result of the federal agreement to grant state waivers to change aspects of federal programming conditional upon evaluations of social programmes. Training evaluations in the United States are essentially seen through the lens of net impact evaluations which compare mean outcomes of a representative sample of programme participants to a similar sample of non-participants. The evaluation design is typically by random assignment of individuals or a comparison sample selection based on observable characteristics in a quasi-experiment. In the case of job training, such evaluations also consider and adjust for an over-estimate of net programme impacts due to the “Ashenfelter dip” observed in earnings prior to job separation for dislocated workers.



Source: OECD (2004), *Evaluating Local Economic and Employment Development: How to Assess What Works among Programmes and Policies*, Local Economic and Employment Development (LEED), OECD Publishing., p. 30, <http://dx.doi.org/10.1787/9789264017092-en>.

Data collection should be better coordinated and linked to financial data

Effective data collection must be strategic and maintain high standards of reliability over time across multiple data collectors and geographical regions (compare OECD, 2012g, p. 289). For example, statistical offices need to cooperate to link different data sources such as education-data with workforce data and to enable longitudinal data collection, which is often a very powerful tool to understand why certain target groups encounter barriers.

In addition, Austria faces the particular challenge of linking school data with financial data for financial planning purposes. The information flows between the *Bundesländer* and the federal level could be significantly improved. As a result, the federal level has very limited information to steer education policies and lacks the information to decide and control whether financing is being used efficiently (see Challenge 12; Lassnigg, et al., 2007, p. 181).

Austria lacks a strategic approach which is responsive to local and institutional conditions

Tackling local and institutional challenges requires the disaggregation of data at the regional and institutional level but also the capacity of all authorities to make use of the information.

Institutions should have both formal national level data (such as standardised tests) and institution-based data, e.g. school-based data (such as report cards, teacher reports of annual progress, school records of behaviour, attendance, etc.). It is important that the data reflects the contribution that the individual institutions, such as schools, universities, employment services make. For example value-added modelling allows data users to separate the contribution of schools and teachers to student performance from contextual factors that are outside the control of classrooms (OECD, 2008a). At the institutional level, the subjects, grades and groups of students can be identified to highlight where the school is adding most value, and where

improvement is needed. In addition, institutions need strategies for the analysis and use of this data for school and classroom decision-making (OECD, 2012i, pp. 123-124). Similar approaches could be applied for other relevant public service providers, such as the local public employment services (PES).

Evaluation is a technical and specialised discipline. Knowledge of economics, statistical theory and data characteristics are critical to rigorous evaluation. As is the case in many other OECD countries, the capacity to conduct evaluation at the subnational level may be limited.

One way to bridge capability gaps would be to form evaluation partnerships with, and draw on expertise available in, academic institutions. Local authorities might also create evaluation partnerships through, or with, national associations of local governments. Such intergovernmental partnerships can help to disseminate evaluation findings among subnational bodies and secure competent technical advice (OECD, 2004a, p. 45). It is also a good approach of some countries to not only focus on better data availability but also on awareness raising and on promoting professional development to ensure all relevant actors know how to access and use data (see for example the US Data Quality Campaign, Box 37).

Box 37. Improving the evidence base on skills



Australia, Collecting survey data to inform government, employers and the community: The Household, Income and Labour Dynamics in Australia Survey, which began in 2001, captures the employment experiences of working-age individuals as they relate to labour-market forces, household consumption and social interactions. The Longitudinal Survey of Australian Youth (LSAY), which began in 1995, follows a cohort completing post-compulsory schooling at age 15 through their transitions to tertiary education and training and into the labour market up to age 25, providing insights into how and where these young people acquire skills. The government has also set up a Skills Info Portal (www.skillsinfo.gov.au/) and a Labour-Market Information Portal (www.deewr.gov.au/lmip/) that allows policy makers, industry (employers) and the community (workers, students, etc.) to make informed decisions on policy, workforce planning and current and future training and job prospects.

Denmark, Gathering longitudinal data on the integration of immigrants: Available data in Denmark (as in the other Nordic countries) permit a wide range of studies with respect to integration and intergenerational transmission, but also regarding programme evaluation. In 1968, social security numbers were introduced in Denmark, and a Central Population Register (CPR) was established on the basis of such numbers. The CPR numbers are used as personal identification numbers, and a wide range of individual-level information is submitted to Statistics Denmark in different registers. These registers contain information on the entire Danish population, as all residents in Denmark are assigned such a number. Through this number, different register data sets can be linked, including *inter alia* data on immigration, education, employment, and programme participation (e.g. with respect to language courses or activation measures). This makes it possible, for example, to follow the integration process of immigrants over time. Since knowledge of the register number of a person's parents is also available, the integration of the second generation can also be studied (Liebig, 2007).

The Netherlands, Using data for school and student improvement: An important source for research and monitoring is the Personal Identification Number (PGN), which has been issued to every child in the country over the age of 3½. Commonly referred to as the education number, it is the same as the tax and social insurance number. Schools pass on the PGN together with certain other data on pupils to other schools, as the child progresses through education. These data are increasingly used for purposes such as monitoring pupils' school careers, school attendance or dropout. The PGN is very useful in the action plan against dropout, because it offers complete and reliable figures on rates nationally, regionally and at municipal and district levels. All schools in secondary education are expected to register absenteeism, disengagement and dropout, and a monthly report is available to municipalities and schools to allow them to give priority to those at risk. These data are also linked to socio-economic data (including demographics, native Dutch citizens, ethnic minorities, unemployment, people entitled to benefits, etc.) by region, city and district, which provides a wealth of information for implementing and adjusting policy. This monitoring of results enables the authorities to assess what works and what doesn't, and therefore to disseminate good practices (Akkerman, 2011; OECD, 2012i, p. 124).

Box 37. Improving the evidence base on skills (continued)

United States, the Data Quality Campaign encourages and supports state policy-makers to improve the availability and use of high-quality education data. The campaign provides tools and resources that help states implement and use longitudinal data systems (OECD, 2011g, p. 287). The campaign aims at a better data collection for the “effective use in the statehouse, in the district office, in the classroom, and at the kitchen table” (DQC, 2013). The initiative comprises 10 State Actions to Ensure Effective Data Use: Link data systems; Create stable, sustained support; Develop governance structures; Build state data repositories; Implement systems to provide timely access to information; Create progress reports using individual student data to improve student performance; Create reports using longitudinal statistics to guide system-wide improvement efforts; Develop a P–20/workforce research agenda; Promote educator professional development and credentialing; and promote strategies to raise awareness of available data (DQC, 2013).

Sources: Liebig, T. (2007), The Labour Market Integration of Immigrants in Denmark, OECD Social, Employment and Migration Working Papers No. 50, OECD Publishing, <http://dx.doi.org/10.1787/233783261534>; Akkerman, Y. (2011), Overcoming School Failure: Policies that Work, Background Report for the Netherlands, Ministry of Education, Culture and Science, Den Haag; OECD (2012i), Equity and Quality in Education: Supporting Disadvantaged Students and Schools, OECD Publishing, <http://dx.doi.org/10.1787/9789264130852-en>; OECD (2011g), “Advancing data collection, research and monitoring”, in Starting Strong III: A Quality Toolbox for Early Childhood Education and Care, OECD Publishing, <http://dx.doi.org/10.1787/9789264123564-8-en>; DQC (2013), Data Quality Campaign, www.dataqualitycampaign.org/your-states-progress/10-state-actions/.

NEXT STEPS

Moving from diagnosis to action

This diagnostic report encapsulates the key findings of the diagnostic phase which was completed in 2013 and is a key deliverable of the OECD-Austria collaborative project on “Building an effective skills strategy for Austria”. The OECD Skills Strategy Diagnostic Toolkit has proved useful as a framework for engaging a wide range of stakeholders in far-reaching discussions of the skills challenges facing Austria today and in the future.

The report highlights the breadth of the skills challenges ahead. Effective and integrated policy responses will need to weave together measures from such diverse fields as education and training, employment, migration and integration, economy, tax, local economic development, research and innovation.

Policy-makers can build upon these shared insights to generate options for concrete actions to meet Austria’s future skill needs. Maximising Austria’s skills potential and improving the match between supply and demand for skills is an endeavour which goes well beyond the capacity of government alone. Designing and implementing effective skills policies will require collaboration among many public actors at the national level as well as cooperation with the *Bundesländer* and local authorities. Building a strong skills system for Austria will also depend upon the ongoing involvement of key stakeholders including employers, trade unions, students and teachers.

Above all, it will require a shared commitment across government ministries and social partners, to build a responsive and resilient skills system which fosters Austria’s competitiveness, social cohesion and high standards of living for all.

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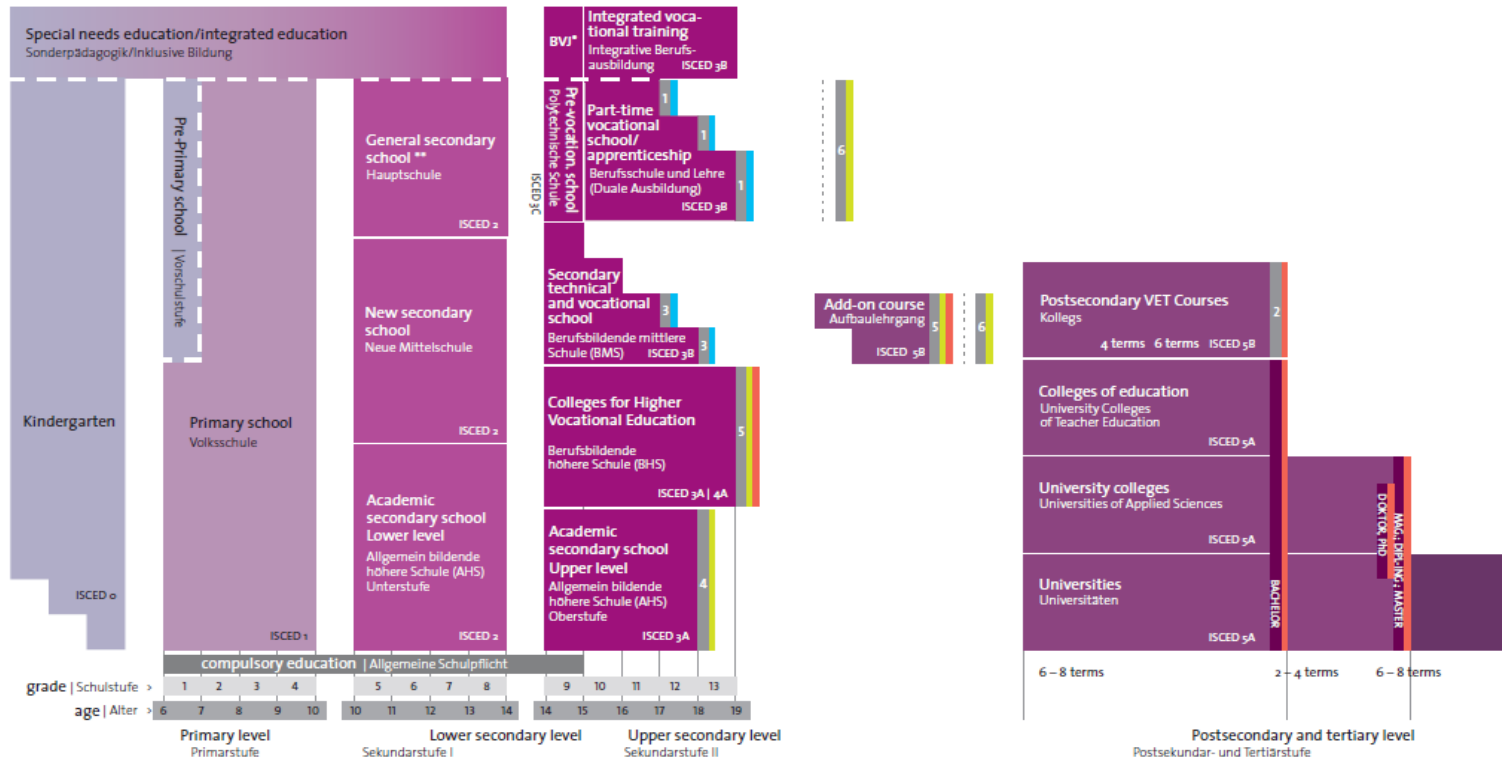
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ANNEX THE AUSTRIAN EDUCATION SYSTEM

The Austrian Education System

Das österreichische Bildungssystem



Key Education System Legende des Bildungssystems

Status: March 2013

- 1 Apprenticeship examination | Lehrabschlussprüfung
- 2 Diploma examination | Diplomprüfung
- 3 Leaving examination | Abschlussprüfung
- 4 Matriculation examination | Reifeprüfung
- 5 Matriculation and diploma examination | Reife- und Diplomprüfung
- 6 Higher education entrance examination (also including "apprenticeship diploma plus the upper secondary certificate") | Berufsreifeprüfung/Studienberechtigungsprüfung (inklusive Lehre mit Matura)

- Initial vocational qualification | Berufliche Erstqualifikation
- General higher education entrance qualification | Allgemeiner Hochschulzugang
- Higher-level vocational qualifications | Höhere Berufsqualifikation

- * Pre-vocational year | Berufsvorbereitungsjahr
- ** All lower secondary schools will be transformed into new secondary schools by 2015/16
Bis 2015/16 entwickeln sich alle Hauptschulen zu Neuen Mittelschulen

ISCED = International Standard Classification of Education

OECD Skills Strategy Diagnostic Report Austria

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.pisa.oecd.org for the Programme for International Student Assessment (PISA) data, and
- skills.oecd.org/ for OECD work on skills.

Further reading

OECD (2012), *Better Skills, Better Jobs, Better Lives: A Strategic Approach to Skills Policies*, OECD Publishing.

OECD (2013), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing.