Getting Skills Right

Future-Ready Adult Learning Systems

OECD

Getting Skills Right: Future-Ready Adult Learning Systems

OECD
BETTER POLICIES FOR BETTER LIVES

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Foreword

The world of work is changing. Digitalisation, globalisation and population ageing are having a profound impact on the type and quality of jobs that are available and the skills required to perform them. The extent to which individuals, firms and economies can reap the benefits of these changes will depend critically on the readiness of adult learning systems to help people develop and maintain relevant skills over their working careers.

To explore this issue, the OECD has undertaken an ambitious programme of work on the functioning, effectiveness and resilience of adult learning systems across countries. This includes the creation of the Priorities for Adult Learning (PAL) Dashboard for comparing the readiness of each country's adult learning system to address future skill challenges. Seven dimensions are distinguished, namely: i) urgency, ii) coverage, iii) inclusiveness, iv) flexibility and guidance, v) alignment with skill needs, vi) perceived training impact, and vii) financing of adult learning.

This report presents the results from the dashboard and identifies those areas for each country where action is needed to improve the future-readiness of its adult learning system. The type of action that should be taken is illustrated throughout the report by policy examples from OECD and emerging countries.

Data for the dashboard and report are derived from a variety of quantitative and qualitative data sources, including the OECD Survey of Adult Skills (PIAAC), the European Continuing Vocational Training Survey, and the European Adult Education Survey. Qualitative information, including on recent policy initiatives, is based on questionnaire responses from 35 OECD countries and four non-member countries provided by the relevant ministries and social partners, as well as the wider literature.

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Acronyms and abbreviations

AES	Adult Education Survey
ALMP	Active Labour Market Programme
CVTS	Continuing Vocational Training Survey
HPWP	High Performance Work Practices
ILA	Individual learning Accounts
OECD	Organization for Economic Cooperation and Development
PAL	Priorities of Adult Learning
PES	Public Employment Service
PIAAC	Programme for the International Assessment of Adult Competencies
SAA	Skills Assessment and Anticipation
SME	Small and Medium-sized Enterprise
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization

Executive summary

The world of work is changing. New technologies, globalisation, and population ageing are having a profound impact on the type and quality of jobs that are available and the skill-sets they require. For instance, the number of manufacturing jobs has decreased in advanced economies in the past decades, and an increasing number of the remaining jobs in this sector now require the ability to operate, monitor and maintain advanced industrial robots. At the same time, new jobs requiring new combinations of skills have emerged, such as data scientists, web developer or social media manager. Further changes are expected in the future. For example, the latest OECD research suggests that, should current cutting-edge technology become widespread, 32% of current jobs across the 32 countries analysed are likely to see significant changes in how they are carried out and a further 14% of jobs could be completely automated.

The extent to which individuals, firms and economies can harness the benefits of these changes critically depends on the readiness of each country's adult learning system to help people develop and maintain relevant skills over their working careers. Yet, many adult learning systems are insufficiently prepared for the challenges ahead. Only two-in-five adults (41%) participate in education and training in any given year, according to data from the OECD Survey of Adults Skills (PIAAC). Participation is especially low amongst those most in need of upskilling and reskilling. Adults with low skill levels, for example, are three times less likely to participate in training than those with high-level skills (20% v. 58%). Further, in many countries adult learning does not systematically prepare people for the changing skill demands of the labour market.

Against this backdrop, the OECD has developed a new dashboard on Priorities of Adult Learning (PAL). The dashboard facilitates cross-country comparisons on the "future-readiness" of adult learning systems across OECD countries. It presents a set of internationally comparable indicators along seven dimensions: i) urgency, ii) coverage, iii) inclusiveness, iv) flexibility and guidance, v) alignment with skill needs, vi) perceived training impact, and vii) financing. PAL focuses on adult learning that is job-related, i.e. adult education and training that is expected to have some effect on performance and productivity at work.

This report accompanies the PAL dashboard. It provides an overview of the data; highlights key emerging challenges in each of its dimensions; and presents examples of interesting policy initiatives. Key findings include:

- *Many countries are facing pressing skill challenges, but have adult learning systems that are under-prepared to address these.* Structural changes of the economy, globalisation and population ageing increase the need for timely investment in adult learning. While some countries with more urgent skill challenges, e.g. Italy, Portugal, Slovenia and Spain, have comparatively well-prepared adult learning systems, other countries are lagging behind, e.g. Greece.

- *No adult learning system is perfect and all countries face challenges.* According to the dashboard, no country is consistently amongst the top performers across all dimensions of future-readiness. Denmark and Norway perform well across most dimensions, yet each country still faces unique adult learning challenges. In Norway, the perceived impact of training is comparatively low and the country only performs average in terms of financing. Denmark lags behind the top performing countries when it comes to the coverage and perceived impact of their adult learning system.
- *Even when countries perform relatively well in one area, there is room for improvement*. For example, the three countries with the best performance on the inclusiveness dimension still have a 10 percentage point participation gap between disadvantaged and more advantaged groups on average.
- *Financial constraints are only one of many barriers to a future-ready adult learning system.* Data from the dashboard suggests that even where countries score high on the financing dimension, this does not automatically translate into achieving well on the other dimensions. The exception is Denmark, which has a well-financed adult learning system that is very inclusive, flexible and aligned with labour market needs. By contrast, Japan and Korea perform very well on the financing dimension but fail to achieve high scores on most other dimensions.

The report also sets out a comprehensive policy agenda to increase the future readiness of each country's adult learning systems: i) The coverage and inclusiveness of adult learning must be improved by helping adults make informed choices, tackling barriers to participation and encouraging employers to offer training; ii) Training content should more strongly align with the skill needs of the labour market by collecting and making use of skill assessment and anticipation information; iii) The quality and impact of training provision must be improved by assessing the quality of providers, making quality information publicly accessible and encouraging the use of work organisation practices which raise returns to training; iv) Adequate and sustainable financing should be put in place, including through public funding and incentives for employers and individuals to contribute; and v) Governance mechanisms must be strengthened to improve vertical and horizontal coordination between different actors involved in the adult learning system.

The report is divided into six chapters. Following an overall assessment and policy directions, Chapter 1 makes the case for future-ready adult learning systems and discusses the drivers behind the need for more and better adult learning. Chapter 2 focuses on the prerequisite of high and inclusive participation. Chapter 3 discusses how well adult learning systems are aligned with the skill needs of the labour market. Chapter 4 focuses on how to ensure that training has the desired impact, while adequate financing of the system is discussed in Chapter 5. Finally, Chapter 6 describes coordination mechanisms adopted in many countries to improve the future-readiness of adult learning systems. Detailed results from the PAL dashboard and its methodology are available online and in the annex.

To shed further light on what works best, three booklets presenting good practices are published alongside this report. They focus on: engaging adults with low skills in training; improving the alignment of training with the skill needs of the labour market; and involving employers and unions in the design, provision and assessment of training programmes.

Assessment and policy directions

Key results from the dashboard

The PAL dashboard shows that no country ranks consistently high in every measured dimension of the performance of its adult earning system (Table 1) and there is also room for improvement in every country in each dimension.

Challenges differ, but no adult learning system is perfect

Denmark and Norway, for example, are top performers in multiple dimensions, but fall short in at least one dimension. Both of them perform less well when it comes to the perceived impact of their adult learning provision on skills and employment outcomes. Additionally, Denmark lags behind top-performing countries when it comes to the coverage of the adult learning system and Norway when it comes to financing.

Greece, Japan and the Slovak Republic rank among the low performers in most of the dimensions covered by the PAL dashboard. This suggests a need for significant changes to ensure that their adult learning systems are well equipped to address future skill challenges. All three countries have comparatively low scores for the coverage, flexibility and alignment of their adult learning systems.

But even countries that perform well compared to their peers have scope to improve the readiness of their adult learning system. For example, the three countries with the best performance on the inclusiveness dimension (Denmark, Greece and Slovenia) still have a 10 percentage point participation gap between disadvantaged and more advantaged groups on average.

Some countries are not ready to tackle their urgent skill challenges

One might expect that countries more exposed to the megatrends shaping the world of work would have put in place adult learning systems that are well prepared to tackle future skill challenges. However, this is not always the case. In some countries, such as Greece, structural changes, globalisation and population ageing make investments in adult learning particularly urgent. However, Greece's adult learning system performs relatively poorly across several dimensions of the PAL dashboard. By contrast, in other countries, such as Portugal, a high urgency to make investments in adult learning is met with better performance across the dimensions of the dashboard thanks to significant efforts to expand and develop the adult learning system in recent years.

More generally, trends in coverage of adult learning show clear improvements in the last few years, suggesting that the rhetoric of broadening lifelong learning is translating into action on the ground even if further progress is required. The share of adults participating in formal or non-formal job-related training increased in the vast majority of OECD countries. Similarly, in most countries the share of firms providing training is on the rise. In some countries – e.g. Italy, Portugal and Spain – the share of firms providing training

almost doubled over the past decade, although from a low starting point. Significant increases can also be observed in Poland, Lithuania and the Slovak Republic. These trends show that individuals, employers and governments are starting to take action to address the growing need for training.

Table 1. PAL dashboard results

Light blue indicates high performance, dark blue indicates low performance in each dimension

Country	Urgency	Coverage	Inclusiveness	Flexibility	Impact	Alignment	Financing
Australia							
Austria							
Belgium							
Canada							
Chile							
Czech Republic							
Denmark							
Estonia							
Finland							
France							
Germany							
Greece							
Hungary							
Ireland							
Israel							
Italy							
Japan							
Korea							
Latvia							
Lithuania							
Luxembourg							
Netherlands							
New Zealand							
Norway							
Poland							
Portugal							
Slovak Republic							
Slovenia							
Spain							
Sweden							
Switzerland							
Turkey							
United Kingdom							
United States							

Legend
- Top third of countries
- Mid third of countries
- Bottom third of countries
- N.A.

Notes: High performance in the urgency dimensions refers to low urgency
Source: See Annex B and C for details on data sources and methodology.

Financial constraints are only one of the barriers to high-performing systems

The financing sub-indicators provide a picture of the amount of funding available for adult learning as well as individuals' and businesses' perceptions as to whether this funding is sufficient. Cross-country patterns in this dimension highlight how financial constraints are only one of the barriers for countries to put in place high-performing adult learning systems. In fact, of the top performing countries in the financing dimension, only Denmark has an adult learning system that is very inclusive, flexible and aligned with labour market needs.

There is considerable room for improving the impact of training

The impact of training participation is a critical dimension but one in which even some of the best adult learning systems tend to fail. Measuring the impact of training is difficult, especially in an internationally comparable way. The perceived impact sub-indicators include measures of self-reported usefulness and effectiveness of training and wage returns. Denmark, Norway and Sweden – three countries performing relatively well across the board – are all lagging behind other countries when it comes to perceived training impact. At the same time, the results show that it is possible to achieve good impact, while also achieving high coverage and inclusiveness of the adult learning system. This is the case, for example, in New Zealand.

Setting out the policy agenda

All countries can do better in improving the future readiness of their adult learning systems. While the exact mix of measures to take and the priorities for policy action will differ across countries, some general policy directions can be identified in the broad areas of: inclusiveness; aligning adult learning with skill needs; the quality of training; financing; and governance.

Adult learning systems should be more inclusive

In a changing world of work, increasing everyone's engagement in adult learning is key to their sustained social and economic inclusion. It is also critical to ensure that firms have access to the skills they need to stay competitive. Yet, today, only about 40% of adults in OECD countries participate in adult learning in a given year. Some of this training involves only few hours of instruction and is not well aligned with emerging skill demands. Moreover, there are certain groups of adults who participate much less in adult learning activities than others. For example, across the OECD, the participation of adults with low skill levels in adult learning is 23 percentage points lower than for those with medium and higher skills. In the context of rising skill demands, failing to engage these workers in training could translate in higher rates of long-term unemployment. Improved information and guidance on adult learning, flexible learning provision and the recognition of prior learning are some of the measures that can be taken to improve coverage and inclusiveness.

Greater alignment with changing skill needs is needed

In addition to ensuring high coverage and inclusiveness, adult learning systems also need to be well aligned with labour market needs. To achieve this, it is important that they provide the right skills and reach workers most at risk of job loss. Yet on average across the OECD only two in three firms assess their future skill needs and those who do, do not

always align their training policy with this analysis. To improve the alignment of adult learning with the skill needs of the labour market, it is essential that high-quality information on skill needs is available and feeds into adult learning policies.

Training provision must be of high quality to have the desired impact

For adult education and training to be useful for individuals, firms and societies, the training provision should be of high quality. Good information on the quality of training programmes and providers is essential to help individuals and employers make informed decisions on adult learning. However, many countries lack adequate quality control mechanisms at different levels of the adult learning system. Further, training activities do not always lead to the desired results and only two-thirds of training participants think training helped them achieve positive employment outcomes. Setting and monitoring quality standards, ensuring that training leads to certification, and regular evaluation of adult learning programmes, can support high quality adult learning systems.

Adequate and sustainable financing is required

Adult learning systems need adequate and sustainable financing to function well**.** While there is no benchmark for a sufficient level of financing, what is certain is that adult learning currently receives less funding compared to other education areas. Moreover, in the context of the economic crisis and constrained government budgets, many countries report declining public investments in adult learning. This suggests that in the future other actors – employers, individuals – may be called upon to contribute further to the cost of training in line with the benefits they obtain. In this context, governments can design financial incentives for individuals and/or employers to encourage greater investment in training.

Good governance mechanisms must be in place

Finally, adult learning is a complex policy field, which encompasses programmes designed to pursue a variety of objectives and reach different target groups. As a result, the responsibility for adult learning is often split across several ministries, the social partners and other stakeholders, and encompasses different levels of government. In this context, good coordination mechanisms are essential to ensure that policies do not duplicate, but reinforce each other.

Key policies to improve the future-readiness of adult learning systems

The PAL dashboard suggests that there is significant room for improving the future readiness of adult learning systems across countries. Governments can employ a range of policy levers to address this challenge by:

Coverage and inclusiveness

- *Enabling adults to make informed choices about education and training* by promoting the benefits of adult learning, providing high quality information and individualised advice and guidance services.
- *Addressing barriers to participation* through flexible training provision, statutory education and training leave, financial incentives and the recognition of prior learning amongst others.
- *Providing targeted support* to increase the participation of underrepresented groups, such as adults with low skills, the unemployed, migrants and older adults.
- *Encouraging employers' engagement* in adult education and training through: better information about the benefits of training and the availability of training opportunities; building capacity to offer training; and the provision of financial incentives when the level of training is sub-optimal.

Alignment

- *Collecting and using high quality skills assessment and anticipation information* to align adult learning policy more strategically with labour market needs.
- *Steering individuals and providers' training choices towards skills in demand* by providing labour market information and guidance, setting targeted incentives, and offering training options that are in line with skill needs.
- *Designing targeted programmes* for adults whose skills are likely to become obsolete in the future, such as those working in sectors undergoing structural change.

Impact

- *Collecting information* about the effectiveness of training providers and programmes by defining quality criteria and monitoring and evaluating results.
- *Building the capacity* of providers to implement quality assurance systems.
- *Certifying and awarding quality labels* to providers meeting specified quality criteria.
- *Sharing information on quality and effectiveness* of programmes and providers to help individuals, employers and institutions make informed choices about training investments.
- *Encouraging the use of high-performance work practices* to put skills to fuller use at the workplace.

Financing

- *Ensuring adequate public financing* of adult learning systems in line with the social benefits that are generated.
- *Incentivising employers to contribute* to the financing of adult learning through training levies, tax incentives and subsidies when there are suboptimal investments in training.
- *Incentivising individuals to contribute* to the financing of adult learning through training subsidies, tax incentives and loans, as well as paid training leaves and individual training accounts.

Governance and co-ordination

- *Improving vertical coordination between different levels of government*, for example by setting clear leadership and governance arrangements between national, regional and local governments.
- *Strengthening horizontal coordination between different ministries*, for example by establishing inter-sectoral bodies, embedding cross-ministry coordination mechanisms in legal frameworks, and setting up regular meetings across different ministries involved in adult learning.
- *Increasing cooperation between the government, the social partners and other stakeholders*, for example, by involving stakeholders in the design/update of the adult learning legal framework, developing tripartite agreements, establishing formal procedures for consultation with stakeholders in the legal frameworks, and/or developing committees, councils, advisory bodies or fora to establish a structured dialogue with stakeholders.
- *Enhancing policy coherence through adult learning strategies*. The strategies could identify policy priorities in adult learning, establish measurable (quantitative) targets to be achieved within predefined deadlines, allocate dedicated budgets for the implementation of adult learning strategies, and develop clear monitoring mechanisms to keep track of progress.

Chapter 1. More and better adult learning for a changing world of work

The world of work is changing and the ability of individuals, firms and economies to reap the benefits of these changes will depend critically on the ability of individuals to maintain and acquire new skills throughout their working lives. Adult learning systems have a key role to play in supporting individuals in this process. While all countries will have to step up their efforts to improve the future-readiness of their systems, some countries are facing a greater urgency than others. Low adult skill levels, as well as demographic and structural changes are increasing the pressure on adult learning systems to get ready for the future. This chapter looks at the driving forces behind the urgency for each country to take action.

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1.1. Adult learning systems as a key lever to address skill challenges

New technologies, digitalisation, globalisation and population ageing are changing the quantity and quality of jobs that are available and the skill-sets they require. To reap the benefits of these changes, skill development systems must be future-ready, i.e. ready to support people in acquiring and maintaining the relevant skills needed in a changing world of work.

Given that the majority of people affected by these changes are already in the workforce, adult learning systems play a key role in up- and re-skilling to meet new skill needs. Yet, this is also where the challenge lies. Today as in the past, adult learning remains the "weak link in the lifelong learning agenda" (OECD, 2005[1]). In many countries adult learning systems lack focused policy attention and resources, putting in doubt their readiness to address future skill challenges. In contrast, countries with advanced adult learning systems have understood their usefulness in supporting economic and social adjustment processes (Desjardins, 2017[2]).

A key challenge is that adult learning systems are difficult to define and delineate. They consist of a range of sub-systems with different actors, objectives, inputs, activities and degrees of organisation, ranging from opportunities to acquire formal basic and general education, through non-formal learning in the workplace, to leisure-oriented liberal adult education[1] (Desjardins, 2017[2]). Each of these sub-systems has further overlaps with other areas, such as initial education or wider labour market policy. Future-ready adult learning systems therefore require improving the readiness of all elements of the system, and improved coordination between them, to prepare people for the future world of work.

This report focuses on adult learning that is job-related, i.e. adult education and training that is expected to have some effect on performance and productivity at work. Job-related adult learning subsumes: 1) formal education and training, which leads to a formal qualification; 2) non-formal education and training that doesn't necessarily lead to formal qualifications, such as structured on-the-job training, open and distance education, courses and private lessons, seminars and workshops; and 3) informal learning, i.e. unstructured on-the-job learning, learning by doing or learning from colleagues.

1.2. Urgency – results from the PAL dashboard

The PAL dashboard identifies the main drivers behind the degree of urgency for adult education and training, including current skill levels, demographic change, automation and structural change, and globalisation. The full set of indicators used to assess the urgency of training need across countries is shown in Table 1.1.

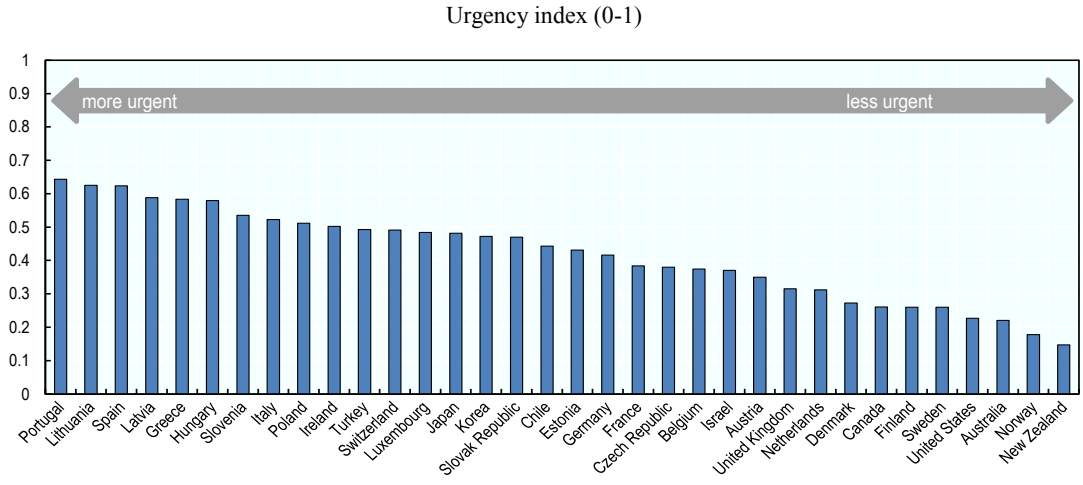
Table 1.1. Urgency – PAL indicators

	Adult skills		Population ageing	
Urgency	**Numeracy and/or literacy skills**	% of adults with low literacy and/or numeracy proficiency (0/1 level)	**Old-age dependency ratio 2015**	Population aged 65+ as % of population aged 15-64, 2015
	Problem-solving skills	% of adults with low problem-solving skills in technology-rich environments	**Old-age dependency ratio 2050**	Population aged 65+ as % of population aged 15-64, 2050
	Automation and structural change		**Globalisation**	
	Risk of automation	% of workers facing a significant risk of automation (>50%)	**Trade openness**	Total trade (export + import) as a % of GDP
	Structural change	Lilien index (structural change over last 10 years – sectors)	**Trend in trade openness**	10-year change in total trade (export + import) as a % of GDP
	/	/	**Workers engaged in meeting foreign demand**	% of business sector jobs sustained by foreign final demand
	/	/	**Trend in workers engaged in meeting foreign demand**	10-year change in the % of business sector jobs sustained by foreign final demand

Note: See Annex B for details on the data sources used for each indicator.

The PAL dashboard suggests that there are large differences between countries in the urgency of getting their adult learning systems ready for the future (Figure 1.1). Across the different sub-dimensions, the highest urgency can be observed in Portugal, followed by Lithuania and Spain. The lowest levels of urgency are observed in Australia, New Zealand and Norway. It should be noted however that levels of urgency are relative and even countries with low scores may still have strong reform needs. The following sections describe the performance of countries on specific indicators.

Figure 1.1. Results of the Urgency dimension



Note: The index ranges between 0 (least urgent) and 1 (most urgent). Switzerland was excluded due to missing data.
Source: OECD. See Annex B and C for details on data sources and methodology.

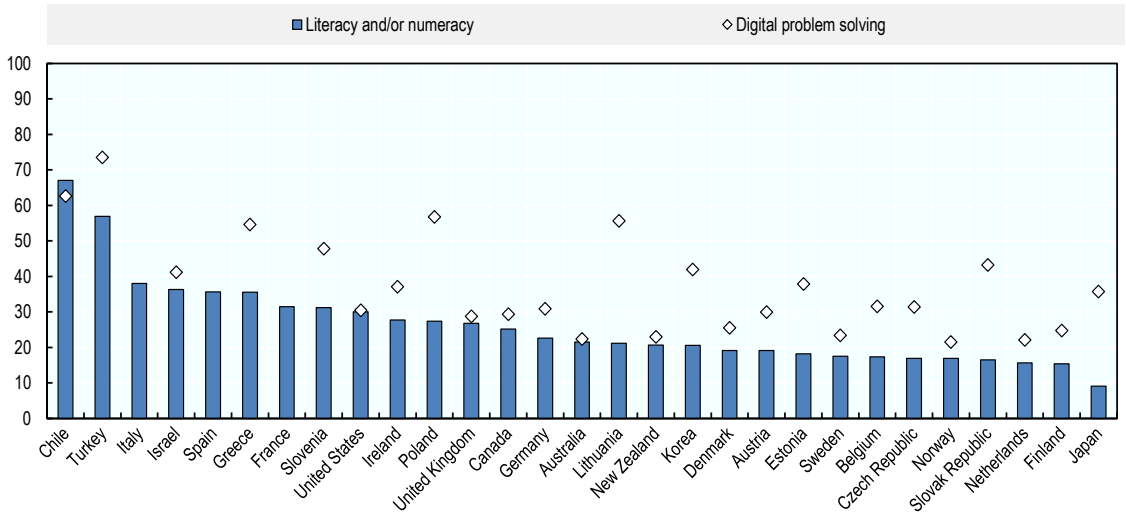
1.2.1. Adult skills

Current adult skill levels are one of the key drivers behind the need for future-ready adult learning systems. A high-skilled workforce is essential for firms and countries to reap the benefits of technological advances and take advantage of possibilities to move up global value chains. Better skills are also important to protect adults from any potentially negative effects of automation and globalisation, notably by enabling participation in lifelong learning. Despite the importance of up-skilling adults with low skills, this group is heavily under-represented in adult learning (see Chapter 2), not least because they do not meet basic entry requirements. In addition, low-skilled adults are often not employed in a standard full-time employment relationship making access to training more difficult (OECD, Forthcoming[3]). Improving basic skills has the potential to put adults on a virtuous circle of further skills acquisition through their work lives.

Therefore, the dashboard includes indicators of the proportion of adults who lack basic skills in different countries (Figure 1.2). On average across the countries for which data is available, 26% of adults are able to complete only very basic reading and/or mathematical tasks. An even higher number (37%) of adults have no or very limited skills in using digital technology and communication tools to navigate and solve problems in their everyday life (so-called digital problem solving skills). In both of these dimensions, Chile and Turkey are outliers with particularly high proportions of adults with low skills and in need of up-skilling opportunities. They are followed – with some gap – by a number of Mediterranean countries. At the other end of the spectrum, Japan displays the smallest share of adults with low literacy and/or numeracy skills (9%), while Norway has the smallest share of adults with low digital problem solving skills (22%). This illustrates that all countries have a sizable population of adults with low basic skill levels, although with considerable differences in the size of the challenge they face.

Figure 1.2. Adults with low basic skill levels

% of adults aged 25-64

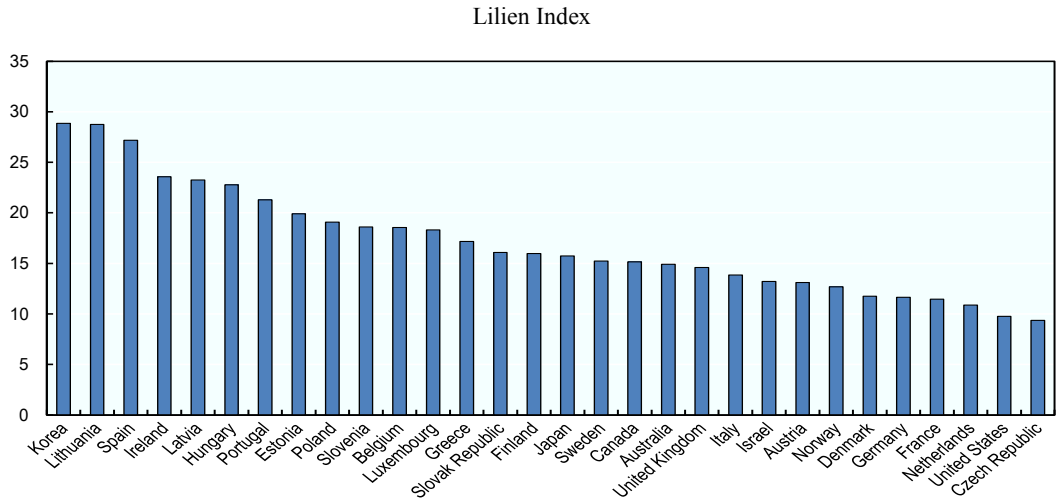


Note: Adults scoring at or below level 1 in literacy and/or numeracy. Digital problem solving refers to adult with no computer experience, who failed the ICT core test or scored at level 1 or below in PIAAC's problem-solving in technology-rich environments. Belgium refers to Flanders only, United Kingdom to England and Northern Ireland.
Source: PIAAC (2012, 2015).

1.2.2. Automation and structural change

Structural change creates employment opportunities in some occupations and industries and decreases opportunities in others, and thereby changes the types of skills that are needed in the labour market. In the past decade, some countries have seen their economies transform more rapidly than others, implying a greater need to re-train workers. The dashboard captures these changes through the Lilien index, which measures the extent to which employment in different sectors of the economy grows or shrinks at different speeds (OECD, 2012[4]). The higher the score on the Lilien index, the more profound the transformation of the economic structure between 2005 and 2015. Figure 1.3 shows that Ireland, Korea, Lithuania and Spain have experienced the biggest changes over the past decade, while a number of countries have seen relatively small changes to their employment structure, including the Czech Republic, the United States and the Netherlands.

Figure 1.3. Structural change 2005-2015

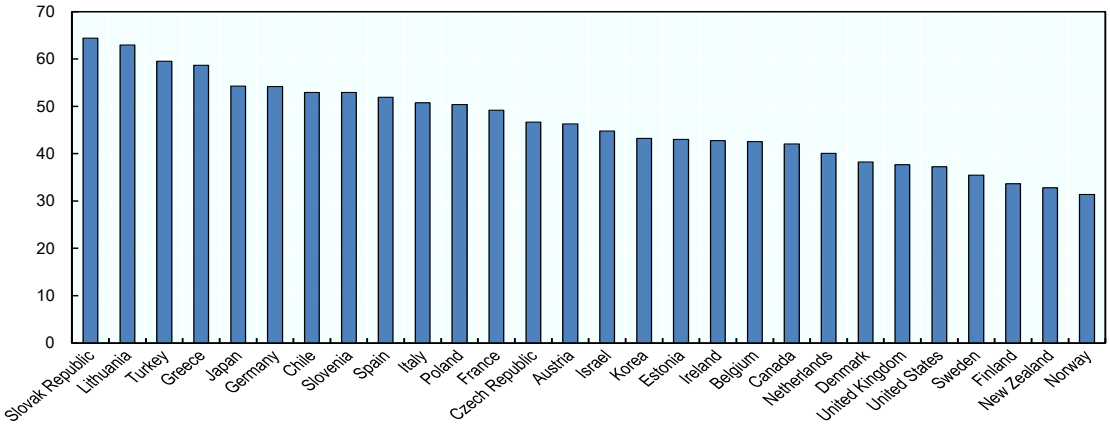


Source: OECD calculations based on *OECD national accounts database*.

For many countries, the biggest changes to their economic structure may be yet to come. There is a vibrant public debate about the impact of technology on jobs in the future. It is likely that cutting-edge technology will be able to automate more and more complex tasks at accelerating speed, fundamentally changing the skills that are required for many jobs. Some jobs may even become entirely redundant. Recent OECD research suggests that, should current cutting-edge technology become widespread, 32% of jobs across the 32 countries analysed are likely to see significant changes in how they are carried out and a further 14% of jobs could disappear altogether (Nedelkoska and Quintini, 2018[5]). This risk of significant job loss and change in job tasks as a result of new technologies, and hence in the skills needed in the labour market is captured in the dashboard by the share of jobs with significant automation risk, i.e. jobs with more than 50% automatable tasks (Figure 1.4). This share varies markedly between countries from more than 60% of jobs in Lithuania and the Slovak Republic to less than 40% of jobs in the Nordic countries, New Zealand, the United Kingdom and the United States.

Figure 1.4. Risk of job automation

% of workers facing significant risk of automation (>50% of tasks at risk of automation)



Note: Significant risk is defined as having a risk of automation over 50%, low risk as having a risk of automation of at most 50%. Belgium refers to Flanders only, United Kingdom to England and Northern Ireland.
Source: Nedelkoska and Quintini (2018[4]) using PIAAC data (2012, 2015).

1.2.3. Globalisation

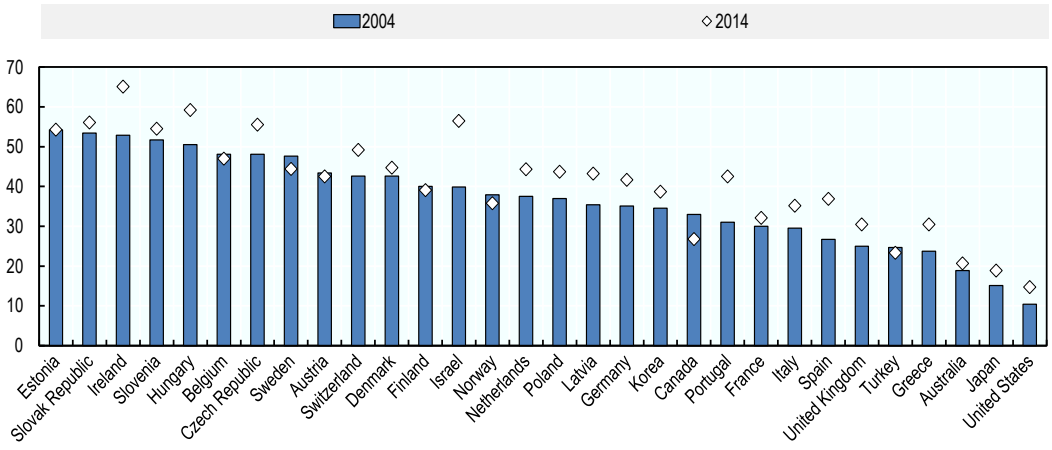
An increasingly globalised world has a profound impact on the skills that are in demand in the labour markets of advanced economies. Globalisation can lead to greater specialisation and hence different skill-sets needed in the labour market. In fact, evidence from advanced economies suggests that increasing participation in global value chains raises the demand for those high-level skills which are needed to specialise in high-tech manufacturing industries and in complex business services (OECD, 2017[6]) Increasingly global value chains can also led to jobs being offshored, especially at the low-end of the skills spectrum. However, it is difficult to disentangle the effects of technological progress, automation and globalisation on driving these changes, as these megatrends mutually reinforce each other.

Countries differ in the extent to which they are integrated into global-value chains. One indicator of such integration is the percentage of business sector employment that is sustained by foreign, rather than domestic, demand. This ranges from 15% of business sector employment in the United States to more than 50% in the small open economies of Hungary (59%), Ireland (65%) and Luxembourg (81%). Data also shows that economies are becoming increasingly integrated in global value chains: between 2004 and 2014 the percentage of business sector employment sustained by foreign demand increased by more than 10% on average.

Other indicators of globalisation included in the scoreboard show similar patterns. Trade openness, defined as exports and imports as percentage of GDP, is highest in Hungary, Ireland, Luxembourg and the Slovak Republic. It is lowest in Australia, Japan and the United States. As the integration into global value chains, trade openness has increased over the past decade, with supposed impacts on the skills needs of the labour market and hence the adult learning system.

Figure 1.5. Integration into global value chains

% Business sector jobs sustained by consumers in foreign market



Note: Business sector jobs sustained by foreign final demand as percentage of total business sector employment.
Source: OECD Science, Technology and Innovation Scoreboard 2017.

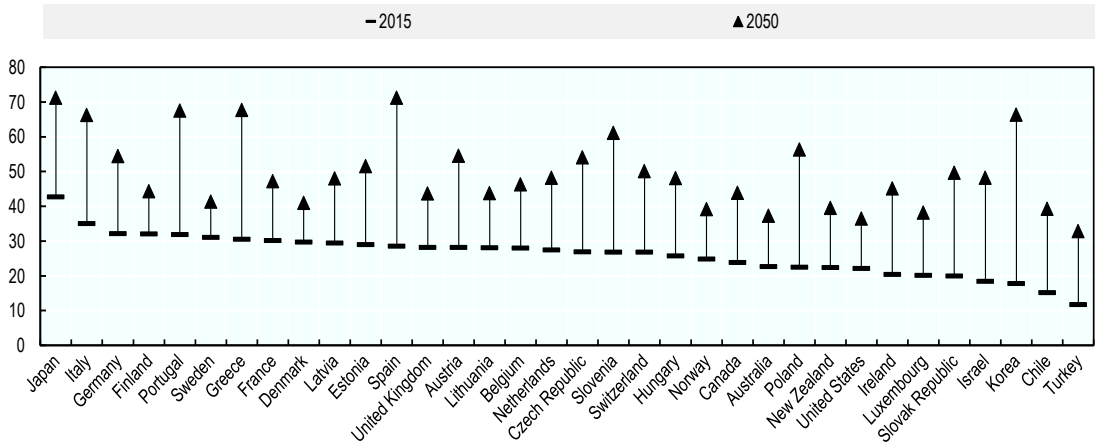
1.2.4. Population ageing

Finally, an ageing population is an often overlooked driver of changing skill demand and supply and adult learning policy, due to its slow-moving nature. However, population ageing impacts training needs in a number of important ways. First, it increases the need for individuals to maintain and update their skills over the life-course in the context of longer working lives. Furthermore, the retirement of large cohorts can lead to significant shortages of qualified labour in some countries; a gap that can be filled through training of the existing workforce amongst other measures. Finally, population ageing is likely to contribute to further shifts in the structure of the economy, as demand for goods and services changes, an example being an increased demand for health and elderly care services (OECD, 2017[7]).

According to United Nations (UN) population statistics projections, all countries included in the PAL dashboard will see a significant increase in ratio of the elderly population (aged 65 and over) to the working-age population (aged 15-64). Some countries that already have a high share of older people are projected to see this share increase further. For example, in Japan today, there are two adults aged 65+ for every five adults in the working-age population. In 2050, this is projected to rise to three older adults for every four adults of working age. Greece, Korea and Spain are forecasted to experience the greatest demographic change and hence the greatest additional pressure on their adult learning systems (Figure 1.6).

Figure 1.6. Population ageing

Population aged 65+ as % of population aged 15-64



Note: Projections are based on the medium scenario of possible future growth of the world population
Source: UN world population prospects (2017)

Notes

[1] This report focuses on job-related adult learning and hence excludes sub-systems that have no direct labour market relevance.

References

Richard Desjardins (ed.) (2017), *Political Economy of Adult Learning Systems*, Bloomsbury Academic, London, New York. [2]

Nedelkoska, L. and G. Quintini (2018), "Automation, skills use and training", *OECD Social, Employment and Migration Working Papers*, No. 202, OECD Publishing, Paris, http://dx.doi.org/10.1787/2e2f4eea-en. [5]

OECD (2017), "Future of Work and Skills. Paper presented at the 2nd Meeting of the G20 Employment Working Group", https://www.oecd.org/els/emp/wcms_556984.pdf (accessed on 18 July 2018). [7]

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OECD (2016), *Getting Skills Right: Assessing and Anticipating Changing Skill Needs*, Getting Skills Right, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264252073-en. [8]

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OECD (2005), *Promoting Adult Learning*, http://www.oecd.org (accessed on 26 July 2018). [1]

OECD (Forthcoming), *Employment Outlook 2019*, OECD Publishing, Paris. [[3]

Chapter 2. Coverage and inclusiveness

For a future of work that is both more rewarding and inclusive, ensuring broad-based coverage of adult learning is a necessary condition. Yet, data shows that participation levels in job-related adult learning are low. In addition, the individuals most exposed to changes in skill needs are often under-represented in adult learning. This chapter discusses the common challenge of engagement and inclusion of adult learners and highlights for which countries this challenge is particularly severe. It also discusses which actions can be taken to for more inclusive access and participation in adult learning.

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

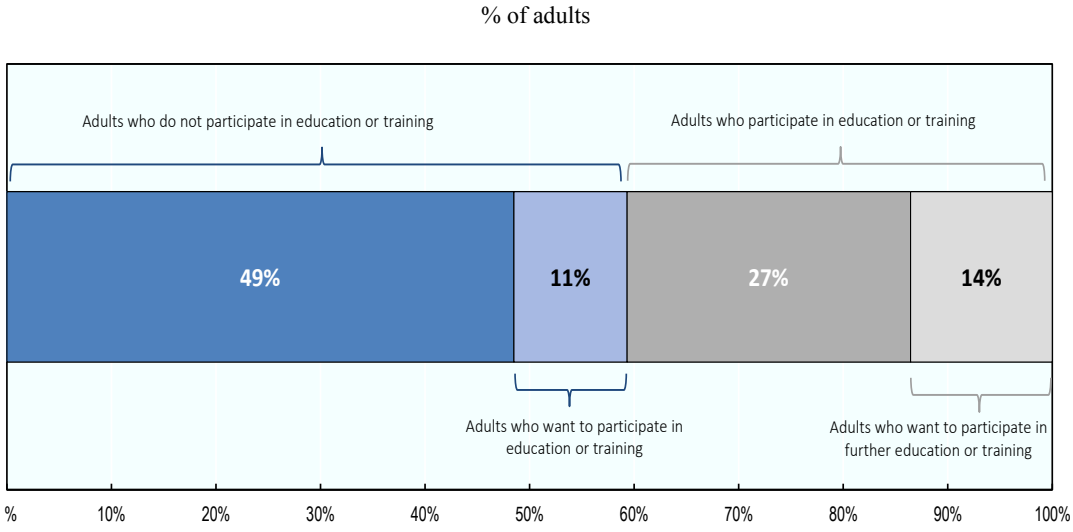
2.1. Broad-based participation as a challenge for effective adult learning systems

According to data from the Survey of Adult Skills (PIAAC), only 41% of adults in the surveyed OECD countries participate in formal or non-formal job-related training in a given year. Moreover, those adults who are most vulnerable in the labour market, such as those with few qualifications, the long-term unemployed and those at high risk of job automation are least likely to participate in training.

Engaging those who currently do not participate in education or training will be a major task for all stakeholders involved; especially because around half of all adults neither participate nor want to participate in adult learning (Figure 2.1). With adult education and training being one of the key levers to prepare the workforce for changing skill needs, it will be crucial to find effective ways to motivate this part of the population to participate.

Policy efforts must also focus on those individuals who want to take up (further) adult learning opportunities, but face a variety of obstacles in doing so. On average across the OECD countries that participated in PIAAC, about a third of people who take part in job-related adult learning (14% of all adults) want to pursue further learning, but do not for different reasons. In addition, almost one-in-five people who do not take part in job-related adult learning (11% of all adults) would actually want to take part in education or training (Figure 2.1).

Figure 2.1. Participation and interest in participation in adult learning

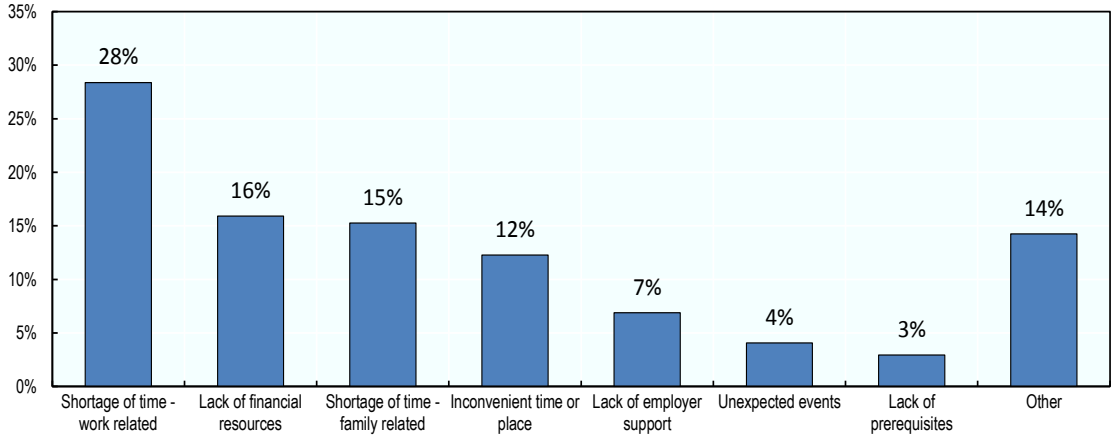


Note: Average of OECD countries participating in PIAAC; formal and non-formal job-related education and training; data does not add up to 100% due to rounding.
Source: PIAAC data (2012, 2015).

Based on PIAAC data, barriers to participation are diverse and include lack of time due to work (29%) or family reasons (16%), followed by lack of financial resources (16%), inconvenient time or location of the learning opportunity (12%) and lack of employer's support (7%) (Figure 2.2).

Figure 2.2. Barriers to participation in adult learning

Reasons for non-participation (% of adults who wanted to participate but did not)



Note: Average of OECD countries participating in PIAAC.
Source: PIAAC data (2012, 2015).

Finally, with much learning taking place in and through the workplace, the engagement of employers in the design, implementation and financing of skill development opportunities is critical to the success of adult learning systems. Involving small and medium enterprises is particularly important, as they constitute the vast majority of businesses around the world, but typically offer less training than larger firms because they face greater challenges due to their more limited capacity to plan, fund and deliver training.

2.2. Coverage of adult learning – results from the PAL dashboard

The PAL dashboard reflects the importance of engaging both individuals and employers in adult learning activities, and features indicators related to the two groups. It includes measures on the incidence of training participation, the intensity of training provision and 10-year time trends in participation to capture the responsiveness of adult learning systems to changing skill needs (see Table 2.1 for the full list of indicators).

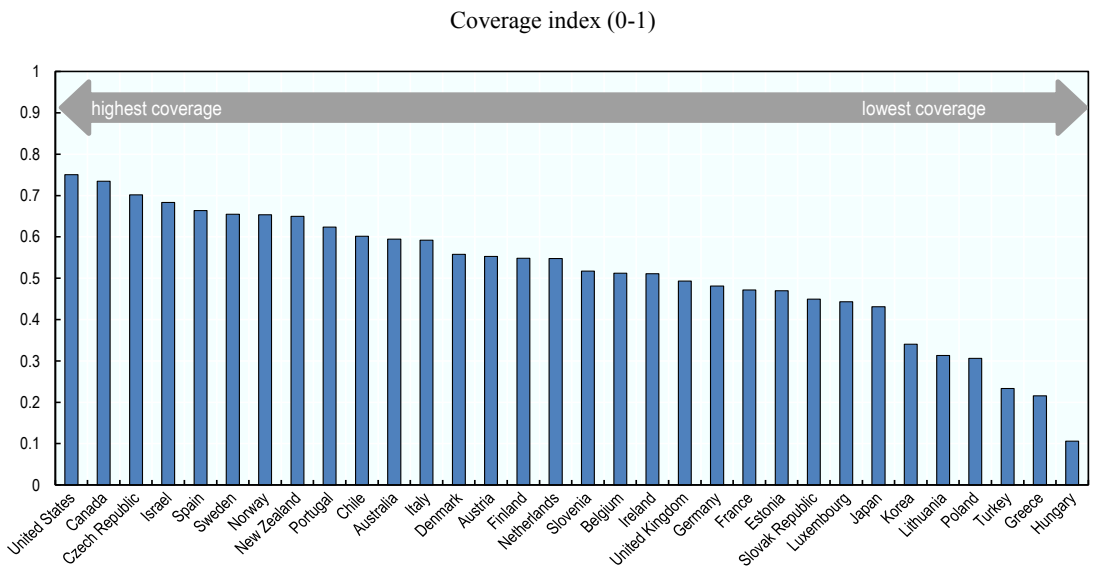
Table 2.1. Coverage in job-related adult learning – PAL indicators

	Individuals		Employers	
Coverage	**Formal and non-formal learning**	% of adults who participated in formal or non-formal job-related adult learning in the past 12 months	**Provision of training**	% of enterprises providing continuing vocational training
	Informal learning	% of workers who participate in informal job-related adult learning at least once per week	/	/
	Learning intensity	Median number of hours participants spend on non-formal job-related adult learning per year	**Coverage of training provision**	% of all training enterprises providing courses to more than 50% of their employees
	Trend	10-year change in the % of adults participating in non-formal job-related adult learning	**Trend**	10-year change in the % of enterprises providing continuing vocational training

Note: See Annex B for details on the data sources used for each indicator.

The PAL dashboard suggests that there are big differences between countries with regards to coverage of job-related adult learning (Figure 2.3). Among OECD countries and across the different dimensions of coverage, the United States scores best, followed by Canada and the Czech Republic. The weakest overall performance with regards to coverage is observed in Greece, Hungary and Turkey. Performance on the different indicators is described in the following subsections.

Figure 2.3. Results of the Coverage dimension



Note: The index ranges between 0 (lowest coverage) and 1 (highest coverage). Switzerland and Latvia were excluded due to missing data.
Source: See Annex B and C for details on data sources and methodology.

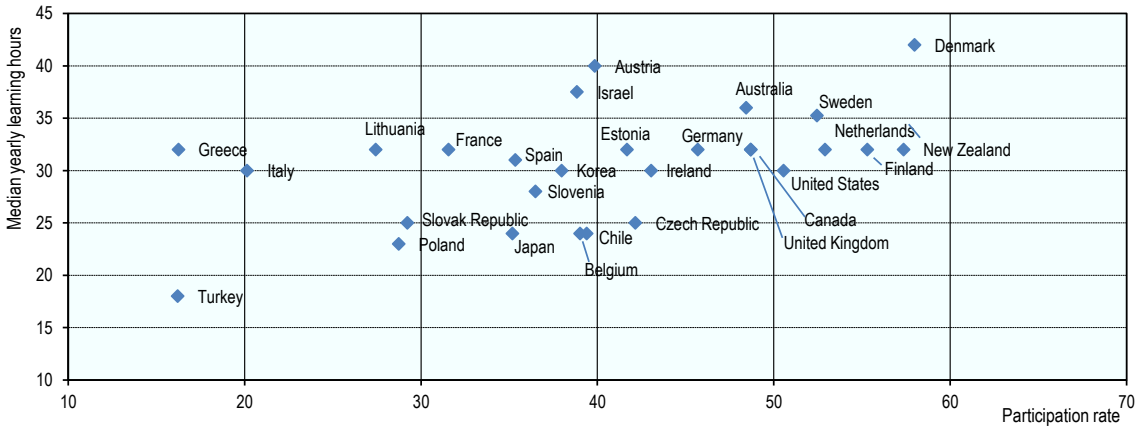
2.2.1. Individuals

The dashboard shows that participation in formal and non-formal[1] education and training activities varies strongly across countries (Figure 2.4). While the top performing

countries, which include the Nordic countries, New Zealand and the Netherlands, achieve participation rates of over 50% in a given year, several countries display less than half of this including Greece, Italy and Turkey. In countries where large shares of the population take part in adult learning, people also spend more time learning. On average, adult learners take part in 30.5 hours of non-formal learning per year. In some countries this learning intensity is substantially higher, including Denmark (42 hours), Austria (40 hours), Israel (38 hours), Australia (36 hours) and Sweden (35 hours).

Figure 2.4. Relationship between individual participation rate and learning intensity

% of adults participating in formal and non-formal learning and median yearly non-formal learning hours



Note: Belgium refers to Flanders only, United Kingdom to England and Northern Ireland. Participation refers to formal and non-formal job-related learning, while training hours only refers to non-formal job-related learning.
Source: PIAAC (2012, 2015).

Participation in informal learning[2] is somewhat higher: on average across the countries participating in the PIAAC survey, 64% of workers learn from others or learn by doing at least once per week. Cross-country patterns of participation are similar to those for formal and non-formal learning, with some notable exceptions. Chile and Spain, which have average rates of formal and non-formal participation, display some of the highest rates of informal learning (77% and 74% respectively). Conversely, the Netherlands, displays relatively low rates of informal learning (61%), while having the fifth highest participation in formal and non-formal learning. Overall the correlation between participation in formal and non-formal training and informal learning is positive, suggesting that countries where participation in more formalised forms of training is low do not compensate with more informal learning in the workplace.

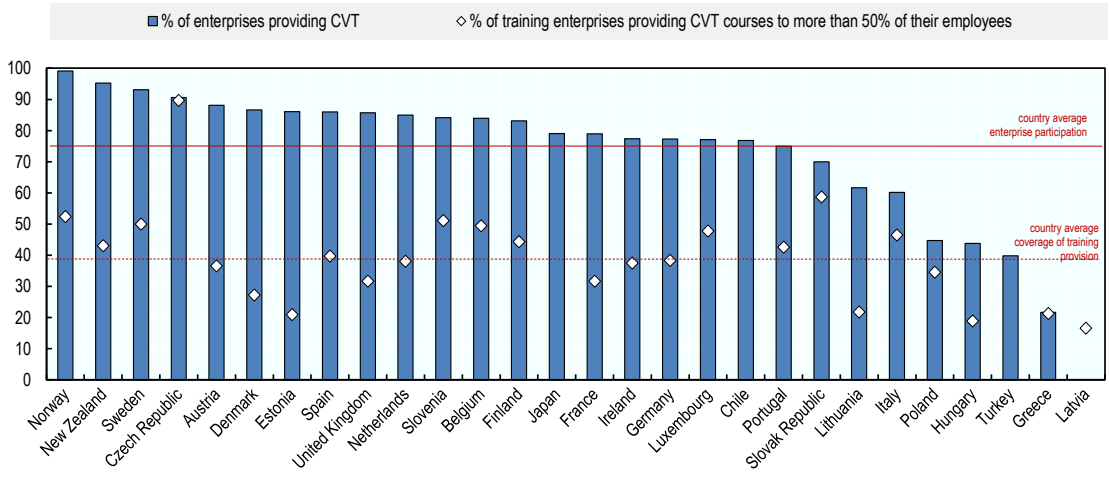
Looking at the evolution of participation rates in the past ten years, individual participation in adult learning has increased in most countries for which data is available. According to data from the European Adult Education Survey[3], the largest increases were experienced in Italy, where participation rose from 14% to 33% between 2007 and 2016, in Portugal (19% to 40%). It should be noted that in Italy and Portugal both increased participation from a relatively low starting point. In contrast, several countries with traditionally high participation rates have seen small to moderate decreases of participation rates in the last decade, including Finland (44% to 42%) and Lithuania (28% to 26%). The fall was more marked in Sweden where participation fell from 61% to 49%.

2.2.2. Employers

Information collected from employers paints a slightly different picture. In most countries, the majority of employers provide training opportunities but there is some variation in the number of people they cover. Data from the dashboard shows that on average across available OECD countries 75% of enterprises with at least ten employees provide training opportunities to their employees, ranging from 99% in Norway to 22% in Greece. However, in only 40% of enterprises is training provided to more than 50% of their workforce (Figure 2.5). While some countries, such as the Czech Republic, combine high enterprise participation and high employee coverage rates, other countries see strong divergence of both indicators. In Norway, for example, nearly all enterprises provide some adult learning opportunities, yet just over half of them provide these opportunities for at least half their employees. Lowest employer engagement overall is recorded in Greece, Turkey and Hungary.

Figure 2.5. Participation of enterprises in the provision of adult learning

Share of enterprises providing continuing vocational training (% of all enterprises) and coverage of provision (% of training enterprises)



Note: Data for Chile refer to provision in the last two years, whereas data for other countries refer to provision in the last year. Excludes enterprises with less than ten employees; Data for Japan excludes enterprises with less than 30 employees. No data on coverage of training provision is available for Chile, Japan and Turkey; Latvian data on the percent of enterprises providing CVT was considered unreliable and was therefore excluded.
Source: Basic Survey of Human Resource Development (2016) (Japan), CVTS (2015), ENCLA (2014) (Chile), Statistics NZ Business Operations Survey (2015) (New Zealand).

The engagement of enterprises in the provision of adult education and training has strongly increased over the past decade. Across countries for which data is available, the share of enterprises offering continuing vocational training has increased by almost 22% between 2007 and 2016. A number of countries have seen particularly strong increases of enterprise engagement, including Spain (47% to 86%) and Italy (32% to 60%). Countries with traditionally strong employer engagement in training, such as the Nordic and dual apprenticeship countries have not surprisingly seen smaller increases.

2.3. Inclusiveness of adult learning systems – results from the PAL dashboard

The PAL dashboard highlights the importance of providing inclusive learning opportunities for all and in particular for those groups most in need of up- and re-skilling. It features indicators measuring participation gaps between disadvantaged adult learners and their more advantaged peers, where disadvantages may relate to socio-demographic characteristics of adults or their employment and contractual situation. Table 2.2 provides an overview of the indicators used to assess the inclusiveness of countries' adult learning systems.

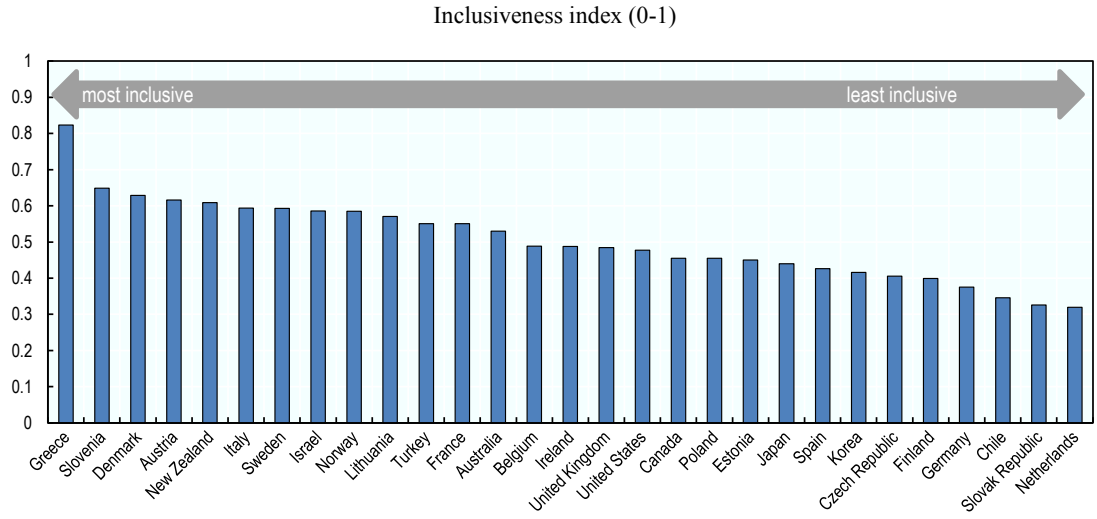
Table 2.2. Inclusiveness of job-related adult learning – PAL indicators

	Socio-demographic characteristics		Employment and contract status	
Inclusiveness	**Age gap**	Percentage point difference in participation between older (>55) and prime age population (25-54)	**Unemployment gap**	Percentage point difference in participation between the unemployed and employed
	Gender gap	Percentage point difference in participation between women and men	**Long-term unemployment gap**	Percentage point difference in participation between long-term unemployed and employed
	Skill gap	Percentage point difference in participation between low-skilled and medium/high-skilled adults	**Temporary workers gap**	Percentage point difference in participation between workers on temporary and permanent contracts
	Low-wage gap	Percentage point difference in participation between low-wage and medium/high wage workers	**SME gap**	Percentage point difference in participation between workers in SMEs and larger enterprises

Note: See Annex B for details on the data sources used for each indicator.

The PAL dashboard suggests that there are substantial differences between countries as regards the inclusiveness of their adult learning systems (Figure 2.6). Among OECD countries and across the different dimensions of inclusiveness, Greece scores highest (albeit from a low baseline of overall participation), followed by Slovenia and Denmark. The weakest overall performance concerning inclusiveness is observed in Chile, the Netherlands and the Slovak Republic. Further detail on the performance on individual indicators is provided in the following subsections.

Figure 2.6. Results of the Inclusiveness dimension



Note: The index ranges between 0 (least inclusive) and 1 (most inclusive). Hungary, Latvia, Luxembourg, Portugal and Switzerland were excluded due to missing data.
Source: See Annex B and C for details on data sources and methodology.

2.3.1. Socio-demographic characteristics

As highlighted in the dashboard, there are clear gaps between the participation of the disadvantaged groups and the reference population. Looking at socio-demographic characteristics, older and lower-skilled adults, as well as low-wage workers, are less likely to take part in adult learning in every single country participating in the PIAAC survey. The largest average gaps are found between the low and medium/higher skilled (23 percentage points), followed by low and medium/high wage (22 percentage points) and older and prime-age individuals (22 percentage points). The picture is less stark when it comes to gender: while women display slightly lower participation rates in most countries, they have higher participation rates than men in Denmark, Estonia and Lithuania (Figure 2.7).

Participation gaps are often smaller where overall participation in adult learning is low, for example in Greece, Italy and Turkey. On the contrary, Scandinavian countries and New Zealand have the highest participation rates of disadvantaged groups in adult learning, yet still feature major gaps compared to the more advantaged reference population: in Norway for example, low-skilled adults display a 20 percentage point lower participation rate than their higher skilled peers. This highlights that the inclusiveness of adult learning systems must be improved in all countries, even those which have relatively high participation rates of disadvantaged groups.

Some countries manage to limit the gap for certain groups while ensuring relatively high overall participation rates: the United States and New Zealand have small gaps between older and prime age workers; the Nordic countries have small gaps between women and men; the Czech Republic, Estonia and Slovenia have small gaps between low-skilled and medium/high skilled individuals and all Scandinavian countries have small gaps between low-wage and medium/high wage earners. It is notable, however, that no country consistently scores high on all indicators of inclusiveness. Investigating patterns and inconsistencies across different indicators of disadvantage can provide countries with

valuable insights of where to target their efforts of fostering more inclusive adult learning.

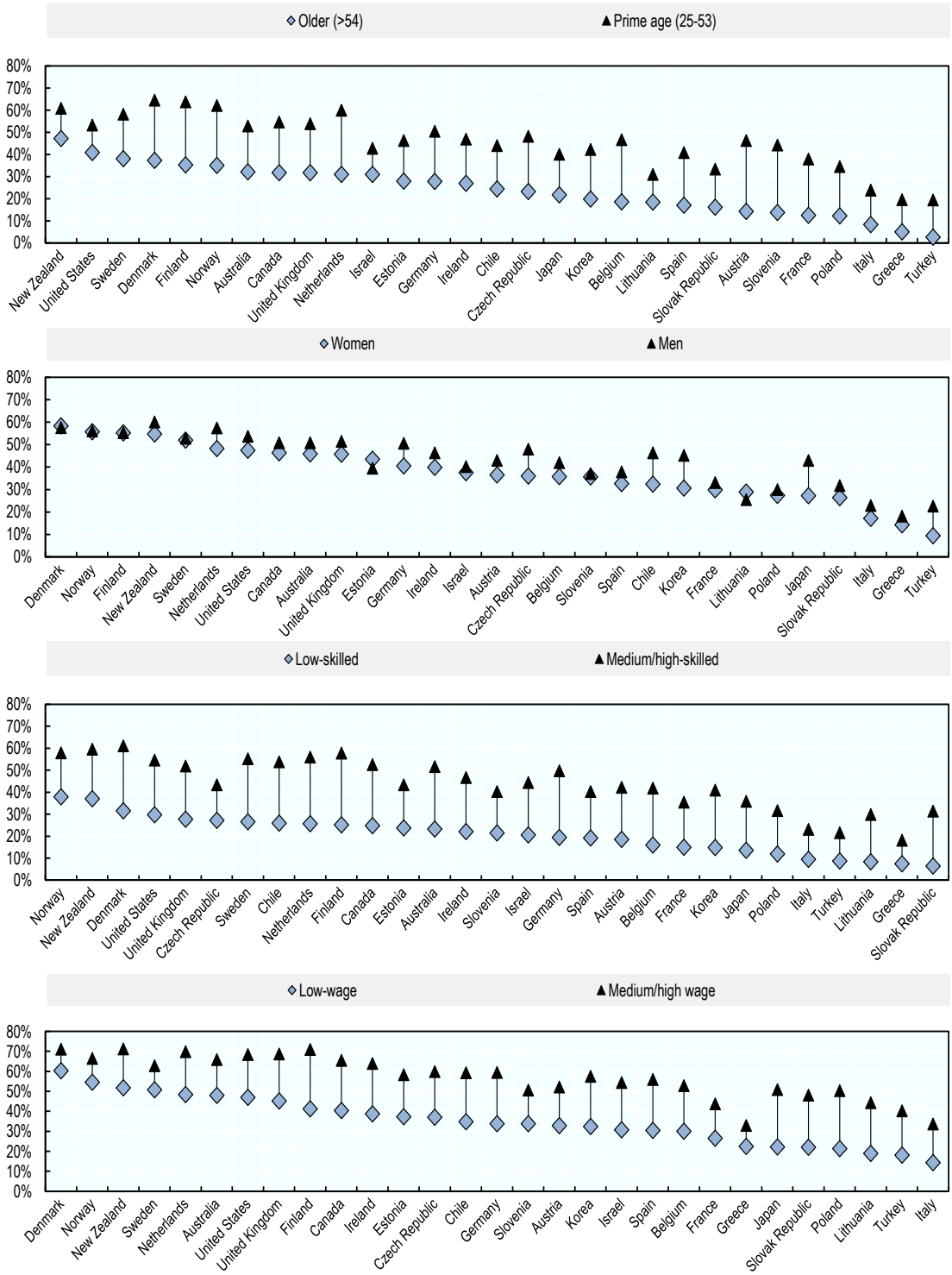
2.3.2. Employment and contract status

Beyond socio-demographic characteristics, the specific employment situation of individuals, including their employment status, contract type and firm size, are strongly related to the take-up of adult learning opportunities. According to the dashboard, on average, the participation rate of the unemployed is 19 percentage point lower than that of the employed population (Figure 2.8). The participation gap is even larger for those who have been unemployed for 12 months or longer (25 percentage points). This gap exists in all countries but Austria, where the participation rate of the long-term unemployed is 3 percentage points higher than that of the employed. Results are more varied for workers on temporary contracts, as in six countries they actually participate more often in adult learning than workers with permanent contracts (i.e. Austria, Denmark, Greece, Ireland, Israel and the United States).[4] Further, workers in SMEs[5] participate less in training than workers in large firms in all countries, with an average 15 percentage point difference across countries.

There are no clear patterns with regards to countries' performance across the employment and contract type indicators. Only Austria and Slovenia display relatively small participation gaps on three out of four indicators. In this way, the dashboard primarily highlights issues of inclusiveness of specific groups. In Slovenia, for example, workers in SMEs are just as likely to participate in adult learning as workers in larger companies, but workers with temporary contracts face a relatively large participation gap compared to other countries. Inversely, workers on temporary contracts in Ireland display participation rates close to those on permanent contracts, yet those working in SMEs or (long-term) unemployed are far less likely than their more advantaged counterparts to participate in education and training.

Figure 2.7. Gap in participation by socio-demographic characteristics

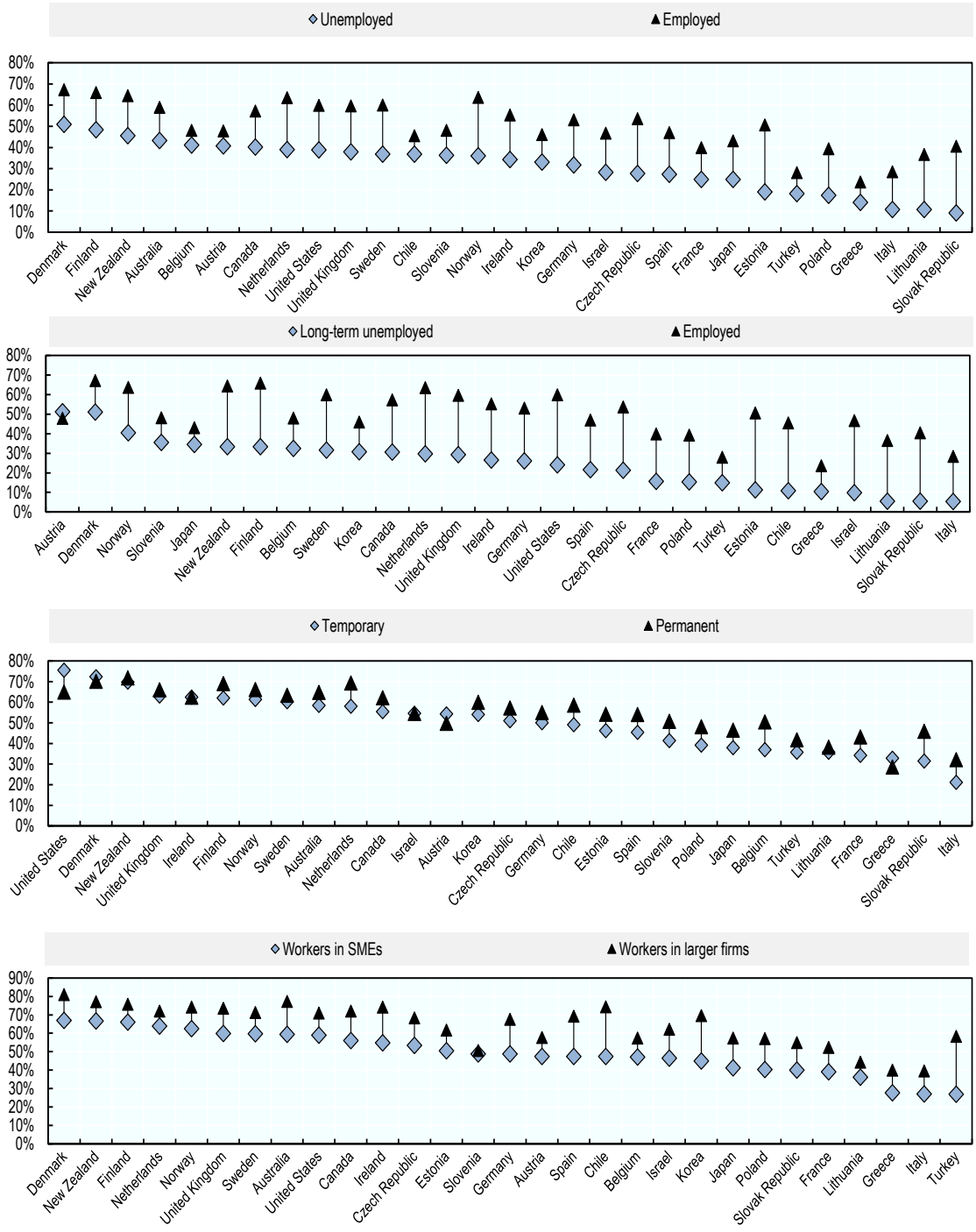
% of adults participating in formal and non-formal job-related learning



Note: Belgium refers to Flanders only, United Kingdom to England and Northern Ireland; formal and non-formal job-related education and training.
Source: PIAAC (2012, 2015).

Figure 2.8. Gap in participation by contract and employment situation

% of adults participating in formal and non-formal job-related learning



Note: Belgium refers to Flanders only, United Kingdom to England and Northern Ireland; formal and non-formal job-related education and training.
Source: PIAAC (2012, 2015).

2.4. Policies to increase participation and inclusiveness

The PAL dashboard suggests that there is significant room for improvement in adult learning participation levels and/or inclusiveness across countries. Governments can employ a range of policy levers to engage more people in education and training, including: i) providing information and guidance, ii) removing barriers to participation, iii) offering targeted support for those most in need of up- and re-skilling, but least likely to participate, and iv) engaging employers in the provision of adult learning.

2.4.1. Providing information and guidance

Effective and inclusive adult learning systems should enable adults to make good choices about education and training. Yet, there is evidence to suggest that adults, in particular those with low skills, are not always able to recognise the need to develop their skills further (Windisch, 2015[1]). Hence, the engagement of adults in learning activities should go beyond providing opportunities to those who ask for them. Promoting the benefits of adult learning, providing high-quality information and individualised advice and guidance services are some of the ways policy can encourage higher and more inclusive participation.

Public awareness campaigns come in many forms and may promote the benefits of adult learning, advertise specific programmes for adult learning or reach out to underrepresented groups. The Institute for Adult Education in Slovenia, for example, has been organising an annual lifelong learning week since 1996, which today includes more than 1 500 events implemented in cooperation with partner organisations throughout the country. Portugal launched its adult learning program *Qualifica* in 2016/17 with a large-scale public awareness campaign titled “More Qualification, Better Jobs”. To reach the widest possible audience, campaigns can be delivered through different media channels, such as TV, radio, print, online and social media, as well as include outreach work through events, existing networks or direct mail. In Argentina, for example, the *Hacemos Futuro* programme reaches out to community leaders via Whatsapp, who in turn inform their target group about upcoming training offers. Table 2.3 provides an overview of recent public awareness campaigns across OECD and non-OECD countries.

Table 2.3. Recent public awareness campaigns

	Does it exist?	Focus						Name
		General adult learning	Specific programmes	Specific target groups	Basic skills	High demand skills	Firms	
Australia	n.a.							
Austria	No							
Belgium	Yes	x	x	x	x	x		n.a.
Canada	Yes	x			x	x		n.a.
Chile	Yes	x	x	x			x	n.a.
Czech Republic	No							
Denmark	No							
Estonia	Yes	x	x	x	x			Jälle kooli (Back to school again)
Finland	No							
France	n.a.							
Germany	Yes		x	x	x		x	Zukunftsstarter (Future starter); Nur Mut – Der nächste Schritt lohn sich. Besser lessen und schreiben lernen (Courage - the next step is worth it. Learning to read and write better)
Greece	Yes		x	x		x		n.a.
Hungary	Yes		x					Szakmák Éjszakája (Night of Vocations)
Iceland	Yes	x		x	x	x	x	n.a.
Ireland	Yes		x	x	x	x		Take the first step
Italy	n.a.							
Japan	Yes		x	x		x	x	Human Resources Development Month; National Skills Competition
Korea	Yes		x			x	x	Vocational Skill Month
Latvia	Yes	x		x	x			n.a.
Lithuania	n.a.							
Luxembourg	Yes	x					x	n.a.
Mexico	n.a.							
Norway	No							
Poland	n.a.							
Portugal	Yes	x	x		x			More Qualification, Better jobs
Slovak Republic	No							
Slovenia	Yes	x	x	x		x		Lifelong Learning Week
Spain	Yes	x		x				n.a.
Sweden	Yes							n.a.
Switzerland	Yes	x	x	x				Simplement mieux (simply better)
Turkey	n.a.							
United Kingdom	No							
United States	Yes			x	x			
Non-OECD countries								
Argentina	Yes		x					
Brazil	Yes	x	x	x	x			
Romania	Yes	x	x					

Source: OECD Adult Learning Policy Questionnaire.

Career guidance helps individuals to understand their skill set and development needs and to navigate available learning opportunities. Data from the PAL dashboard, based on the Adult Education Survey, shows that around 30% of adults receive information or advice on learning possibilities from institutions in a given year. To be effective, career guidance takes into account timely labour market information and the outputs of skill assessment and anticipation exercises. In most countries, career guidance is delivered through a range of channels, including public employment services (PES), specialised guidance services, career guidance websites, as well as by education providers and social partners. In Iceland, the social partners and government are working together in the Education and Training Service Centre to develop career guidance in cooperation with education providers around the country. Some countries have developed one-stop-shops to ensure individuals get all the information they need to make informed decision in one place. The House of Guidance (*Maison de l'Orientation*) in Luxembourg opened in 2012 following the collective effort of five departments across the Ministries of Education, Labour and Higher Education. The house provides a one-stop shop for education and labour market orientation. Previously targeted at a younger age group, there has been a greater focus on adult learners since 2017. Similarly, the project Education Shop (*Leerwinkel*) in West Flanders (Belgium) is an independent one-stop shop for advice on educational options and financial support. The project focuses specifically on adults with low education levels, immigrants and detainees. *Career New Zealand* provides a wealth of services, increasingly available online, ranging from tools that allow users to explore careers and find jobs that match their skills and qualifications.

Beyond guidance services, online databases on education and training allow individuals to make informed training decisions. To understand which offer best suits their needs, these databases should contain detailed information about available courses, as well as information on outcomes and satisfaction of participants. Databases can also be useful for trainers, counsellors and other adult learning experts. These types of databases exist in many countries, and often countries have numerous competing databases for example on different types of training. By contrast, one-stop shop solutions can help individuals to navigate available offers by combining information on courses with more general labour market information. The Danish website *UddannelsesGuiden* (www.ug.dk), for example, brings together information on general education, higher education and adult/continuing education. It further includes information on the structure of the Danish labour market, the role of industries and businesses and descriptions of the most common occupations and jobs in the Danish labour market. Users can access further information and guidance via chat, phone or email. In New Zealand, the *Occupation Outlook* is a mobile app that allows exploring study and career options, with extensive information on labour supply and demand in over 100 occupations. Chapter 4 discusses how these online databases can be used to provide information on quality of providers and programmes.

2.4.2. Removing barriers to participation

As previously mentioned, many adults face barriers, which prevent them from participating in adult learning. Barriers for individuals are diverse, but typically relate to a lack of time and financial resources, limited flexibility of training provision, a lack of employer support and not meeting the pre-conditions to take part in adult learning. Effective policies, which remove these barriers, are key for creating broad-based and inclusive adult learning systems.

Flexible provision of adult education and training addresses the barrier faced by those with limited time to participate in training, be this for family or work related reasons.

Many countries offer some or several forms of flexible learning provision, including on a part-time basis, in the evenings, on weekends, as distance learning, or in a modular and/or credit-based format. According to data from the PAL dashboard, only 19.1% of adult learners take part in education and training activities that are organised as distance learning. Modular approaches are especially helpful in providing adult learners with greater flexibility on their learning path and can be combined with processes for the recognition of prior learning. They allow adult learners to focus on developing the skills they currently lack, complete self-contained learning modules on these skills and combine these modules to eventually gain a full (formal) qualification. They also permit learners to combine more easily work with training outside of work. Research suggests that such provision can broaden access to formal qualifications, in particular for disadvantaged groups (Kis and Windisch, 2018[2]). The Danish adult learning system in particular allows leaners a high degree of flexibility. Much of the training provision enables leaners to combine learning modules from different kinds of provision and across different subjects (Desjardins, 2017[3]). For example, individuals working towards a vocational qualification in Labour Market Training Centres (*Arbejdsmarkedsuddannelse*) can choose from a wide range of vocational training courses but also tap into subjects provided by the general education system. This allows learners to tailor their education and training programme based on their individual needs (Desjardins, 2017[3]). In Mexico, participants in the Model for Life and Work programme (*Modelo Educación para la Vida y el Trabajo*, MEVyT), which provides learning opportunities for youth and adults to catch up on primary and secondary education, can combine different modules that cover a variety of topics. Some of these modules are delivered on an online platform.

Statutory education and training leave is another key policy to ensure that a lack of time is not a barrier to adult learning. It is typically regulated in national legislation or set out in collective agreements; and it may be universal or provided to certain workers, e.g. those with a minimum tenure in the company (see Table 2.4 for details by country). In order to ensure its uptake, many countries provide compensation for learners and employers alongside statutory leave. An example of such an arrangement exists in Belgium, where full-time private sector employees participating in recognised training and education programmes have the right to training leave up to 180 hours per year. The maximum number of leave days is reserved for workers attending vocational training in shortage occupations and those studying towards a secondary education degree. During their training leave, workers receive full pay up to a capped amount, while employers can be compensated for the wages paid during training leave.[6] In some countries job rotation schemes exist, which provide replacement for the employee during their training (see Chapter 5).

Table 2.4. Education or training leave

	Does it exist?	Compensation for employees	Compensation for employers	Duration	Entitlement
Australia	..	..	..	..	..
Austria	Yes, legislative	Yes	..	Up to 1 year (every 4 years)	Employees (incl. seasonal workers)
Belgium	Yes, legislative	Yes	Yes	Between 32 to 180 hours	Full-time and (under certain conditions) part-time employees
Canada	Yes, collective agreements	..	..	..	..
Chile	No				
Czech Republic	Yes, collective agreements	..	..	Depending on agreement	Civil servants
Denmark	Yes, collective agreements	..	..	..	..
Estonia	Yes, legislative	Yes	..	Up to 30 days per year + 15 days (under certain conditions)	..
Finland	Yes, legislative	No	..	Up to 30 days per year	Private and public sector employees.
France	Yes, legislative	Yes	Yes	Full-time: 30 hours to 1 year; part-time: 1 200 hours	Employees with a minimum seniority (duration depends on contract and sector)
Germany	Yes, collective agreements	..	..	..	..
Greece	..	..	..	..	..
Hungary	Yes, legislative	Yes	..	Depending on agreement	Employees (if committing to stay for a given time after training)
Iceland	Yes, collective agreements	..	..	..	..
Ireland	Yes, collective agreements	..	..	..	..
Italy	Yes, legislative	Both paid and unpaid leave	No	Unpaid: up to 11 months. Paid: depending agreement	Unpaid: 5 years seniority. Paid: employees in formal education
Japan	Yes, legislative	..	..	..	..
Korea	Yes, legislative	..	Yes	..	..
Latvia	Yes, collective agreements	Varies	Varies	20 days	..
Lithuania	Yes, legislative	Yes	No	From 2 to 30 days	..
Luxembourg	Yes, legislative	..	Yes	Up to 80 days (in a professional career)	Employees, self-employed and people in the liberal professions
Mexico	No				
Norway	Yes, legislative	No	..	Up to 3 years	Employees with 3-year work experience, 2-year seniority
Poland	Yes, legislative	Yes	..	From 6 to 21 days	Employees
Portugal	Yes	..	..	..	Employees
Slovak Republic	Yes, legislative	Yes	..	..	Employees
Slovenia	Yes, collective agreements	Yes	..	No maximum days	Employees
Spain	Yes	..	..	..	Employees in formal education
Sweden	Yes	No	..	Depends on collective agreement	Employees in work for 6 months or 12 months in the past 2 years
Switzerland	Yes, collective agreements	..	Varies	..	..
Turkey	No				
United Kingdom	Yes, legislative	No	..	Up to 1 application per year	Employees with 26 weeks seniority, if training is job related, and company has 250+ employees (with exceptions)
United States	Yes, collective agreements				
Non-OECD countries					
Argentina	No				
Brazil	Yes, legislative	..	..	..	..
Romania	Yes, legislative	No, with exceptions	..	Up to 10 days or 80 hours	Employees
South Africa	No				

Source: Country responses to the OECD Adult Learning Questionnaire.

Financial incentives are used widely to encourage adults' participation in education and training. However, they should be designed in line with the training returns for individuals and companies and provide solutions for those cases where under-investment in adult learning occurs. To address this, a recent OECD report (OECD, 2017[4]) suggests that countries can apply a range of tools such as wage or training subsidies (also voucher-based), tax incentives, subsidised loans or training/time account schemes. The Austrian city of Vienna supports employed and unemployed people with below tertiary education through education accounts (*Bildungskonto)*. Anyone living in Vienna, with a few exceptions, can have the costs of a recognised education and training programme or the procedure for the recognition of prior learning co-financed (up to EUR 300). Low-earners can further benefit from the co-financing of training costs of recognised education and training programmes (up to EUR 2 000), including those leading to an advanced vocational degree (*Meister, Werkmeister*) and an upper-secondary school leaving certificate (*Matura, Berufsmatura*). Training costs are subsidised between 30% and 50% depending on income. In many countries, the social partners are involved in the design and implementation of financial incentives. The Finnish social partners, for example, administer the Education Fund (*Koulutusrahasto*), which grants adult education allowances to employed and self-employed adults who meet certain eligibility criteria. In 2017, the fund disbursed close to EUR 200 million worth of allowances.

Some adult learning programmes, in particular when formal, require individuals to hold specific skills or qualifications as a pre-condition for entry. However, individuals are not always able to prove that they meet these criteria, especially when they were acquired through non-formal and informal learning. Validating and certifying existing skills can help to re-engage individuals with formal learning and limit the time and costs needed to complete a formal credential. They can also help individuals improve their labour mobility by providing proof to a new employer of the skills they have obtained informally. The purpose, methods, processes and scope of the recognition of prior learning vary strongly across and within countries. To address barriers to adult learning effectively, recognition of prior learning must be transparent, streamlined and ensure the buy-in of all relevant stakeholders, including employers and education and training providers. The Portuguese *Qualifica* Programme includes the creation of a credit-based system for professional training in line with European frameworks; '*Passaporte Qualifica'*, an online tool for the recording of qualification and competences; and the establishment of a network of 300 *Qualifica* centres. *Qualifica* centres provide services related to information, guidance, as well as the recognition, validation and certification of skills free of charge (OECD, 2018[5]). While many countries have a system of recognition of prior learning (RPL) in place, it is often used relatively little. This is for example the case in Romania, where authorised evaluation centres are in charge of evaluating and certifying skills obtained through non-formal and informal learning. The service is free for job-seekers, but seems to be relatively unknown or unattractive, as only around 80 job-seekers participated in an RPL procedure in 2017. Take up of possibilities to obtain recognition of prior learning is likely to be low if the time required and administrative burden are high.

2.4.3. Offering targeted support to individuals

While policy should facilitate easy access to adult learning for all, it is important to recognise that some groups need additional and targeted support to take up training opportunities. The following highlights key policies for selected target groups, including the low-skilled, older adults, migrants, the unemployed and low-income workers.

Low-skilled adults are most in need to develop further their skills, but the least likely to participate. They can find themselves in a 'low-skill trap', working in low-level positions with little development opportunities and low returns to training, moving in- and out of unemployment (OECD, 2017[6]; Burdett and Smith, 2002[7]). Countries can develop specific strategies to increase the take up of adult learning by the low-skilled, which must start with effective outreach efforts. Public awareness campaigns, implemented in many countries, may not be enough, as an evaluation of a German literacy and basic skill campaign suggests (*Nur Mut - der nächste Schritt lohn sich. Besser lesen und schreiben lernen)*. The evaluation finds that the public awareness campaign finds it challenging to identify and reach low-skilled individuals. Implementing outreach strategies in cooperation with local stakeholders, such as schools or community organisations, may result in greater success (Kowalczyk et al., 2016[8]). Some countries have experimented with mobile information centres, e.g. in the form of trucks or buses, to engage groups who are typically not in contact with advice and guidance services. In 2017, the mobile information centre *Formtruck* was put on the streets of Brussels (Belgium) 20 times to engage job-seekers, the low-qualified and young people not in employment, education and training in adult learning. Individuals with low-skills often identify their training needs in the workplace, but may be reluctant to convey these needs to their employer for fear of revealing their lack of skills in specific areas. Trade Unions can provide a bridge between individuals and employers. *Unionlearn* in the UK trains Union Learning Representatives who promote the value of learning in companies, support learners in identifying their training needs and arrange education and training opportunities. The Union Learning Fund receives GBP 12 million public funding per year, see also (OECD, 2019[9]).

Older adults and their employers are less likely to invest in adult learning, given the short pay-back time on this investment before retirement (Martin, 2018[10]). However, many older adults lack familiarity with some of the digital technologies which are impacting on the world of work, making them more susceptible to skills obsolescence, potentially leading to job loss and early retirement (OECD, 2017[11]). Working lives are also increasing, thus extending the effective time to recoup the costs of investing in training. Targeted career advice and guidance services can help this group make informed decisions about their investment in further skill development and targeted financial incentives can encourage employers to invest in training for older employees by reducing the relative cost of training them. Since mid-2018, Australia has been trialling their new programme *Career Transition Assistance* for job-seekers aged 50 and above in five regions, with the perspective of national roll-out for everyone aged 45 and above in 2019. The programme will combine tailored career assistance and functional digital literacy training using different types of technology. In the Netherlands, workers aged 45 and more can participate in subsidised career development guidance (*Ontwikkeladvies*). These guidance activities help older workers understand the future prospects of their current job, and give insight into their skills profile and career opportunities. Participants develop a personal development plan that describes the actions that will be taken to ensure employment until retirement age. Taking a different approach by targeting employers, the German public employment agency supports training of low-skilled and older workers in SMEs through their programme *WeGebAU*. SMEs receive a 75% subsidy to the training costs of workers 45 years of age and older. Micro-enterprises with less than ten employees receive a 100% subsidy of training costs. The training of low-skilled workers is additionally supported through a wage subsidy for the duration of the training to compensate employer for any financial losses. Evaluations of the programme find that it

helps participants to increase their time spend in employment, although it has no effect on wages and the probability of receiving benefits later on (Dauth, 2017[12]).

Migrants, in particular when newly arrived, strongly benefit from targeted adult learning support, be it to improve their proficiency in the host language or to validate and adapt their skills to the requirements of the host country's labour market. Developing host language and cultural skills is key for further learning and integration, but is often the biggest challenge for recent migrants. Countries can support migrants in learning these skills in a variety of ways, including through free or subsidised class-based courses, work-based language support and digital education offers. As an example of the latter, the EU-funded *MASELTOV* project developed a smartphone app to enable language and cultural learning of migrants in an informal and contextual way in a number of European countries (Jones et al., 2017[13]). Other key policies for this target group are the validation of prior learning and the provision of bridging programmes to close skill gaps. Sweden has a long history of recognising foreign qualifications. It has recently increased funding for the public agency responsible for recognition of foreign qualifications and has made more funds available for bridging programmes in specific professions (OECD, 2017[14]).

With much adult learning taking place at work, unemployed (or inactive) adults need dedicated measures to develop their skills and improve their employability. These opportunities are often publicly financed and provided by Public Employment Services (PES) or in some countries, such as Australia, by private providers of employment services. Effective training programmes for the unemployed or inactive adults take into account the needs of the local labour market and closely work with employers to offer work-based learning opportunities. In Flanders (Belgium), Individual Job Training *(Individuele Beroepsopleiding)* provides jobseekers with work-based learning opportunities following a training plan jointly established by the employer and the PES. Employers receive a subsidy to cover wage and social security costs and are expected to offer a permanent work-contract to the trainee following the training. In Ireland, *Women ReBOOT* – an enterprise-led initiative co-funded and supported by Skillnet Ireland – supports inactive women in developing skills and self-confidence to re-enter the technology sector after a career break. The programme includes group seminars, technology and knowledge training, individual coaching and in-company work placements. In Greece, there are two dedicated VET schools, namely the Athens School for Disabled People and the Normal Industrial Unit of Lakkia-Thessaloniki, that concentrate on unemployed people who are mentally or physically disabled. These schools offer qualifications in various fields (administration, carpentry, pottery, sewing etc.), while trainees also benefit from social support and guidance by experts.

Similarly, employers tend to underinvest in workers who are perceived to have a weaker attachment to the company and, as a result, for whom the pay-off of training is likely to be smaller, such as contract workers or women[7] who may take up caring responsibilities. Two key ways to address this underinvestment are: de-coupling entitlement to training from employment status and/or the workplace and financial incentives to support investment in training. In France, for example, personal training accounts (*Compte Personnel de Formation*) were introduced in 2015, which allow individuals to accumulate entitlements of training credits. The accrued entitlement is transferable between jobs and if there is a change of employment status. A similar personal training account model is in place in Iceland. In some countries, unions are active in setting up specific training programmes for women in sectors where they are underrepresented. In Canada, for example, many unions in the industrial sector provide programmes to support and

increase the number of women in the skilled trades, and science, technology, engineering and mathematics occupations.

For adults with low-income, the key barrier to participation in education and training is financial. Where this is not the case already, governments may need to put in place specific financial support to prevent under-investment in the skills of those on low incomes. Financial incentives for this group could cover programme fees, associated costs such as the cost of learning materials and travel, as well as daily allowances during participation. In Austria, the PES covers the costs of training and education courses and course-related costs (e.g. learning materials, specific clothing, and accommodation) for job-seekers and employees on low-incomes (*Beihilfe zu den Kurskosten/Kursnebenkosten*). Similarly, the *Adult Upgrading Grant* in British Columbia (Canada) covers additional costs of participating in educational and training programmes. All Adult Basic Education and English Language Learning programmes are tuition-free at public post-secondary institutions. For eligible low-income learners attending a British Columbia public post-secondary institution, the Adult Upgrading Grant covers additional costs, such as registration fees, books and supplies, transportation and unsubsidised childcare. In Hungary, 52 Open Learning Centers (NYITOK) provide short training courses (up to 20 hours) free of charge for adults who have low basic skills or limited access to skill development programmes. Adults can follow courses such as everyday finances, basics of ICT or English. As from 2019 onwards, the network offers more labour market oriented programmes.

2.4.4. Engaging employers in the provision of training

Employers have a key role to play in providing and financing job-related adult learning, as they benefit from training effects including through increased productivity, higher employee retention, better engagement and improved management-worker interaction (OECD/ILO, 2017[15]). However, employers may underinvest in training and education due to a lack of information, capacity and/or resources. This is especially true for small and medium-sized enterprises. More generally, employers may be concerned about poaching, i.e. losing workers who have undergone more general training to other employers. Governments can engage employers in adult learning provision in a variety of ways, including through tailored guidance and financial incentives.

Many companies, in particular small and medium-sized enterprises, lack the knowledge and capacity to offer training opportunities to their employees. In Flanders (Belgium), the government-funded Centres for Adult Basic Education send “ambassadors” into companies to review work-based learning opportunities and discuss the benefits of providing these opportunities with the company. They then aim to find ways to give more room to work-based learning, in particular for the low-skilled. Other measures to address capacity constraints use economies of scale and provide training in collaboration with other enterprises. In Ireland, *Skillsnets* funds demand-led training through a network model. Company networks representing specific geographic regions or industries jointly deliver training programmes tailored to labour market demands. In Austria, companies can cooperate in Impulse Training Networks (*Implus-Qualifizierungs-Verbund*) to provide cost-efficient and work-relevant training. The PES funds support services for the running of these networks, including in the set-up of the networks, the development of training plans and development programmes and the application for available financial support for in-company training. Similarly, in Korea the *HRD Ability Magnified Programme (CHAMP*) facilitates collaboration between SMEs and large companies in providing training. Often the companies involved are part of the same supply-chain.

Targeted financial incentives can encourage employers to provide training opportunities, including through training or wage subsidies, levy schemes/training funds or tax incentives (see also Chapter 5). Japan has a number of financial incentives targeting employers. The Japanese Subsidy System to Support Human Resource Development (*Jinzai Kaihatsu Shien Joseikin*) co-funds training expenses and subsidises wages in the context of occupational skill development activities in companies. The system features three types of subsidy schemes for: i) specific training courses, ii) general training courses and iii) training leave. Small and medium-sized enterprises receive higher subsidies. In many countries, the social partners steer the provision of training through employers. Training levies, such as in Denmark, France, Italy, the Netherlands and South Africa are collected from employers through the pay-roll. The funds are then administered by social partners and re-distributed to fund employer-led training. To be effective, training levies need to be designed with a view to make training accessible to vulnerable groups, of good quality, and aligned to firms' and workers' training needs. In some OECD countries, for example in Italy, much of the resources collected through training levies are used to finance compulsory health and safety training, potentially generating high deadweight losses, i.e. financing training that would have taken place even in the absence of the levy (OECD, forthcoming[16]). Some countries incentivise employers through tax deductions: in Chile, companies can deduct training and skill recognition costs (up to 1% of their annual taxable wages) from their tax bill under the *Impulsa Personas* programme. Finally, some countries have put in place formal obligations for employers to provide training opportunities to their workers, specifying in some cases a minimum number of training days (Table 2.5).

Table 2.5. Training obligation other than health and safety

Country	Does it exist?			Duration
	No	Yes, legislative	Yes, through collective bargaining	
Australia	..			
Austria	..			
Belgium		x		2 days (Flanders), 5 days (Wallonia)
Canada	x	x (Quebec)		
Chile	x			
Czech Republic	x			
Denmark			x	Varies
Estonia		x		
Finland	..			
France		x		
Germany	..			
Greece	..			
Hungary	x			
Iceland	x			
Ireland	x			
Italy			x	26 hours (metal sector only)
Japan		x		
Korea		x		
Latvia	..			
Lithuania	..			
Luxembourg	x			
Mexico		x		
Norway	x			
Poland	…			
Portugal		x		35 hours per year
Slovak Republic	x			
Slovenia		x		
Spain	x			
Sweden	x			
Switzerland	x			
Turkey	x			
United Kingdom	x			
United States	x			
Non-OECD countries				
Argentina	x			
Brazil		x		
Romania		x		

Note: 'Duration' refers to days per full-time equivalent unless otherwise specified
Source: OECD Adult Learning Policy Questionnaire.

Notes

[1] Formal learning is defined as institutionalised, intentional and planned learning that leads to recognised qualifications. Non-formal learning is also institutionalised, intentional and planned, but typically includes shorter or lower-intensity courses, which do not necessarily lead to formal qualifications. This includes on-the-job training, open and distance education, courses and private lessons, seminars and workshops.

[2] Informal learning is defined as intentional learning that is less organised and structured. In the context of this report it includes learning by doing or learning from colleagues.

[3] The data reported here on job-related adult learning from the Adult Education Survey refer to non-formal learning only.

[4] These results refer to raw figures and can largely be explained by compositional effects. Controlling for individual and job characteristics, temporary workers enjoy less training than their peers.

[5] SMEs are defined as companies with up to 249 employees.

[6] It should be noted that the education and training leave in Belgium is currently in a process of reform. The responsibility for the leave has been regionalised in 2014, and it is likely that the regions will introduce changes to the current system. In Flanders, for example, the leave allowance will be changed and linked to labour market relevant training. The reform should come into effect in the 2019/2020 academic year.

[7] In the case of women it has been suggested that their lower levels of participation may also be due to pure or statistical discrimination on the part of employers (Bassanini and Ok, 2004[17]).

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Chapter 3. Alignment of adult learning provision with labour market needs

One of the goals of adult learning is to improve the labour market prospects of participants. To achieve this, it is important for adult learning systems to provide opportunities to acquire skills that are in demand in the labour market. But this is challenging in the context of constantly changing skill needs. This chapter provides some evidence on how well adult learning provision is aligned with labour market needs, and looks at the use of skill needs information in the design and targeting of adult learning The importance of investing in the right skills

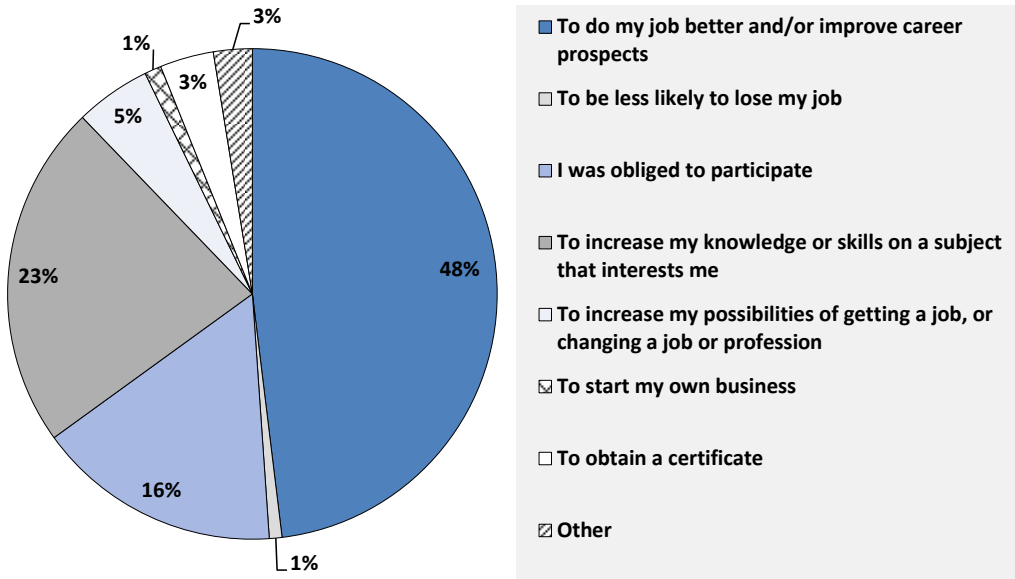
The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

3.1. The importance of investing in the right skills

Adults participate in education or training activities for a variety of reasons, but the vast majority of people want to gain labour market relevant skills to help them progress in their careers. Across the OECD countries included in the PIAAC survey, 73% of adults participating in formal adult training activities reported that their latest training spell was job-related. Similarly, non-formal adult education and training was job-related for 83% of participating adults, of whom 48% said that they participated to do their job better or improve their career prospects (Figure 3.1). Other important reasons include an obligation to participate (16%) and to increase knowledge or skills on a subject of interest (23%).

Figure 3.1. Reasons for participation in job-related non-formal adult education and training

% of participants



Note: Average of OECD countries participating in PIAAC; non-formal job-related education and training only.
Source: PIAAC (2012, 2015).

To effectively support the career progression of individuals, not only should adult learning be job-related but also it needs to be aligned with labour market needs. This is especially true in the context of a rapidly changing demand for skills. Three key conditions are needed to achieve this alignment. First the content of adult learning programmes needs to be responsive to current, but also future, skill needs in the labour market. Secondly, incentives for participants and providers need to be set to guide the choice of courses towards skills in demand. Third, adult learning policies must respond to changing skill demands by specifically targeting those adults whose core skills have become or are likely to become obsolete and upskill or reskill them with in-demand skills.

To facilitate the alignment of adult learning policy with changing skill demands, it is of crucial importance that policy makers, individuals and employers have a good understanding of these changing skill needs, so that they can make informed decisions on adult learning investments.

3.2. Alignment with skill needs - results from the PAL dashboard

The PAL dashboard measures the alignment of the adult learning system with the skills needed in the labour market on four key dimensions: i) the degree of labour market imbalances; ii) the extent to which firms assess their skill needs; iii) the provision of training in response to skill needs; and iv) the participation in training of individuals with particular skill investment needs. The full set of indicators used to measure alignment with labour market needs within each of these dimensions is described in Table 3.1.

Table 3.1. Alignment of adult learning with skill needs – PAL indicators

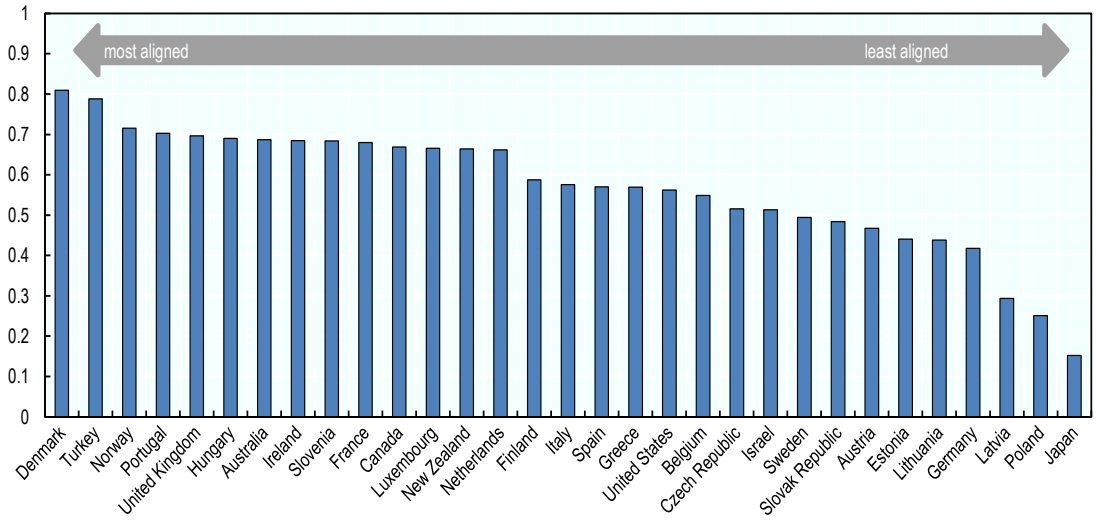
Alignment with skill needs				
	Labour market imbalances		**Assessment of skill needs**	
	Self-reported training needs	% of workers reporting they need more training to do their current tasks	**Enterprises assessing skill needs**	% of enterprises that assess their future skill needs
	Hiring difficulties	% of employers reporting difficulty filling jobs		
	Obstacle to long-term investments	% of enterprises reporting availability of staff with the right skills as a major obstacle to long-term investment decisions		
	Training for future skill needs		**Training for workers at risk**	
	Training to fill skill gaps	% of enterprises that provide training in response to future skill needs	**Easy-to-fill occupations**	Percentage point difference in participation between workers in easy-to-fill and hard-to-fill occupations
	Non-compulsory training	% of training hours outside compulsory training	**Jobs at risk of automation**	Percentage point difference in participation between workers in jobs with significant risk of automation and low risk of automation
	Training for development	Overlap between enterprises' skills priorities and their training activities		

Note: See Annex B for details on the data sources used for each indicator.

The PAL dashboard suggests that there are large differences between countries in terms of the overall alignment of adult learning with labour market needs (Figure 3.2). Across the different dimension of alignment, Denmark scores best among OECD countries, followed by Turkey and Norway. The weakest overall performance in alignment with labour market needs is observed in Japan, Latvia and Poland. The performance on the different indicators is described in the following subsections.

Figure 3.2. Results of the Alignment dimension

Alignment index (0-1)



Note: The index ranges between 0 (least aligned) and 1 (most aligned). Chile, Korea and Switzerland were excluded due to missing data.
Source: See Annex B and C for details on data sources and methodology.

3.2.1. The state of labour market imbalances

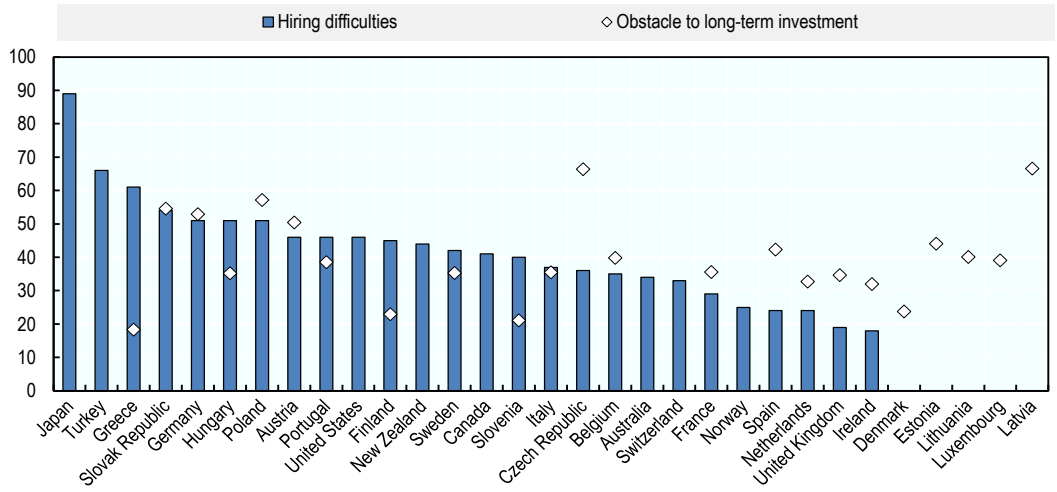
The structural changes discussed in Chapter 1 alter the demand and supply for skills, which results in labour market imbalances when policies are not responsive to these changes. While these imbalances are unavoidable, especially in periods of transition, if permanent they can have significant costs for individuals, companies and society (OECD, 2016[1]). They are associated with negative labour market outcomes for individuals including lower job satisfaction, and hamper companies' innovation and productivity as well as economic growth at large. Adult learning policy is a key lever to address skill imbalances, by giving individuals the opportunity to develop and strengthen the skills that are needed in the labour market. Whether or not a country has large labour market imbalances therefore gives an indication of how well adult learning systems are aligned with the skill needs in the labour market. Nonetheless, adult learning is not the only policy area that addresses skills imbalances, and the degree of imbalances will also reflect how responsive other policies, such as initial education and migration, are to changing skill needs.

Across OECD countries, 42% of employers state that they have difficulties filling jobs. One of the factors explaining these hiring difficulties is misalignment between the skills that workers hold and the skills required in the labour market. Hiring difficulties are greatest for companies in Japan, with 89% reporting that they have difficulties finding qualified staff (Figure 3.3). This is followed by Turkey (66%) and Greece (61%). At the other end of the spectrum are Ireland (18%), the Netherlands (24%), Spain (24%) and the United Kingdom (19%). This lack of skilled staff can constitute a major challenge for the development of companies. On average 40% of companies in countries for which data is available report that the lack of availability of staff with the right skills is a major obstacle to long-term investment decisions (Figure 3.3). Difficulties to find personnel are greatest

in Latvia (67%) and the Czech Republic (66%), and smallest in Greece (18%) and Slovenia (21%).

Figure 3.3. Employer-reported labour market imbalances

% of employers reporting difficulty in filling jobs and % of employers reporting availability of the staff with the right skills as major obstacle to long-term investment decisions



Note: Missing data on hiring difficulties for Denmark, Estonia, Latvia, Lithuania and Luxembourg
Source: Manpower talent shortage survey (2018), EIBIS (2016)

Employers facing hiring difficulties may be forced to hire workers with an imperfect skill-set for the job. In fact, 35% of workers report that they do not have all the skills needed to do their current tasks and need more training according to data from the OECD Survey of Adult Skills (PIAAC). Japan (70%), Chile (66%), Estonia (47%) and Germany (47%) display the highest training needs and the Netherlands (18%), the United Kingdom (21%), Belgium (23%) and Turkey (23%) display the lowest. It should be noted that there is a weak correlation between the indicators of self-reported training need and recruitment difficulties, with possible explanations being that both are self-reported subjective measures, and that they each have a different reference population (the employed vs. those active in the labour market).

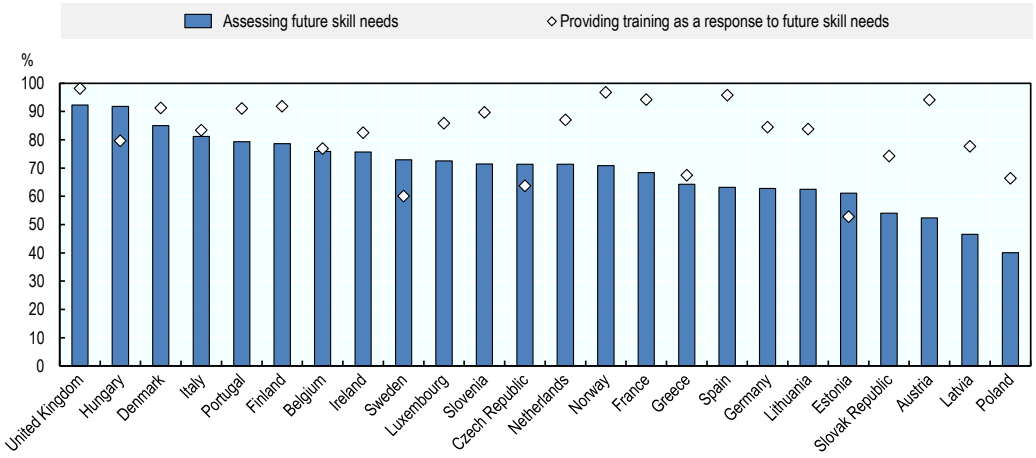
3.2.2. Assessing and responding to future skill needs

The assessment of skill needs is an important first step in avoiding and tackling skills imbalances. Firms that regularly take stock of their current and future skills needs are better prepared to plan their training and hiring activities. Across European OECD countries, on average 69% of firms assess their future skill and competence needs (Figure 3.4.). In Denmark, Hungary, Italy and the United Kingdom, more than 80% of firms report assessing their future skill needs, whereas this is the case for less than 50% of firms in Poland and Latvia. To address the identified needs, firms can adopt a variety of strategies, including training of existing or new employees to gain the needed skills. In European OECD countries, training seems to be a common response to skill needs: 82% of firms with at least ten employees train current employees or hire and train new employees when confronted with skill needs. Almost all firms in the United Kingdom (98%), Norway (97%) and Spain (96%) use training as a response to skill needs, while

only around half of the companies do so in Estonia. Other common responses to existing skill needs, aside from training, include internal reorganisations to better use existing skills and the recruitment of new staff with the suitable skills.

Figure 3.4.Enterprises assessing their future skill needs and responding to identified needs through training

% of enterprises



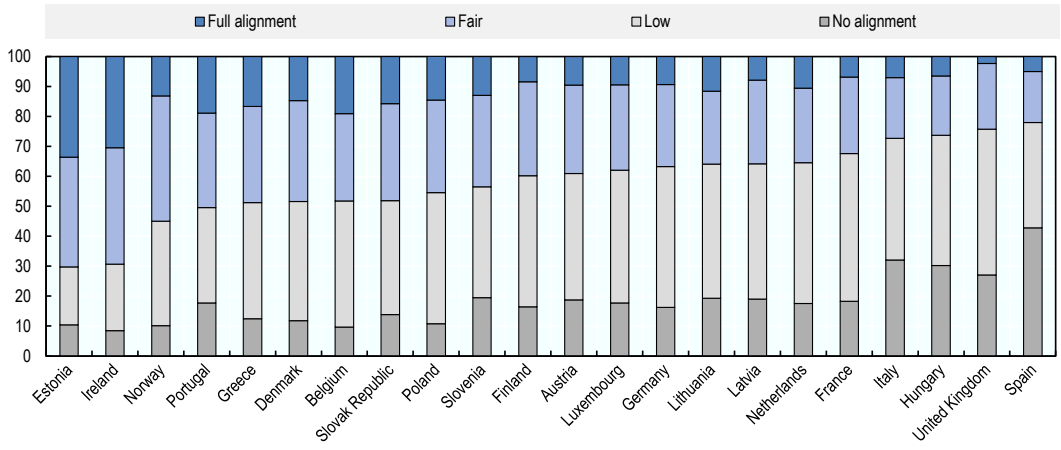
Note: Only refers to enterprises with at least ten employees. Assessing future skill needs refers to 2010 for Sweden.
Source: CVTS (2015).

Another important aspect of alignment at the firm level is the degree to which there is an overlap between the identified skill needs of the company and the training activities actually offered. When comparing the top three skills that enterprises report as important for the development of the firm to the three most important skills targeted in training activities, there is only a complete overlap for 13% of firms across OECD countries in Europe. A further 30% of firms have a fair amount of alignment between training and development priorities (i.e. two-out-of-three skills that are development priorities are also training priorities). The alignment between the identified skill needs and the focus of the implemented training is strongest in Estonia, Ireland and Norway, while it is much weaker in Spain and the United Kingdom (Figure 3.5).

Rather than responding to current or future skill needs, some firms just provide compulsory training opportunities, such as health and safety training. While this type of training is certainly useful and necessary, it should not substitute for training that allows adults to develop skills that help them progress in their careers. In firms with at least ten employees across OECD countries in Europe for which data are available, health and safety training accounts for 21% of training hours. This share is lowest in Denmark, Greece and Luxembourg, where it accounts for only 10% of all training. In the Czech Republic, Ireland and Italy, on the other hand, more than 30% of training hours are spent on compulsory health and safety programmes. These cross-country differences are likely to reflect different approaches to using training time, but also differences in the economic structure of countries.

Figure 3.5. Overlap between skills priorities and training activities

% of firms at different degrees of alignment



Note: Excludes firms with less than ten employees. Countries are ranked by their average degree of alignment. The degree of alignment is calculated as the overlap between the top three development priorities of firms and the top three training priorities (in terms of training hours). Each firm can score either zero (i.e. no overlap), low (i.e. one development priority is also a training priority), fair (i.e. two development priorities are also training priorities) or full alignment (i.e. complete overlap between development and training priorities).
Source: CVTS (2015).

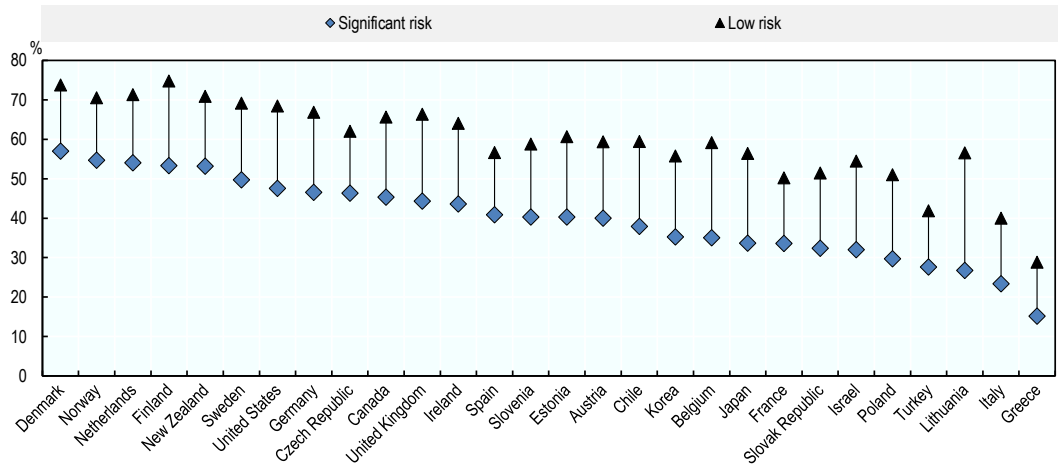
3.2.3. Training for workers at risk

At the individual level, workers or job-seekers whose skills do not correspond with those required in the current or future labour market have some of the strongest training needs. However, as highlighted in Figure 3.6, workers in jobs with significant risk of automation participate less frequently in adult learning than other workers. This gap is observed even in countries with high overall participation rates (e.g. Scandinavian countries). The difference is biggest in Lithuania (27 percentage points), but it is substantial (12 percentage points) even in the countries with the smallest difference in participation rates (i.e. Turkey and the Czech Republic).

The same result holds for workers in easy-to-fill occupations (i.e. occupations for which the demand is lower than the supply): in the large majority of OECD countries, participation in job-related adult learning is lower for workers in easy-to-fill occupations – who presumably possess outdated skills – than for workers in hard-to-fill occupations – whose skills are in high demand. The only exceptions are Australia, Chile and the Czech Republic. The largest differences in training participation rates are in Belgium, Finland, Germany and Estonia.

Figure 3.6. Participation in job-related adult learning by risk of automation

% of workers participating in adult learning (in the last 12 months)



Note: Significant risk is defined as having a risk of automation over 50%, low risk as having a risk of automation of at most 50%. Belgium refers to Flanders only, United Kingdom to England and Northern Ireland. Training refers to formal or non-formal job-related adult learning.
Source: Nedelkoska and Quintini (2018[2]) using PIAAC data (2012, 2015).

3.3. Policies to increase the alignment of skills demand and supply

The results from the PAL dashboard show improving the alignment of adult learning with skill needs in the labour market should be a priority in many OECD countries. To do so, it is essential that high-quality information on skill needs is available and feeds into adult learning policies. OECD (2016[1]) shows that countries use a range of tools to assess and anticipate their skill needs. However, the output from these skills assessment and anticipation (SAA) exercises is not always fully exploited or shared across several relevant policy areas, including education and training, employment and migration. Well-performing adult learning systems should use SAA information to: i) design adult learning policies and programmes, ii) put in place incentives that steer investment in adult learning towards programmes targeting in-demand skills, and iii) provide assistance for up- or re-skilling workers in sectors that are undergoing structural change.

3.3.1. Designing adult learning policies and programmes in line with labour market needs

In many OECD countries information from SAA exercises feeds into the strategic planning of adult education and training. The information serves as a guideline to develop strategies, objectives and targets to ensure that planned education and training activities are in line with labour market needs: in Spain, the Observatory of the PES continuously assesses the training needs in the labour market in cooperation with the Autonomous Communities and social partners,. This information is used as a basis for the elaboration of a multi-year framework for strategic planning of the entire vocational training system, including training programmes for adults. In Greece, information from SAA exercises on digital skill shortages fed into the National Digital Strategy 2016-21. Similarly, analysis of digital skills demand and supply in Japan, mainly related to the fourth industrial revolution, contributed to its Growth Strategy 2017.

Many countries are also exploiting information on changing skill needs to set training standards. Social partners are in some cases involved in setting standards, especially in vocational education and training, as they generally have a good understanding of the skill requirements in the workplace. In Korea, the government, in cooperation with Industry Skills Councils, uses labour market information to develop national occupational standards. These standards are applied to vocational education and training qualifications to ensure that they meet the needs of the workplace. At the same time, employers are encouraged to use these same standards in their human resource management. In England, apprenticeships are used to recruit and develop the skills of workers.[1] In the recently reformed apprenticeship system, groups of employers (called trailblazers) are responsible for setting apprenticeship standards within their sectors (OECD, 2017[3]). This system was introduced to ensure a better alignment of the content of apprenticeship programmes to the needs in the workplace.

One particular area in which countries are actively developing adult learning programmes is digital skills.[2] These skills are expected to become increasingly important over the next years, and several countries are already experiencing digital skill shortages (OECD, 2017[4]). In many instances, digital skills are now considered to be a foundation skill, along with literacy and numeracy. In Luxembourg, a basic digital skills programme (*Internet-Führerschäin*) has been set up for adults with very low literacy skills to develop their knowledge and skills on how to use ICT in a conscious and responsible way. In the United Kingdom, theDigital Skills Partnership brings together government and national and local employers and charities in an effort to address digital skills gaps in a more collaborative way. From 2020 onwards low-skilled adults in the United Kingdom will have access to fully-funded digital skills programmes, in line with the already existing maths and English programmes. In Hungary, improving the digital skills of disadvantaged adults is one of the projects of the new national development plan (*Széchenyi 2020*). The goal of the project is to provide digital skills training opportunities to 260 000 low-skilled adults from disadvantaged regions. Digital literacy programmes are also available in Argentina, providing adults with basic digital skills such as opening a mailbox, using social media, using search engines and consulting online job vacancies.

In some countries, steps have also been taken to actively encourage the development of more advanced and specialised digital skills. Training programmes in these areas are sometimes made available to a wide audience for free, or targeted at disadvantaged groups. When these training programmes are not free, financial incentives can be used to access them. In the Brussels capital region (Belgium), coding and web development programmes are available for unemployed youth, allowing them to obtain basic skills in this area within a period of six months. Similarly, in France, the Digital School label (*Grandes écoles du numérique*) was introduced for programmes that provide subsidised digital skills training in areas related to labour market demand. These programmes are mostly free and open to everyone, but priority is given to disadvantaged and underrepresented groups in the labour market (OECD, 2017[5]). In Mexico, 32 Digital Inclusion Centres (*Puntos Mexico Conectado-Centros de Inclusión Digital*) were set up across the country, providing basic digital skills programmes, but also training in robotics, mechanics and programming. Participation in digital skill programmes is encouraged in Turkey by extending the maximum duration of PES-coordinated on-the-job training to six months for digital skills programmes (instead of three months for most other programmes). The duration is additionally extended to nine months for youth participating in specific digital programmes that correspond to rapidly emerging skill needs, like cyber security and cloud computing.

3.3.2. Steering adult learning investment towards in-demand skills

Based on the information from SAA exercises, adult learning policies or initiatives can be implemented that specifically target the development of in-demand or shortage skills. Individuals can be steered towards investment in more in-demand fields by i) providing only those training programmes that are in line with skill needs, ii) providing financial or non-financial incentives to invest in-certain in-demand skills, and iii) giving information and guidance that stresses the importance of these skills.

Providing only training programmes that correspond to identified skill needs, effectively ensures that participants choose training programmes that address these skill needs. However, this strategy also restricts the flexibility for individuals and employers to respond to specific needs or preferences. The use of SAA information to determine the provision of training is common among public employment services, as their main goal is to help job-seekers transition into sustained employment. By restricting training option to skills that are in demand in the labour market, they try to ensure that training improves the labour market outcomes of participants, and as such avoid ineffective expenditure. In France, for example, the public employment service (PES) uses the information from an employer survey on recruitment activities and needs to decide on the amount and type of training courses to purchase from training providers (OECD, 2017[5]). In Portugal, regional branches of the PES analyse the skill needs in their region, including information on vacancies from the local PES offices, to determine the offer of vocational training within the network of Employment and Vocational Training Centres. In Chile, the PES uses information on labour demand, collected through interviews, surveys and roundtables, to align their training offer with labour market needs. The PES of Wallonia (Belgium) classifies its training offer into three categories of identified skill needs: i) occupations in high demand; ii) shortage occupations; and iii) occupations of the future. In the PES-financed Skills Development Programme in the province of Manitoba (Canada), the responsibility to identify in-demand occupations lies with the participants of the programme. Unemployed, under-employed, low-skilled and low-income individuals can participate in training, provided that they show that the training program they wish to attend will result in employment after completion. This requires prospective participants to research their field and speak with stakeholders in the industry to ensure the occupation is in high demand and employment opportunities are readily available.

The PES is not the only body exploiting SAA information to determine which training programmes to offer. In Denmark, for example, sector-specific continuing training and education committees use skill needs information to determine which training programmes to offer in adult vocational training centres. In Brazil, as part of the *Pronatec* programme, different ministries can submit requests to the Ministry of Education for creating specific training programmes that correspond to the identified needs. The Ministry of Education centralises these requests and coordinates the opening of funded training programmes with public and private training providers. The training opportunities under the *Pronatec* programme are therefore, in principle, restricted to areas of identified needs. However, (OECD, 2018[6]) finds that in practice the training offered under *Pronatec* generally does not correspond to skill needs, but mainly reflects the capacities and preferences of training providers. In the United States, under the Workforce Innovation and Opportunity Act (Part I) funds are distributed to and within states to support career guidance and training activities. Training services are generally limited to preparing individuals for in-demand sectors or occupations, as identified by States and local areas using current labour market information.

Even when the training offer does not entirely correspond to identified skill needs, adults can be guided in their choice of training options by targeting certain financial or non-financial incentives to training programmes that address skill needs in the labour market. The availability of financial incentives for individuals, such as vouchers or grants, can be limited to certain training programmes. Similarly, employers can receive financial support, such as subsidies or tax exemptions, when training their workers for certain in-demand skills (OECD, 2017[7]). In Estonia, registered job-seekers can access training opportunities through a system of training vouchers (*Koolituskaart*). These training vouchers have recently also been made available for certain groups of employees under specific conditions. In the case of low-wage older workers and low-skilled workers, the condition to use the training vouchers is that the training has to be related to ICT skills or skills identified as being in shortage by the Estonian Qualifications Authority. The Latvian training vouchers for the unemployed and job-seekers can only be used for a specified list of training programmes, set in accordance with results of labour market analysis to meet labour market needs. The vouchers can be used for vocational education programmes and non-formal training programmes. In Austria, a grant scheme (*Fachkräftestipendium*) is available for individuals participating in training related to PES-identified shortage occupations. This grant provides income support during the training participation, under the condition that the training programme lasts for at least three months and covers at least 20 training hours per week. In Flanders (Belgium), participation in full-time formal training programmes in shortage areas is fully subsidised for job-seekers (OKOT). The training usually lasts for one to three years, and participants are encouraged to combine training with part-time work after the first year. Estonian employers hiring job-seekers for certain occupations that are in shortage and of growing importance in the labour market can receive training grants (Recruitment Training Grant - *Koolitustoetus töötajate värbamiseks*) to partially compensate for the cost of training the new hires.

Rather than limiting incentives to in-demand skills, policy-makers can also choose to make them universally available, but allow for more generous incentives for individuals participating in training that develops in-demand skills. In Belgium, for example, the maximum number of days of training leave is higher when beneficiaries participate in training in shortage occupations.[3] The training account system for job-seekers in Korea partially subsidises training cost, with the amount of the subsidy depending on the employment rate in the related occupation. Subsidies are therefore more generous for training related to areas with strong skill demand.

A softer way of steering individuals and employers towards the development of skills that are in high-demand in the labour market is through information and guidance. As one of the goals of career guidance services is to help job-seekers transition into sustainable employment, information on labour market needs is generally taken into account when providing these services. In many countries, career guidance websites provide information about skill needs. The Austrian PES provides detailed information about labour market needs on its Qualifications Barometer website (*Qualifikationsbarometer*). The Canadian Job Bank web portal allows users to consult registered vacancies, and obtain information about the employment prospects of specific occupations in specific regions. As indicated above, the New Zealand *Occupation Outlook* provides extensive information on labour supply and demand in over 100 occupations. In some countries, information sessions are organised to inform job-seekers about labour market needs. Public career guidance centres in Wallonia (Belgium) (*Carrefours Emploi-Formation-Orientation*), for example, organise information sessions on different occupations, which

provide information about labour market needs and training requirements and opportunities.

Public awareness campaigns are mostly general in nature, promoting overall participation in adult learning or specific adult learning policies. In some countries, however, campaigns target certain skills priorities, such as areas of labour market shortages. In Flanders (Belgium) a public awareness campaign was launched in 2011 to promote education and training towards employment in the healthcare sector. Employment in the sector, which has been facing hiring difficulties, is promoted through traditional ads, but also on a dedicated website and on social media. On the website, individuals can register for an immersion session at a healthcare institution, allowing them to become familiar with the job content. In light of its teacher shortages, the state of California (United States) launched a state-wide campaign "Make the Switch: Become a Teacher" to promote the teaching profession for adults who have already started their career in other fields. The campaign consists of video testimonials of people who "made the switch" and a comprehensive website is available with information on training requirements.

3.3.3. Assisting workers in sectors undergoing structural change

To better align skills demand and supply, SAA information can be used to identify individuals with skills that do not correspond to the ones in demand in the labour market, and policies can be developed to specifically focus efforts on these vulnerable individuals. Incentives can be targeted, for example, at workers and firms in sectors that are facing declining demand, have a high risk of automation or face significant changes in how work is organised. To help these individuals obtain better career prospects, the services provided to them should ideally focus on the development of in-demand skills.

Some countries have put in place broad policy packages aimed at supporting workers that have recently been retrenched or have a high risk of job loss because of structural changes:

- In Australia, Structural Adjustment Packages (SAPs) are provided to assist employees in areas where expectations of future employment opportunities for workers in the industry are low or where large scale closures may impact on the local labour market. Targeted employment assistance under SAPs can involve skills and training components for adult learners. A Stronger Transitions Package was introduced to support individuals in five regions impacted by structural change to transition to new jobs and prepare for the jobs of the future in 2018. The package includes a Pre-retrenchment Skills and Training Support measure, which can provide targeted services such as comprehensive skills assessments; job search preparation; resilience training; language, literacy and numeracy support; digital literacy training; financial management information; exploring self-employment options; health and wellbeing support, and industry awareness experiences.
- In Austria, Outplacement Labour Foundation (*Arbeitsstiftung*) programmes were introduced by social partners to support workers in the case of structural changes through appropriate labour market policies. These Foundations can be formed by one or multiple employers, but also at the sector and regional level when specific regions or sectors are affected by major staff cuts. The programmes are co-financed by local labour market actors, including the PES and the affected employers. Funding is available to cover training costs, allowances for course-

related additional costs, and active job-search assistance and career guidance costs.

Structural changes do not only affect the content of jobs and the type of skills that are in demand, but also the organisation of work. In recent years, new forms of work, such as platform work or gig jobs, have emerged. While these new forms of work create opportunities, they also pose challenges. As these jobs are becoming increasingly important, adults could benefit from information on how to access these opportunities and the challenges related to these types of jobs. In California (United States) a pilot programme "Self-Employment Pathways in the Gig Economy" is being implemented in community colleges. Classes cover topics such as the pros and cons of the various platforms, creating and optimising an online profile, and professional strategies for finding and performing jobs. Similarly, but outside of the college system, the San Francisco Office of Economic and Workforce Development partnered with Samaschool (a non-profit organisation) to launch a pilot program (*Bridge to Employment*) that provides support to aspiring gig economy workers. The goal is to help individuals take advantage of work opportunities in the gig economy to gain experience, develop skills, and earn additional income. The programme includes a series of free interactive training modules and videos on varying topics unique to independent work, and provides in-person assistance programs at San Francisco workforce centres to help workers go through the modules with peers and an instructor.

In general, it seems that relatively few countries have adult learning initiatives in place that directly target workers in jobs that have a high risk of undergoing significant change (OECD, Forthcoming[8]). Preparing these individuals for the changes that are likely to happen in the next years is crucial to facilitate their transition into new tasks, jobs or forms of work. Strong basic and transversal skills are essential for people to respond to changing skill needs, and many countries have policies in place to develop these skills. However, further efforts could be made to make these programmes more widely available and promote them among the most vulnerable workers. Strong SAA information is imperative for these individuals to make informed training choices and for governments to design effective policies that help them up-skill or reskill for the jobs of the future.

Notes

[1] See Kuczera and Field (2018[9]).

[2] Digital skills are defined as skills needed to use digital tools and technologies. These can range from basic digital skills, needed for the use of everyday digital tools and technologies, to advanced digital skills required to work with specialised digital tools and technologies.

[3] It should be noted that the education and training leave in Belgium is currently in a process of reform. The responsibility for the leave has been regionalised in 2014, and it is likely that the regions will introduce changes to the current system. In Flanders, for example, the leave allowance will be changed and linked to labour market relevant training. The reform should come into effect in the 2019/2020 academic year.

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Chapter 4. Impact of adult learning

For job-related adult education and training to have a positive impact on labour market outcomes for individuals, firms and societies, it is imperative that the training provided is of high quality and relates closely to skills needed by employers. It is also necessary that good information on the quality and outcomes of training programmes and providers is available to help people make informed decision on investment in adult learning. In addition, an enabling environment at the workplace is essential to put acquired skills to good use. This chapter provides evidence on the perceived impact of participation in adult education and training, and looks at how evaluation and quality assurance is regulated and how information on training quality is shared with the wider public. It also provides examples of how firms can foster the best use of their employees' skills.

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

4.1. Ensuring that participation in adult learning has the desired impact

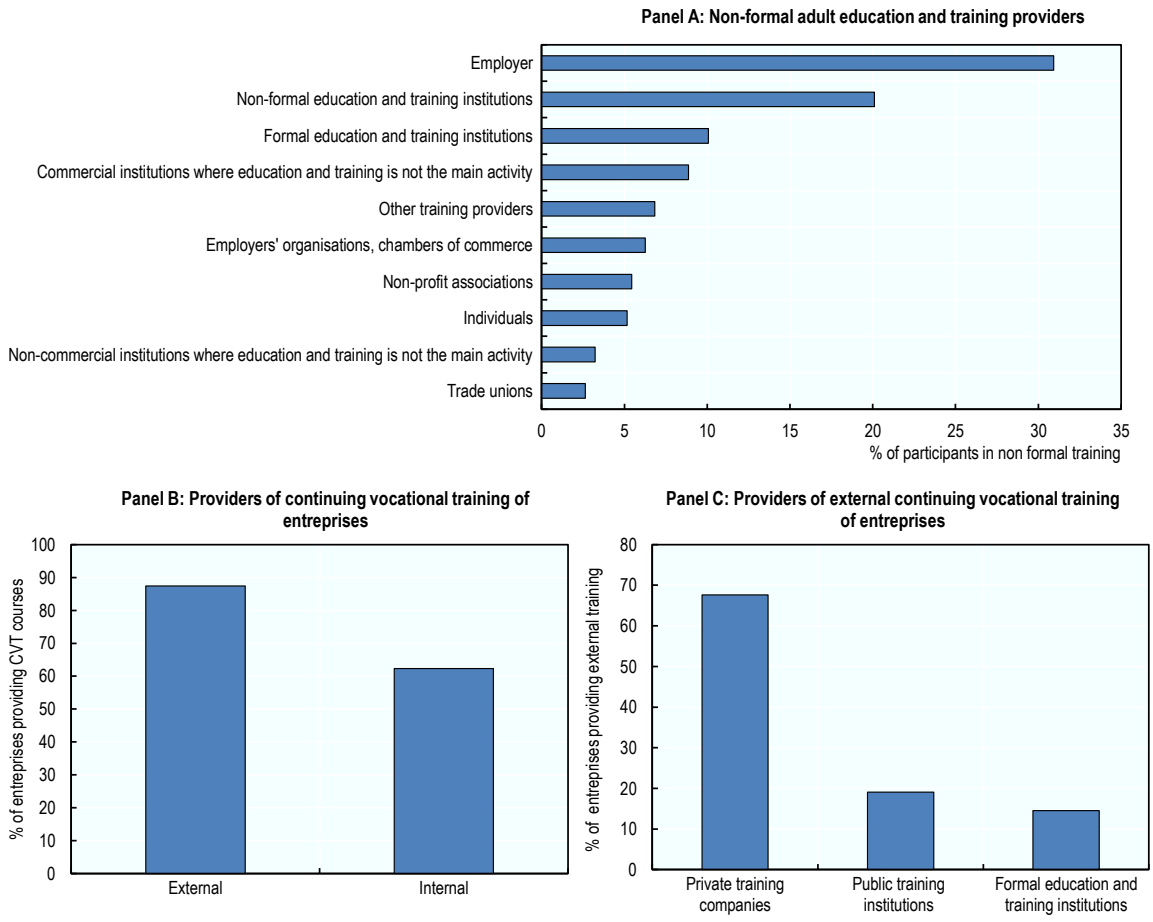
As discussed in the previous chapters, a range of policies, initiatives and incentives are in place in OECD countries to encourage participation in adult learning activities. In many countries, particular efforts are made to ensure access to training for underrepresented groups, and to bring adult learning provision in line with labour market needs. These efforts contribute to ensuring that training has a positive impact, by making sure that adults who need training will develop the right skills. However, increasing participation and aligning provision to the needs of the labour market are unlikely to have the desired impact on skills development if the training provision itself is of low quality. Further, it is important that information about the quality of adult learning provision is communicated widely, such that prospective participants can make informed choices. As argued by OECD (2005[1]) poor-quality learning programmes and a lack of awareness of programme outcomes can contribute to under-investment and low participation in adult learning. Although quality assurance is essential it also faces several challenges: in most countries the number of providers is extremely large and likely to increase as the demand for adult learning rises. Furthermore, the trend towards more flexible adult learning provision, for example through e-learning, poses new challenges for quality assurance.

Clear and well-defined quality assurance systems generally exist for formal education, but much less so for non-formal education and training (Broek and Buiskool, 2013[2]), where there is a wide and diverse range of providers (see Figure 4.1). Employers are the main providers of non-formal adult learning (31% of participants), followed by non-formal education and training institutions (20%). At the employer level, training can take place internally, or can be delivered by external providers. The majority of enterprises draw on external organisations to provide training, most of which are private training organisations.

According to Broek and Buiskool (2013[2]), countries that have well-established quality systems in place for formal and non-formal adult learning are generally also the ones that have higher participation in adult learning. While there is a general consensus that investing in quality assurance mechanisms is worthwhile, there is a lack of empirical evidence to support the argument. In general, evaluations of quality systems in (non-formal) adult learning are scarce.

Not only the quality of skills development is important for training to have an impact on labour market outcomes, but also the extent to which newly acquired skills are used in the workplace. As shown by the OECD (2016[3]), the presence of High-Performance Work Practices (HPWP) in the workplace is associated with increased skills use. Employers can foster more intensive skill use through incentive systems, like bonus payments and flexible working hours, and governments and the social partners can support the implementation of these types of practices.

Figure 4.1. Providers of non-formal adult education and training



Note: Average of European OECD countries participating in the respective surveys. Data for the top panel refer to job-related and non-job-related non-formal learning. Data for the bottom panels only includes enterprises with at least ten employees.
Source: Panel A: AES (2016), Panel B and C: CVTS (2015).

4.2. Impact of adult learning - results from the PAL dashboard

The impact of participation in adult learning is a multi-dimensional concept that can be measured in many different ways and is often difficult to observe directly. Therefore, internationally comparable information is scarce. The PAL dashboard focusses on the perceived impact of training by looking at: self-reported satisfaction, skill use and labour market outcomes, and the wage returns of training participation (see Table 4.1). While these dimensions reflect important aspects of the impact of adult education and training, they do not provide a full picture. More internationally comparable and objective data are needed to draw a fuller picture of how the impact of adult education and training differs between countries.

Table 4.1. Perceived impact of adult learning – PAL indicators

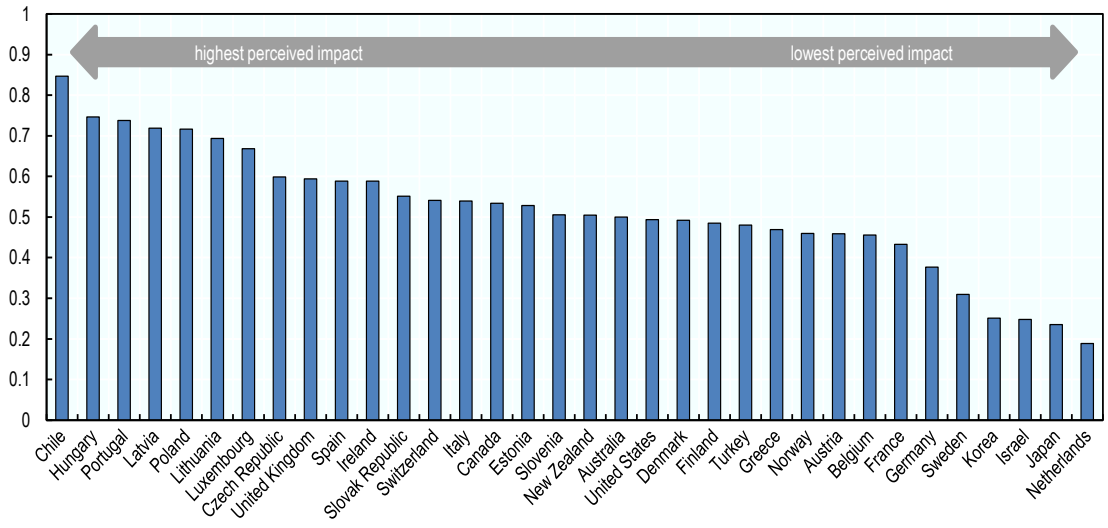
	Usefulness and effectiveness	
Perceived impact	**Usefulness of training**	% participants for whom at least one training activity was "very useful" for their job
	Use of acquired skills	% of participants currently using or expecting to use the acquired skills
	Impact on employment outcomes	% of participants for whom the acquired skills helped achieve positive employment outcomes
	Wage returns	Wage returns to formal or non-formal adult learning

Note: See Annex B for details on the data sources used for each indicator.

According to the PAL dashboard, the countries that perform best across the different dimensions of perceived impact of adult learning are Chile, Hungary, Latvia and Portugal (Figure 4.2). The lowest overall scores are recorded for the Israel, Japan and the Netherlands The following subsections describe the results in more detail.

Figure 4.2. Results of the Perceived Impact dimension

Perceived Impact index (0-1)



Note: The index ranges between 0 (lowest perceived impact) and 1 (highest perceived impact).
Source: See Annex B and C for details on data sources and methodology.

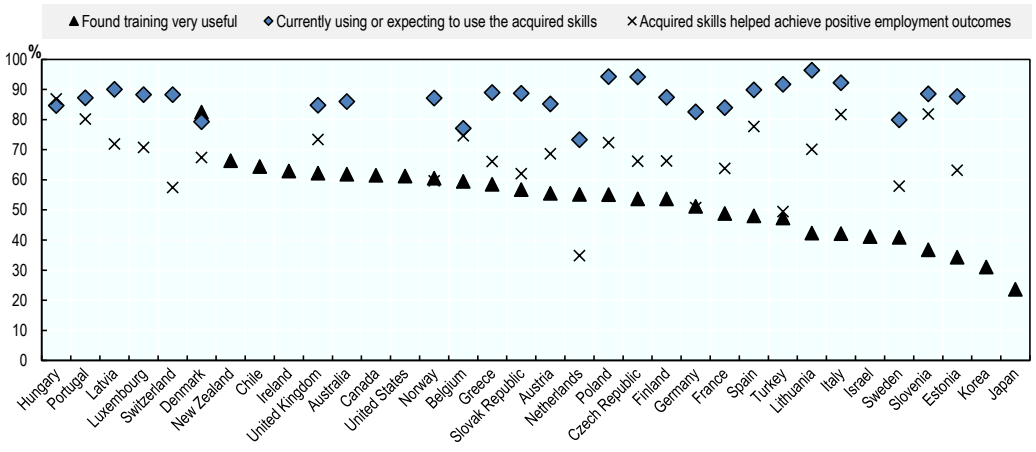
The usefulness of training can be measured both in terms of perceived usefulness among participants and actual use of acquired skills. While the former reflects a personal judgement of the training content, the latter refers to the extent to which the skills are being used or expected to be used in practice. On average across OECD countries participating in the PIAAC survey, 52% of adults found their formal or non-formal training activity very useful for the job they had at the time of the learning activity. This average hides large differences in satisfaction levels between OECD countries (see Figure 4.3), with levels ranging from 24% of participants in Japan to 82% in Denmark.

Similarly, countries differ in the extent to which participants actually use or expect to use the skills they acquired in their training activity, although these differences are much smaller than for self-reported usefulness (Figure 4.3).[1] In the Czech Republic, Italy, Latvia, Lithuania, Poland and Turkey more than 90% of participants use or expect to use their newly acquired skills, whereas this is only the case for 73% of participants in the Netherlands. Interestingly, the indicators on self-perceived usefulness of training and actual use of acquired skills are only weakly correlated (and even negatively). Lithuania, for example, combines a very high share of people using or expecting to use their acquired skill (96%) with a relatively low share of participants finding the training very useful (42%). The weak correlation between the two indicators may be explained by the fact that usefulness only refers to how useful training was for the job held at the time of participation, whereas the use of skills refers more broadly to whether or not individual are using or expected to use the acquired skills in any situation.

The effectiveness of training can be assessed by looking at whether or not the training activities had the desired impact for the participant. Individuals usually participate in job-related training to improve their productivity, increase their career prospects or to find a new job. Across European OECD countries, 67% of participants state that training helped them achieve positive employment outcomes.[2] This self-reported positive effect on employment outcomes is biggest in Portugal (80%), Italy (82%), Slovenia (82%) and Hungary (87%), and smallest in Germany, the Netherlands and Turkey (Figure 4.3). There is no clear relationship between the use of skill acquired through non-formal job-related training and the self-reported impact on employment outcomes. In some countries a large share of adults report that they use the acquired skills and that training had a positive impact on their employment outcome (e.g. Italy, Spain), while there are other countries where relatively few adults report a positive impact on employment outcomes even though many adults use the acquired skills (e.g. Turkey, Switzerland).

Figure 4.3. The usefulness, use and effectiveness of skills acquired in adult learning

% of participants in job-related adult learning



Note: Data on usefulness refer to formal and non-formal job-related training, data on use and employment outcomes to non-formal job-related training only. The data on usefulness for Belgium refer to Flanders only, for the United Kingdom to England and Northern Ireland only.
Source: AES (2016), PIAAC (2012, 2015), WRTAL (Australia, 2016-17).

It is important to keep in mind that the self-reported effectiveness of training does not only reflect the quality of training, but also labour market conditions and other contextual factors more broadly.[3] For example, in countries where the competition for jobs is fierce, training participation might have a much bigger impact on employment outcomes than in countries with relatively little competition for jobs. At the same time, even if the quality of training is high it may not have a very positive impact on employment outcomes in a situation of high unemployment. Moreover, perceptions might also be influenced by cultural factors, such as positive attitudes.

A more objective measure of the impact of training among workers is the wage returns to training. Wage returns are a measure of the impact of participation in adult education and training on the individuals' wages. Controlling for a range of individual factors, Fialho, Quintini and Vandeweyer (2019[4]) find that the wage returns to participation in formal or non-formal job-related training are largest in Chile, Lithuania and Estonia and smallest in Greece, Denmark and Italy.[4] While returns to training are a signal of its effectiveness, cross-country differences might also reflect the extent of flexibility in the wage-setting process. Differences in the returns could also reflect a different composition of training activities between countries, as some of them might focus more strongly on training that does not necessarily have an impact on wages (e.g. health and safety training).

4.3. Policies to ensure the that training has the desired impact

This section discusses two key areas to ensure that participation in adult learning has the desired impact on labour market outcomes: quality assurance and skill use. Adult learning systems are characterised by a large number of training programmes, delivered by a large number of training providers. In France, for example, more than 92 000 training providers are officially registered, many of which are very small (République Française, 2018[5]). In such a large and scattered market, strong monitoring and evaluation frameworks are essential to ensure quality of the provided training. It is also important that individuals, employers and institutions who want to participate in or provide training have access to sound information on the quality of different providers. With regards to the quality dimension, this section looks at how countries: i) assist training providers in offering high-quality programmes; ii) ensure high quality by certifying training providers and programmes; iii) measure the outcomes of training; and iv) share information on the outcomes of quality assessments with the general public. Countries can also achieve a larger impact of training by fostering better use of skills at the workplace, and this section describes how greater adoption by employers of high-performance working practices has been encouraged in different countries to ensure that skills are used optimally.

4.3.1. Guiding training providers to offer high-quality programmes

Measuring the quality of training is not easy, not even for training providers themselves, as quality is multi-dimensional and often subjective. Training providers could therefore benefit from support in implementing quality measures and monitoring and evaluation systems. This type of support is available in some countries, in the form of: i) guidelines, criteria and quality standards; ii) training to improve the knowledge about quality among training providers; and iii) support materials for training providers, such as good practice examples and self-evaluation tools.

Guidelines, criteria and quality standards can form the basis of a framework against which to evaluate the quality of training. Providing training providers with guidelines will help them understand what is considered quality training provision and how it is

measured. In Japan, guidelines for vocational training services at private providers were developed in 2011. The guidelines present specific measures to improve the quality of vocational training services and management of private providers based on an international quality standard.[5] Training accredited by the Department for Adult Training (*Service de la Formation des Adultes*) in Luxembourg has to follow quality criteria in the areas of i) equal access, ii) transparency, and iii) trained teachers. The United States Workforce Innovation and Opportunity Act promotes quality in adult education and training activities through a system of performance indicators that holds States, local communities, and providers accountable for the learning and employment outcomes of participants.

An important step in having an effective quality assurance system is to build the capacity of staff in adult training institutions to have a good understanding of what quality is and how to monitor and assess it. In Japan, workshops are organised for training providers to get familiar with and better understand the quality guidelines. There have been discussions on making participation in these workshops compulsory for training providers that want to offer publicly funded training programmes. In Slovenia, a training programme was developed by the Slovenian Institute for Adult Education (SIAE) for individuals to become quality counsellors in adult education. Training providers who want to improve their quality management system can have one or more staff members participate in the training or hire a qualified quality counsellor.

Giving training providers access to support materials can also help them develop their quality systems. In Italy, the group involved in the Action Plan for Innovation in Adult Learning (PAIDEIA) disseminates good practices in terms of quality among training providers. In Slovenia, good practices, tools and recommendations are made available on an online platform (*Mozaik Kakovosti*) with the goal of providing support for training providers who are developing an internal quality system. In Finland, on top of carrying out evaluations, the Finnish Education Evaluation Centre (FINEEC) is tasked with supporting education and training providers in issues related to evaluation and quality assurance. In this respect, the centre formulates evaluation methods and indicators that education providers can use in self-evaluation and peer reviews. FINEEC also supports the development of an evaluation culture among education and training providers and promotes the spreading of good practices (FINEEC, 2016[6]). In Denmark, a self-evaluation tool (*VisKvalitet*) is available for training providers to help measure participants' satisfaction and learning outcomes, as well as the satisfaction of employers whose employees have participated in training programmes. The use of the tool has been made compulsory for continuing vocational education and training providers. The tool gives flexibility to training providers to add questions in addition to the mandatory ones.

4.3.2. Accreditation and quality labels

To guarantee that training providers and programmes comply with minimum quality requirements, many countries have put in place certification mechanisms or quality labels. Both can serve as signals of quality to help individuals, employers and institutions make informed choices about training investments. In some countries, publicly funded training programmes can only be delivered by certified providers as a way to ensure that the quality of training is up to standards.

Institutions in charge of quality control can certify training providers and programmes which have passed a quality evaluation. In Germany, a nationwide certification process for adult learning provision was introduced in 2012. Providers now have to be certified by

specific bodies (*Fachkundige Stellen*, FKS) if they want to carry out employment promotion measures themselves or have them carried out on their behalf. The German Accreditation Body (*Deutsche Akkreditierungsstelle*, DakkS) is in charge of accrediting the certification bodies to guarantee their quality. In Japan, from 2018 onwards, training providers who comply with the quality guidelines will be certified. Compliance will be assessed on the basis of documents submitted by the training providers and on-site visits. Training providers in Korea wishing to deliver government-funded training programmes need to be certified. The duration for which certification is granted depends on the outcome of the quality evaluation (see below). In Chile, providers of PES-financed training have to adhere to a quality norm that was set in 2015. Certification based on this quality norm is done by private entities (*Organismos certificadores de servicios*), which in turn are supervised by a public entity (*Instituto Nacional de Normas*). When the norm started to be enforced in 2017, this led to the closure of around 800 training providers. In Romania, adult vocational training providers need to be accredited if they want to deliver nationally recognised certificates. The accreditation is based on quality criteria and is carried out by tripartite authorization commissions (composed of representatives from the Ministry of Labour and Social Justice, the Ministry of National Education, the National Agency for Employment, and the social partners). Providers are accredited for four years and monitored throughout this period.

In a similar vein, but generally on a more voluntary basis, quality labels can be granted to training providers or programmes for signalling reasons. In Austria, the nationwide Ö-Cert quality label was introduced in 2012 to bring transparency to customers and to serve as a quality standard for granting funds. Ö-Cert works as an umbrella label: it recognises existing Quality Management Systems and, in addition, providers have to fulfil the Ö-Cert-basic requirements. The accreditation is done by a group of independent experts. In Switzerland, the responsibility of quality assurance and development lies with the training providers themselves. A range of quality labels are available for training providers to signal their quality. The Slovenian Institute for Adult Education (SIAE) has developed a set of tools to incentivise training providers to implement a culture of quality, including a green quality logo that is granted to providers for continuous and systematic work on quality. The providers must prove that they systematically carry out self-evaluation exercises to be granted the quality logo. In British Columbia (Canada) post-secondary education and training providers can obtain an Education Quality Assurance (EQA) label to show that they meet or exceed quality standards set by the provincial government. These quality standards go beyond what is required by legislation, regulatory bodies and accreditation processes.

4.3.3. Monitoring and evaluating outcomes

Evaluating the quality of training programmes and providers can be a challenging task, as evaluation exercises require information on many different aspects. Effectiveness of training is generally measured by looking at training outcomes, such as labour market entry, or satisfaction with the provided training. These outcomes can be assessed through a variety of monitoring and evaluation methods, implemented either by external quality assurance bodies or internally through self-evaluations of training providers.

Types of quality measures

The assessment of outcomes of training is a common way of measuring the quality of training providers and programmes. Training outcomes are often assessed by looking at the labour market integration of participants. In Lithuania, for example, PES-

implemented training programmes are assessed on their effectiveness in terms of short-term and long-term entry of participants into employment. Similarly, the Ministry of Economic Development and Employment in Finland measures the effectiveness of training by tracking the labour market status of training participants at different points in time following their participation. In Ireland, outcome assessments are an important part of training evaluation, and a new data system (Programme and Learner Support System) has recently been implemented to enable enhanced tracking of learner outcomes and more informed funding decisions. The system uses the national Further Education and Training course calendar, national course database and learner database to track learners' lifecycles, including application, interview, start, completion and certification (and early leaving). However, these evaluations of outcomes do not capture the effectiveness of training in improving employment outcomes as against some control group who did not undergo the training (see the discussion below on impact evaluations).

A more subjective way to measure quality is the satisfaction of participants with the provided training, which is generally measured through surveys during and/or after training participation. In the Brussels capital region (Belgium), the results from user satisfaction surveys are part of the quality evaluation done by *Bruxelles Formation*, the organisation in charge of adult learning for the French-speaking population in Brussels. They aim to have an average satisfaction level of at least eight out of ten. In Finland, student surveys are run during and right after every PES-funded training programme, and this information feeds into the evaluation process.

Methods to assess quality and the role of external bodies

The assessment of quality of training providers and programmes can be assigned to external quality bodies that assess quality through inspections. In Norway, the agency for lifelong learning (SkillsNorway) is in charge of the inspections of adult learning provided in study associations and under the publicly-funded training programme for basic working life skills (SkillsPlus). A negative finding from an inspection can result in an order to make changes, but also in withdrawal of public funding and/or an obligation to pay back received public funding. Often these external quality bodies use a wide range of information sources in addition to results from inspection visits to assess the quality of training providers or programmes:

- The Korean Skills Quality Authority (KSQA) is in charge of the evaluation of vocational training providers, training programmes and trainees. The KSQA conducts an in-depth evaluation of institutions, including on financial soundness, capability to provide training and training performance, and grants certified grades based on the evaluation outcomes. These grades are necessary to provide government-funded training, and better performing institutions receive grades that are valid for longer periods (up to five years). The KSQA also screens training programmes in terms of content, methods, teacher quality, facilities and equipment, and past training outcomes. For the evaluation of the trainees, the KSQA assesses whether the participants who completed training courses have acquired the expected skills. Courses that have positive outcomes in the trainee evaluation can receive additional financial support. The results from the trainee evaluation also feed into the training providers' evaluation.
- In England, the Office for Standards in Education, Children's Services and Skills (Ofsted) grades training providers based on their overall effectiveness, with a focus on: i) the effectiveness of leadership and management; ii) the quality of

teaching, learning and assessment; iii) personal development, behaviour and welfare; and iv) outcomes for learners. Inspection judgements are based primarily on first-hand evidence gathered during on-site inspections, but inspectors also consult a range of publicly available data on learners' and apprentices' progress and achievement, and have access to a wide range of other information (including self-assessment reports of the providers). The criteria used by inspectors are laid out in the Further Education and Skills Inspection Handbook. Independent training providers who are judged to be inadequate will generally no longer receive funding from the Education and Skills Funding Agency. For Future Education Colleges a negative review will lead to the development of a Notice to Improve, which sets out the conditions that the college must meet in a time bound period in order to receive continued funding.

An alternative strategy to monitor and evaluate the performance of training providers is through self-evaluation. In Slovenia, self-evaluation is commonly used among education and training providers. A framework for offering quality education to adults was introduced for adult learning providers in 2001, and this can be used for self-evaluation of entire institutions or specific programmes. The 2018 Adult Education Act states that all adult education providers should have an internal quality system that includes ongoing monitoring and in-depth self-evaluation. Information on how providers conduct their self-evaluations has to be made publicly available. The Brazilian e-Tec training programmes involve all relevant actors in the self-assessment exercises: students, tutors, teachers and coordinators. They evaluate the training programmes, teaching quality and quality of the learning environment. In Portugal, the *Qualifica Centres*, which provide guidance and RPL support, have to submit information on enrolment, referral to education and training pathways and RPL activities to the National Agency for Qualification and Vocational Education (ANQEP), which analyses the information and sends it back to the centres in an effort to encourage self-evaluation.

A more rigorous method to measure the effectiveness of adult learning programmes is the use of impact evaluations. Impact evaluations can be done by a variety of actors, including training providers, public institutions and academic researchers. The main difference between monitoring outcomes and a real impact evaluation is that the latter uses a counterfactual to estimate what part of the observed outcomes can be attributed to the training intervention (White, Sinha and Flanagan, 2006[7]). An impact evaluation of an adult learning programme would therefore generally compare the outcomes of training participants to the outcomes of similar adults who for non-systematic reasons did not participate in the training programme. Outcomes can be measured by a variety of indicators, including employment rates and earnings, depending on the goal of the training programme. As noted by Card, Kluve and Weber (2015[8]), the use of impact evaluations to assess active labour market programs, including training programmes, has increased significantly in recent decades.

Some countries have a strong impact evaluation culture, and in a few cases the evaluation of programmes is fixed in legislation. In Germany, for example, the implementation of the 2003-05 reforms to active and passive labour market policies (often referred to as the Hartz reforms) was explicitly tied to an evaluation mandate. The evidence shows that the re-design of training programmes increased their effectiveness (Jacobi and Kluve, 2006[9]). In Australia, a Try, Test and Learn Fund was set up in 2016 under the Australian Priority Investment Approach to Welfare. This Fund is used for trialling new approaches to moving at-risk income support recipients onto a pathway towards employment, evaluating these approaches using a range of evaluation methods, and learning from the

results. Many of the initiatives that are being trialled in the first tranche of the Try, Test and Learn Fund are training programmes for young carers, young parents and students at risk of moving to long-term unemployment, and unemployed former students (Australian Government - Department of Social Services, 2018[10]). The European Social Fund, which funds local, regional and national employment-related projects throughout Europe, made it compulsory in the 2014-20 programming period to assess to what extent the objectives have been achieved (European Commission, 2015[11]). The managers of the projects are free to choose the most suitable method to carry out the impact evaluation, and a practical guidance report on how to design and commission counterfactual impact evaluations was made available by the European Commission (European Commission, 2013[12]). That being said, the use of impact evaluations remains rare in many countries and in specific areas of adult learning. Robust evidence on the effectiveness of training levies, for example, is very uncommon (Müller and Behringer, 2012[13]).

4.3.4. Sharing information on quality

For individuals, employers and institutions to be able to make informed choices about which training to invest in, they need to have access to relevant and up-to-date information on the quality of different training providers and programmes. Certification and quality labels can serve as signals of quality, but training providers can also share more in-depth information on evaluations, learning outcomes and user satisfaction with the general public to help them decide which training to invest in. This information should ideally be easily accessible, presented in a user-friendly format.

In some countries, quality assurance bodies make the results from evaluations publicly available. In Norway, for example, Skills Plus makes the results from inspections of Skills Plus programmes and adult training in study associations available on its website. In the United Kingdom, the Department for Education publishes summary tables of outcome-based success measures, including sustained employment and learning rates, by provider on its website. In France, certain public institutions that finance training have to review the quality of the training providers they work with, and make the outcomes from the review process publicly available. For training providers that do not hold a specific quality label, the review consists of an evaluation of six quality criteria, including education and training of teachers and sharing of information on training outcomes. Training providers that comply with the criteria are registered in an online database accessible to financers of training (DataDock). In some countries that make use of self-evaluation systems it is compulsory to make the results publicly available. In Brazil, for example, the results from internal evaluations of the e-Tec programmes are published online. In Denmark, the results from self-evaluations through the national *VisKvalitet* tool are centralised and published online.

Table 4.2. National online databases on adult learning

Availability, coverage and quality information

	Does it exist?	Coverage		Quality indication	Name
		Training Programmes	Training Providers		
Australia	Yes	x	x	x	My Skills
Austria	Yes	x	x		Weiterbildungsdatenbank
Belgium	Yes	x	x		VDAB-Vind een opleiding; Dorifor; Formapass
Canada	Yes	x	x	x	JobBank; InforouteFPT (Québec); Repères (Québec); EducationPlannerBC (British Columbia)
Chile	No				
Czech Republic	No				
Denmark	Yes	x	x		UddannelsesGuiden
Estonia	Yes	x	x		HaridusSilm
Finland	Yes	x	x		Opintopolku
France	..				
Germany	..				
Greece	Yes	x	x		Ploigos
Hungary	Yes	x	x		Nemzeti Pályaorientációs Portál
Iceland	Yes		x		Next Step
Ireland	Yes	x	x		Fetch Courses; Qualifax
Israel	..				
Italy	No				
Japan	Yes	x	x		http://course.jeed.or.jp/
Korea	Yes	x	x	x	HRD-Net
Latvia	Yes	x	x	x	webpage of the PES (NVA); NIID
Lithuania	Yes	x	x		webpage of the PES (LDB)
Luxembourg	Yes	x	x		lifelong-learning.lu
Mexico	Yes	..	..	..	RENAC
Netherlands	..				
New Zealand	..				
Norway	Yes	x	x		utdanning.no
Poland	Yes	x	x	x	
Portugal	Yes	x	x		IEFPonline; Qualifica Portal
Slovak Republic	No				
Slovenia	Yes	x	x		Kam po znanje
Spain	No				
Sweden	No				
Switzerland	Yes	x	x		orientation.ch
Turkey	No				
United Kingdom	No				
United States	Yes	x	x		Career One-Stop
Non-OECD countries					
Argentina	Yes	x	x		Formate en Red
Brazil	No				
Romania	No				

Note: 'Quality indication' refers to whether or not the database provides information on the quality of specific training programmes or providers (e.g. student satisfaction or labour market outcomes).
Source: OECD Adult Learning Policy Questionnaire.

As discussed in Chapter 2, online databases that provide details on existing training programmes can help individuals, employers and institutions make informed adult learning choices. In some cases, these databases also provide quality information, such as learning outcomes or user satisfaction. The Korean HRD-Net website provides a wealth of information for a wide range of different training programmes. In addition to basic information on the duration of the course, the costs and the average age of the participants, the website also provides information on the employment rate and average wages of the graduates from the programmes. Also, it shows the satisfaction of participants, on a range of zero to five stars, and their reviews. Australia's national directory of vocational education and training providers and courses (*www.myskills.gov.au*) allows users to search VET qualifications by industry and access information about average course fees, course duration, available subsidies and average employment outcomes. While employment outcomes are currently available by qualification, a plan exists to make them available at the provider level. Table 4.2 provides an overview of the main available databases on adult learning, including whether or not they provide information on the quality of programmes and providers.[6]

4.3.5. Fostering skill use at work

For newly developed skills to have an impact on labour market outcomes, they have to be put to good use. Evidence shows that workers who make better use of their skills also earn higher wages and have higher job-satisfaction (OECD, 2016[3]), and that they reap larger benefits from participation in adult learning (Fialho, Quintini and Vandeweyer, 2019[4]). At the firm level, high skill use is associated with higher productivity. What happens inside the workplace – the way work is organised and jobs are designed as well as the management practices adopted by the firm – is a key determinant of how skills are used. In particular, it has been argued that better skill use and higher productivity can be achieved by implementing so-called High-Performance Work Practices (HPWP) (OECD, 2016[3]). These practices include aspects of work organisation, like team work, autonomy, task discretion, mentoring, job rotation, applying new learning, and management practices (e.g. employee participation, incentive pay and flexibility in working hours). The use of HPWP is more common among large firms than in SMEs, and high-skilled workers are more likely to be engaged in HPWP than less-skilled workers. The countries that use HPWP most intensively are Denmark, Finland and Sweden, whereas these practices are least common in Greece and Turkey (OECD, 2016[3]).

Many countries have undertaken policy initiatives to promote better skills utilisation through workplace innovation. The background to most interventions is the recognition that many firms, if offered expert advice and encouragement to adopt more effective managerial practices, can better utilise existing skills and reap the productivity gains, increasing returns to training for all. Many of these initiatives have focused on raising awareness of the benefits of better skills use, disseminating good practice and sharing expert advice. Employment New Zealand has published a Flexible Work Toolkit to help SMEs understand and manage flexible work with practical tips and tools. Also in New Zealand, Callaghan Innovation (i.e. New Zealand's Innovation Agency) has a high performance working initiative that coaches enterprises to be higher performers through effective employee engagement and improved workplace practices.

Tax incentives and subsidies can be leveraged to incentivise and support firms in adopting HPWP, especially considering that some firms may not have the incentive or financial capacity to promote workplace innovation. The *Liideri* programme of the Finnish Funding Agency for Technology and Innovation (Tekes) funds projects within

companies to renew their operations through developing management principles and forms of working and actively utilising skills and competencies of their personnel. The focus areas of the programme are: i) management principles that help an organisation promote initiative, creativity and innovation potential of personnel; ii) employee-driven innovation; and iii) new ways of working.

Largely, a firm's ability to implement and benefit from HPWP will depend on the quality of its managers to implement changes in work practices in a productive way. Low management skills can be a bottleneck to workplace innovation. Policies that seek to promote the development of HPWP may need to be accompanied by management skill development programmes. Employer networks often provide these types of leadership and management skills programmes, in addition to their role as facilitators of knowledge exchange. In some countries, government-supported management training programmes are available to employers, often with a focus on SMEs. In the United Kingdom, for example, eight innovative projects to develop leadership and entrepreneurship skills in SMEs received government support as part of the UK Futures Programme.

In some countries, the adoption of working practices that promote better skills use is facilitated by the existence of a strong dialogue between workers and employers – and the latter can be influenced by government action. In most of the Nordic countries, but also in Germany and the Netherlands where the use of flexible working arrangements is high, most workers are covered by collective agreements that stipulate rights to shorter working hours and/or to flexible working. Governments can play an active role in the promotion of social dialogue on workplace flexibility. For instance, in Germany in 2011, the federal government and social partners signed the "Charter on Family-Oriented Working Hours" calling on all stakeholders to actively pursue the opportunities of innovative working-hour models in the best interest of the German economy (OECD, 2016[14]).

Notes

[1] Adults are said to use or expect to use their acquired skills when they report using or expecting to use a lot or a fair amount of the skills acquired in formal or non-formal job-related training. In the Australian data the definition differs slightly, and adults are said to use or expect to use the acquired skills when they report using the skills sometimes, often or always.

[2] Positive employment outcomes are defined as getting a (new) job, higher salary/wages, promotion in the job, new task, better performance in the present job.

[3] Correcting the indicators of self-reported impact for personal characteristics, such as education level, age and gender, has a limited impact on the ranking of countries.

[4] Measuring the returns to training is not a straightforward exercise, as there are many factors that influence an individuals' wage and his/her probability of participating in training. The wage returns included in the dashboard are estimated using a regression that is corrected for selection bias (taking into account motivation to learn). See Fialho, Quintini and Vandeweyer (2019[4]) for more details.

[5] The ISO29990: Learning services for non-formal education and training – Basic requirements for service providers

[6] The information provided in Table 4.2 refers to national-level databases only (with the exception of Belgium and Canada, where the responsibility for this lies at the regional level). In some countries, like in Sweden, databases are available at the local level, but this information is not included in the table.

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Chapter 5. Financing adult learning

In order to ensure that adult learning systems are inclusive, well-aligned with skills needs, and have a high impact, it is important that they receive adequate and sustainable funding. This chapter explores the role of government, employers, and individuals in financing adult learning, and highlights key policy options to build a "healthy" mix of involvement.

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

5.1. The challenges of adult learning financing

A good financing model for adult learning needs to combine adequacy with equity. On the one hand, adult learning systems need to be adequately financed in order to function well. Although there is no benchmark for a sufficient level of spending, it is clear that adult learning receives less funding compared with other education areas. While ensuring adequate funding for adult learning is a key policy challenge today, arguably it will become even more pressing in the future. As the demand for adult learning is likely to increase in the context of the mega-trends (see Chapter 1), the financial resources devoted to adult learning programmes will need to be adjusted.

On other hand, there needs to be an equitable sharing of the financing of adult learning in line with ability to pay and the benefits that accrue to individuals, firms and society. This requires a 'healthy mix' of co-financing by government, employers and individuals.

Another key challenge going forward will be to improve data collection on financing of adult learning, which is extremely scant at the moment. Factors contributing to this lack of data include: the financing of adult learning by a range of actors; there are no official statistics on adult learning financing as such; accounting practices vary between countries; and there is no commonly agreed definition of adult learning. While some countries have taken good steps to collect systematic information on public spending on adult learning, and some have started to conduct ad-hoc studies to shed light on who pays for adult learning,[1] overall efforts have been scattered, irregular, and rarely coordinated at the international level.

5.2. Financing adult learning – results from the PAL dashboard

The OECD PAL dashboard reflects the importance of adequately and equitably financing adult learning, and features comparable indicators of financing at the individual, employer and government levels. The indicators that are included assess the degree to which investments are made by different actors, and to what extent the costs of training constitute a limiting factor to employers' provision and individuals' participation (see Table 5.1 for the list of the full set of indicators).

Table 5.1. Financing – PAL indicators

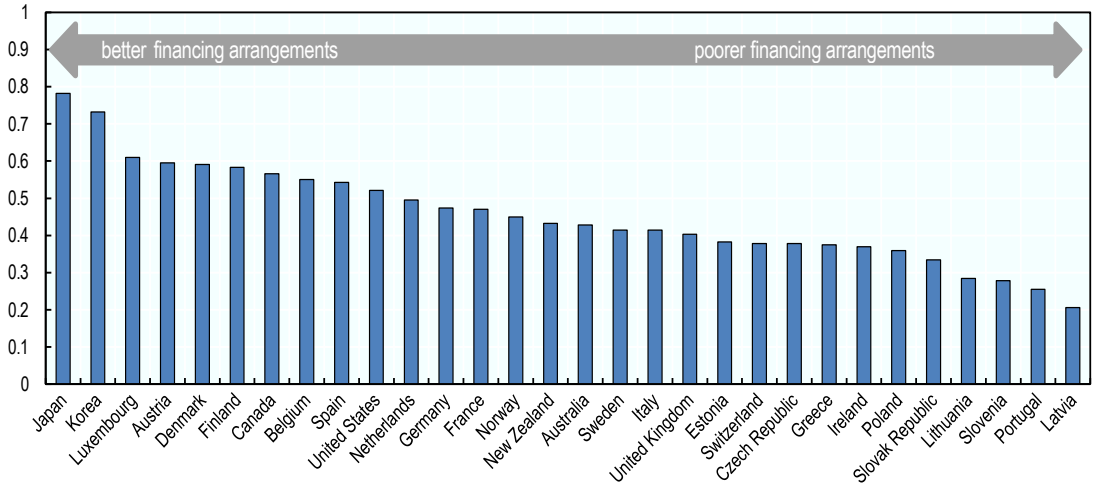
	Individuals		Employers		Government	
Financing	**Individuals spending**	% of participants who paid for taking part in non-formal learning activities (fully or partially)	**Employer-sponsored training**	% of participants who have received funding from their employer for at least one learning activity	**Government spending per unemployed**	Public expenditure on ALMPs training per unemployed-year, % of GDP per head
	Financial barriers to training participation	% of adults who wanted to participate (more) in training, but did not because too expensive	**Employers spending**	Investment in training of employees, % of total investments	**Government spending per participant**	Public expenditure on ALMPs training per participant-year, % of GDP per head
			Employers investment	Investment in non-formal training, % of GVA	**Government investments towards individual's training**	% of participants in formal and non-formal job-related training for whom training was fully or partially paid for by public institutions
			Financial barrier to training provision	% of enterprises stating that high costs of continuing vocational training courses was a limiting factor on provision or a reason for non-provision	**Government investments towards firm's training provision**	% of training enterprises that benefitted from government subsidies and/or tax incentives to provide CVT

Note: See Annex B for details on the data sources used for each indicator.

The OECD PAL dashboard suggests that there are large differences between countries with regards to financing adult learning (Figure 5.1). Across the different dimensions of financing (individuals, employers, government), Japan scores best among OECD countries, followed by Korea, Luxembourg, Austria and Denmark. The weakest overall performance concerning financing is observed in Latvia, followed by Portugal and Slovenia. Performance on the different individual indicators is described in the following subsections.

Figure 5.1. Results of the Financing dimension

Financing index (0-1)



Note: The index ranges between 0 (least adequate financing) and 1 (most adequate financing). Turkey and Chile were excluded due to missing data.
Source: See Annex B and C for details on data sources and methodology.

5.2.1. Individuals

In the absence of internationally comparable data on how much individuals spend on adult learning programmes (e.g. through tuition fees), some indicators can be used as a proxy. In the PAL dashboard these include: i) the extent to which participants contribute to training costs; and ii) the extent to which individuals see the cost of training as a major barrier to participation.

The dashboard shows the percentage of participants who paid (fully or partially) for taking part in non-formal learning activities, using Adult Education Survey data available for European OECD countries. On average, 21% of participants contributed financially to their training, with the rates being highest in Southern European countries – Greece (44%), Italy (28%), and Spain (26%) – and lowest in Nordic European countries – Norway (10%), Sweden (12%). Although this indicator does not say much about the level of the contribution (i.e. whether individuals covered the totality or only a share of the training costs), it still gives an indication of what portion of participants bear at least some of the burden of adult learning costs.

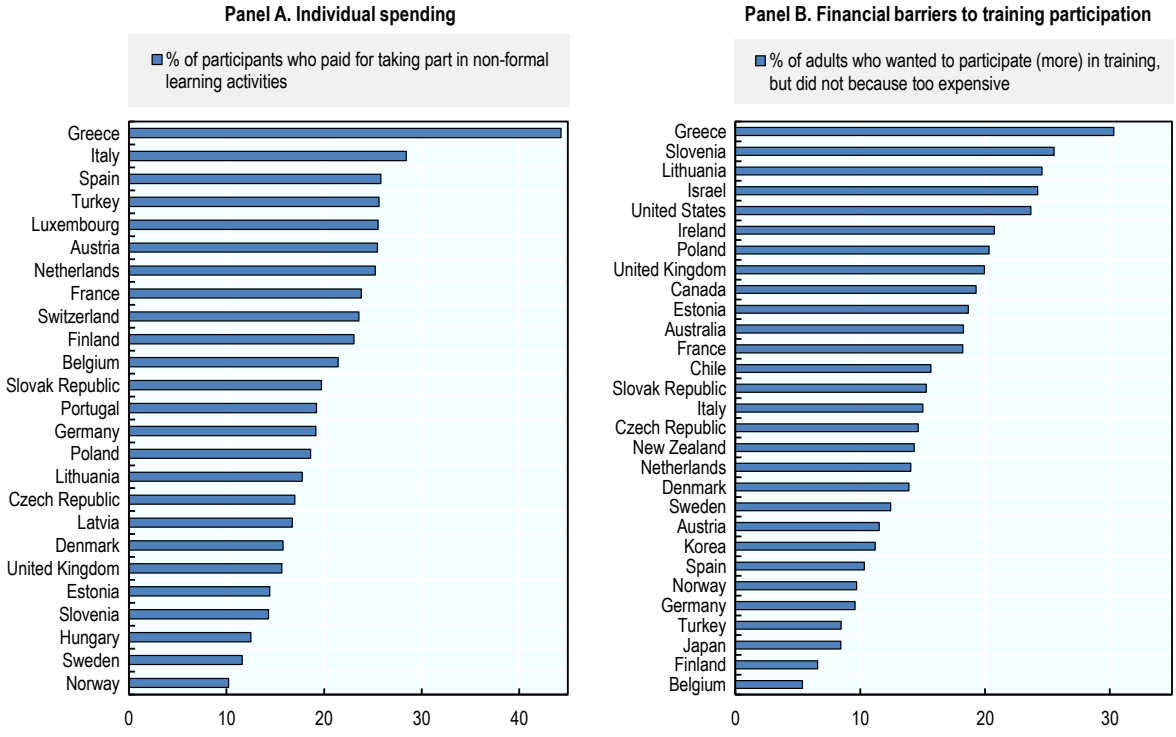
Many individuals find it difficult to pay for adult learning, and may therefore decide not to train altogether. As shown in Chapter 2, the cost of learning represents a key barrier to participation, especially for disadvantaged groups in the labour market. The dashboard shows the percentage of individuals who wanted to participate in (more) training, but did not because it was too expensive – drawing on the PIAAC survey. On average this share accounts for 16% of adults in OECD countries, although with a wide variation across countries ranging from over 30% in Greece to less than 10% in Belgium, Finland, Germany, Japan, Norway and Turkey (Figure 5.2).

As expected, in some countries the two indicators go in the same direction. In Greece for example, a high share of adults who contribute to their training costs is accompanied by a high share of adults who report training costs as a key barrier to participation.

Conversely, in Norway, the shares of adults in both dimensions are low. In other countries such as Turkey, the two indicators do not point in the same direction.

There may be various factors behind these large cross-countries differences. Whether participants cover (part of) the cost of training, and/or whether the high cost of training is a barrier to (more) training, may depend on, for instance, the availability and generosity of financial incentives (e.g. loans, tax incentives, subsidies, education or training leave, time accounts) (OECD, 2017[1]) (see section 5.3.1). Differences may also reflect the extent to which training is publicly provided, or paid by firms, and thus whether participants are expected to pay tuition fees, as well as the size of these fees. When financial incentives are not available, and/or when individuals are mostly responsible for training costs, the indicators may also reflect individuals' liquidity constraints to pay for training.

Figure 5.2. Individuals' investments in adult learning



Note: Data on individual spending refers to non-formal learning only; data on financial barriers refers to formal or non-formal job-related adult learning. For data on financial barriers: Belgium refers to Flanders only, United Kingdom to England and Northern Ireland.
Source: Adult Education Survey (2016) and WRTAL (2016/17) (Panel A); PIAAC (2012, 2015) (Panel B).

5.2.2. Employers

The PAL dashboard assesses employers' investments in training by looking at four main aspects of financing: i) the extent to which firms sponsor workers' training; ii) the extent to which firms' investments go to training; iii) the extent of firms' investments in training as a share of Gross Value Added (GVA); and iv) the extent to which firms see the high cost of training as a major barrier to providing training.

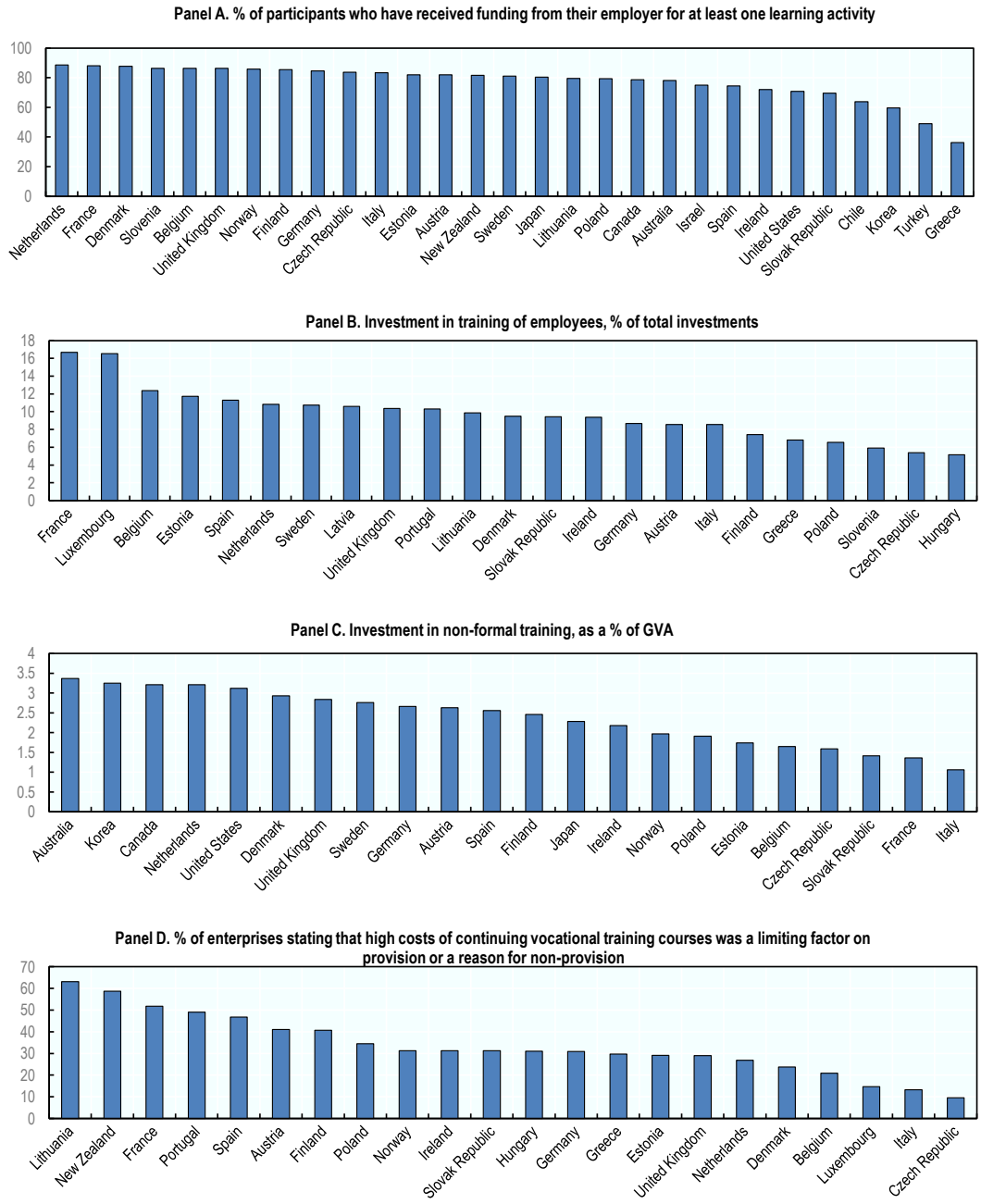
One way to assess firms' financial involvement in workers' training, is to look at the extent to which they financially contribute to the cost of training. As in the case of individuals, this does not say much about the generosity of their contributions, yet provides an indication of the incidence of firms paying (totally or partially) for the training of their workforce. To assess this, the dashboard shows the share of training participants who have received funding by their employer for at least one (formal or non-formal) learning activity, using data from the PIAAC survey. On average across the OECD countries participating in PIAAC, 77% of participants received funding from their employer for at least one learning activity, with low shares in Greece (36%) and Turkey (49%) and high shares in countries like Denmark (87.7%), France (88%) and the Netherlands (88.6%) (Figure 5.3).

The resources that firms invest in training relative to other areas of investments provides another indicator of the extent of their financial involvement in workers' training.[2] It indicates the relative importance that firms attribute to training their workforce (an intangible investment), as opposed to, for example, investing in infrastructure or machines (tangible investments). The dashboard includes an indicator of firms' investment in training (expressed as a share of total investments), using the EIB Investment survey available for European countries. In 2016, training represented 9.7% of total firms' investments on average across European OECD countries, with shares as high as 16% in France and Luxembourg, but less than 6% in the Czech Republic, Hungary, and Slovenia (Figure 5.3).

The dashboard also includes information on total employer investment in non-formal training as a percentage of gross value added (GVA) for the years 2011-12, based on the estimates of Squicciarini, Marcoli and Horvát (2015[2]). Estimates suggest that total investment in non-formal training corresponds to 2.8% of gross value added (GVA) on average across the 22 OECD countries with available data. Notable differences in countries' investment in training emerge, with Australia, Canada, Korea, the Netherlands and the United States exhibiting substantially more investments, and Italy, France, and the Slovak Republic being at the bottom end of the range (Figure 5.3).

High costs of adult learning provision can be a barrier for employers, especially in countries where courses are mainly provided by private training providers and are not financed by the government; and/or in countries where financial incentives for firms (e.g. training levies; subsidies; tax incentives; loans) (OECD, 2017[1]) are scant or not very generous. The dashboard shows the share of companies stating that high costs of CVT courses was a factor limiting provision or a reason for non-provision. On average across countries, a third of firms report high costs as a limiting factor. As shown in Figure 5.3, the average hides some substantial cross-country differences: high costs seem to be a substantial barrier in countries like Lithuania (63%), New Zealand (58.7) and France (51%), while, a relatively low share of firms in the Czech Republic (9%), Italy (13%) and Luxembourg (14.6%) consider high costs to be an obstacle.

Figure 5.3. Employers' investments in adult learning



Note: Data on employer spending refers to formal or non-formal job-related adult learning. Data on financial barriers only refers to enterprises with at least ten employees. Belgium refers to Flanders only, United Kingdom to England and Northern Ireland.

Source: PIAAC (2012, 2015) (Panel A); EIB Investment survey (2016) (Panel B); estimates from Squicciarini, Marcoli and Horvát (2015[3]) (Panel C); CVTS (2015) and Business Operations Survey (2016) for New Zealand (Panel D).

To fully understand these patterns, it would be necessary to dig deeper into individual countries' contexts, considering a range of aspects such as the existence and generosity of financial incentives targeted to employers, including training levies / funds, subsidies or tax incentives, and the availability of free training programmes for the employed. While a discussion of these schemes is provided in the last sections of this chapter, detailed country-level analysis goes beyond the scope of this report.

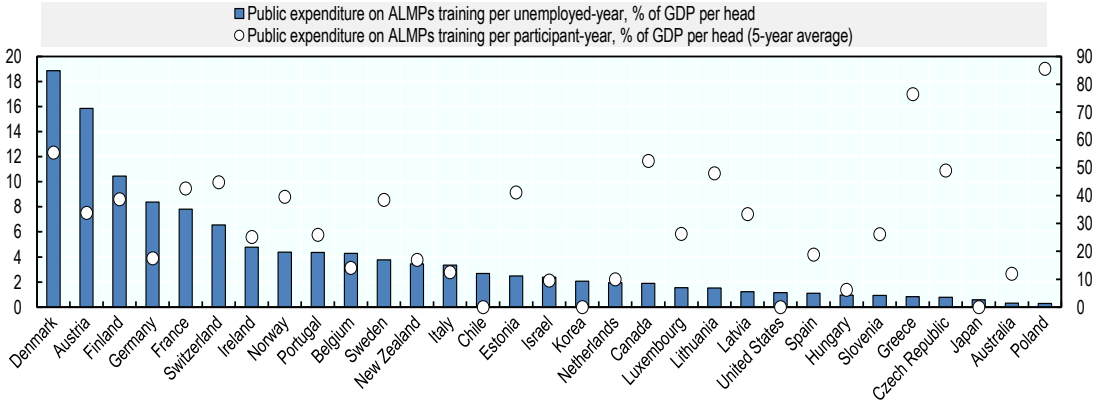
5.2.3. The government

Given the lack of recent, comprehensive and internationally comparable data on public spending on adult learning, the PAL dashboard assesses public investment in training by including three main components of overall expenditures: i) public expenditure on ALMP training; ii) government investments towards individuals' training; and iii) government investments towards firms' training provision.

The dashboard shows public expenditure on ALMP training per unemployed (as percentage of GDP per head), drawing on OECD and Eurostat information. This indicator gives an overview of governments' spending on ALMP training relative to the size of the unemployed population. Figure 5.4 shows that on average OECD countries spend 3.8% of GDP per head on ALMP training for each unemployed person, ranging from a high of 18.9% in Denmark to lows of less than 1% in countries such as Australia, the Czech Republic, Greece, Japan, Poland and Slovenia. The dashboard also shows public expenditure on ALMP training per participant (expressed relative to GDP per head). This indicator, unlike the previous one, gives an indication of the intensity of financial efforts for each participant. Expenditure per participant accounts for 33% of GDP per head on average, and is highest in Poland (85.6%), Greece (76.5%) and Denmark (55.4%), and lowest (less than 10%) in Hungary and Israel (see Figure 5.4).[3]

On top of reflecting governments' investment in ALMP training – these two indicators are also likely to reflect other factors. For instance, they are likely to hide differences in how training policies are designed, such as the degree of targeting to vulnerable groups, as well as training intensity. For instance, a country that restricts training provision to hard-to-place jobseekers, may have lower overall spending per unemployed, but higher spending per participant, everything else held equal.

Figure 5.4. Government spending on ALMP training, 2015



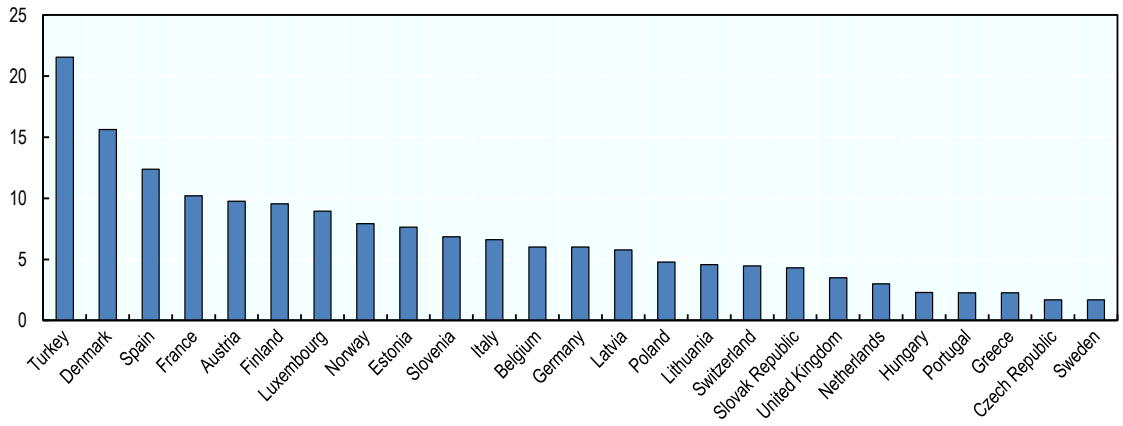
Note: Data on expenditure per participant-year refer to five-year averages.
Source: OECD and Eurostat information.

Spending on ALMP training does not provide a full picture of governments' investments in adult learning. Indeed, governments may put significant financial resources into other types of training delivered outside of active labour market programmes, and which may benefit other population groups beyond the unemployed/jobseekers population. For example, public resources may be used to provide training free of charge, or could be used to pay for subsidies, tax incentives, grants, and other types of financial incentives for individuals and/or employers.

Therefore, the dashboard includes, as an indicator of public support provided to individuals for training, the percentage of participants in training for whom training was fully or partially paid for by public institutions. On average across the OECD, only 6.8% of training participants received public support, ranging from less than 3% in the Netherlands, Hungary, Portugal, Greece, the Czech Republic and Sweden to over 15% in Turkey and Denmark (Figure 5.5).

Figure 5.5. Government investments towards individual's training

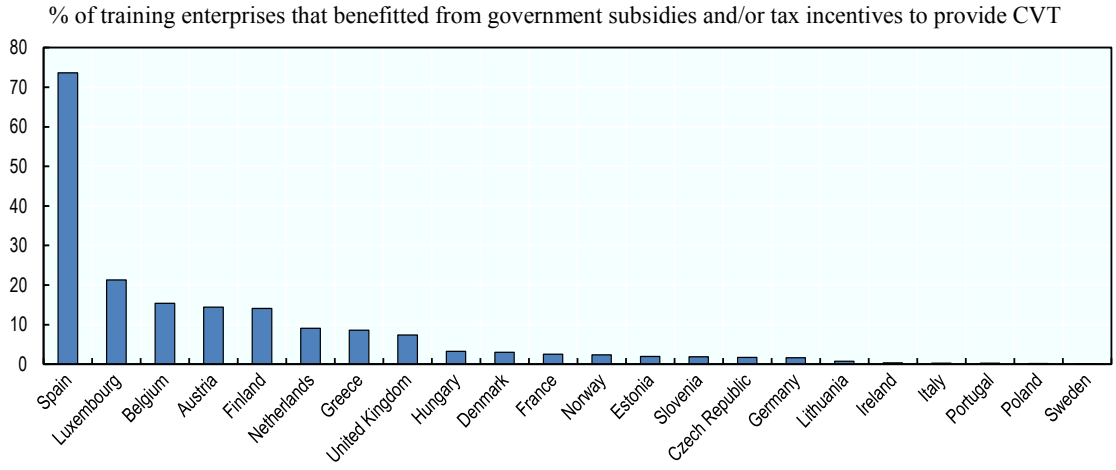
% of participants in formal and non-formal training whose training was fully or partially paid for by public institutions



Source: AES (2016).

On the side of public support provided to firms for training purposes, the dashboard also includes the percentage of training enterprises that benefited from government subsidies and/or tax incentives to provide CVT. On average across the OECD, only 8.7% of training enterprises receive such support, but with considerable variation across countries. Spain is an outlier, with 73.6% of training firms receive government support. For other OECD countries, rates span from to 21.3% in Luxembourg, to less than 1% in countries like Lithuania, Ireland, Italy, Portugal, Poland and Sweden (Figure 5.6).

Figure 5.6. Government investments towards firm's training provision

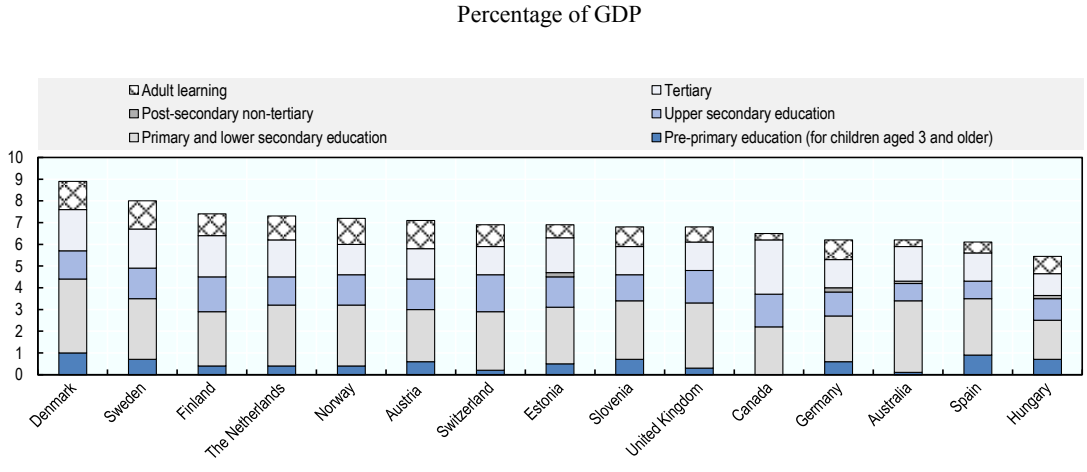


Note: Refers to firms with at least ten employees.
Source: CVTS (2015).

5.3. Policies to foster financial investments in adult learning

Adult learning typically receives less funding compared to other education areas. An attempt to obtain internationally comparable adult learning spending data across a number of OECD countries shows that expenditures on the different stages of initial education (e.g. primary, secondary, or tertiary education) as percentage of GDP are typically higher than expenditures on adult learning (Figure 5.7).[4] In 2009, adult learning spending accounted for 0.9% of GDP on average across OECD countries with available data, while it accounted for 2.6% of GDP for primary education, 1.3% for upper secondary education, and 1.6% for tertiary education.

Figure 5.7. Expenditures by type of education



Note: Data refer to 2009. In this Figure, estimates for the United States are dropped from the original data source.
Source: FiBS and DIE (2013[4]).

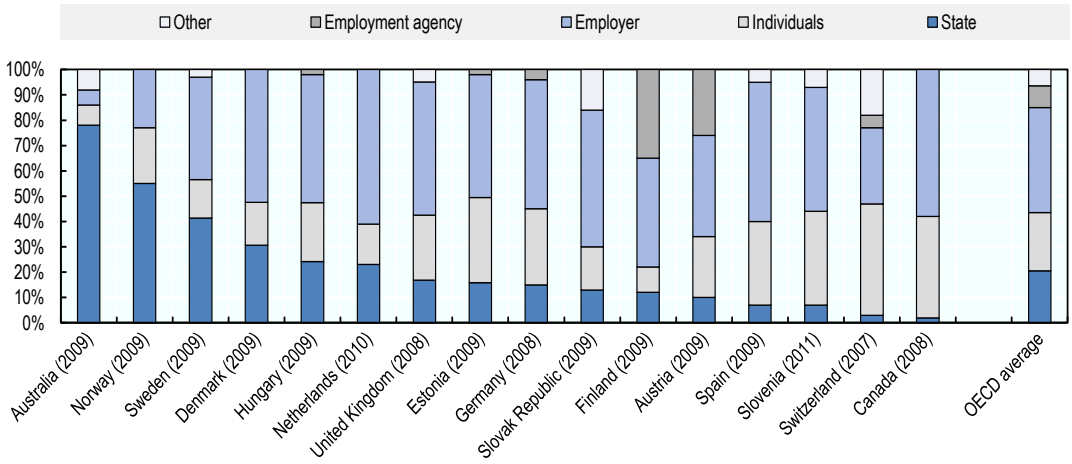
On top of ensuring adequate funding, one difficult question countries need to respond to is who should pay for adult learning. Indeed, more than other areas of education (e.g. initial education), adult learning is financed by a number of different actors, including the government, employers, and individuals – also reflecting the fact that each of these actors benefit from adult learning investments to some degree.

Available estimates for selected OECD countries (2009) show that the state on average bears the smallest share of the financial burden (22.1% of total spending on adult learning on average), followed by individuals (24.7%) and the largest share of adult learning costs rests with employers (44.7%) (Figure 5.8) (FiBS and DIE, 2013[4]). The mix of funding varies considerably across countries: public contributions range from between 2% in Canada to 78% in Australia; individuals' between 8% in Australia to 44% in Switzerland; and employers' between 6% in Australia to 61% in the Netherlands. Interestingly, employers pay the largest share in most of the OECD countries considered; the public purse pays the largest share only in Australia and Norway; while in none of the countries analysed individuals pay the largest share of the cost.

It has not be noted, however, that although the data collected by FiBS and DIE (2013[4]) – and presented in Figure 5.7 and Figure 5.8 – represent the most recent attempt to collect internationally comparable data on adult learning spending, they are quite obsolete today and therefore have to be taken with caution.

Figure 5.8. Distribution of funding for adult learning by financer

Distribution of funding for adult learning by financer% of total spending on adult learning



Note: Data refer to 2009. Data includes adults aged 25+ and excludes participants in higher education. In this Figure, estimates for the United States are dropped from the original data source.
Source: FiBS and DIE (2013[4]).

Looking at past trends, while evidence from UNESCO shows that very few governments report reducing spending on adult learning (Annex D), anecdotal evidence suggests that governments' financing of adult learning shrank in some OECD countries in the context of the crisis. In Italy, for example, public resources for continuous vocational training administered by regions have been suspended (OECD, forthcoming[5]). In Finland, adult learning providers have experienced cuts in public budgets, and the focus has shifted towards VET (EAEA, 2014[6]). In Latvia, according to the Law on Education, planned

state budget support for adult education was postponed until 2022 due to state budget restrictions.

In the context of tight government budgets, countries are turning to external funds to finance adult learning. Some European countries rely heavily upon funding from the European Commission, including the European Social Fund (ESF) and Erasmus+, to finance adult learning. For example, about 57% of Slovenia's total expenditure on adult learning is financed by the ESF (OECD, 2018[7]). Similarly, in Portugal, EU funding represents about 40% of the Ministry of Education's budget and the budget of the Public Employment Service for adult education and training (OECD, 2018[8]). While the ESF, and other external funds are important to ensure that adult learning is adequately financed, especially in the context of constrained government budgets, they come with challenges. For instance: project-based funding is temporary by nature, which can undermine the financial sustainability of adult learning systems; and procedures for accessing external funds can be complex and time-consuming, which can result in gaps in adult learning provision and can absorb a significant amount of human and financial resources which could otherwise be available for training (FinALE, 2018[9]) (Kozyra, Motschilnig and Ebner, 2017[10]).

Within this context of public budget cuts and reliance on external funding, there is a need to engage employers and individuals further in sharing the burden of adult learning financing, so as to ensure that there is sufficient, equitable and sustainable investment in adult learning.

Governments across the OECD use a range of financial incentives to reduce the financial burden on the individual and employers, encourage them to participate and contribute to adult learning, and reduce under-investments. Financial incentives can encourage individuals and employers to financially contribute to adult learning, by: i) reducing the direct cost of learning (e.g. tax incentives; subsidies); ii) decreasing opportunity costs of learning (e.g. paid training leave; allowances for the unemployed; job rotation); iii) tackling temporary liquidity constraints e.g. loans;); and (iv) encouraging individuals/firms to set aside resources for future training (e.g. training savings and asset building mechanisms; levies/funds). Table 5.2 – which partly draws on the framework developed by OECD (2017[1]) – highlights some of the financial incentives available for adult learning.

With some exceptions (i.e. where governments cover the totality of the cost), most financial incentive schemes have a co-financing element where employers and individuals are required to contribute to a part of the cost. To reduce deadweight losses, and ensure that those who cannot pay for training are not left behind, these financial incentives are often targeted at those who need most support (see Chapter 2).

While financial incentives for individuals/firms exist for all education areas beyond compulsory schooling (e.g. post-secondary VET, higher education), they are particularly important in adult learning. Indeed, adult learning is more often delivered by private training providers and less often provided free of charge (OECD, 2017[1]). This suggests that financial incentives play a more important role in countries where free provision by governments is more limited. Moreover, opportunity costs are typically higher for adults, who are more likely to have dependants, compared with younger people in initial education – further highlighting the importance of having in place effective financial incentives in adult learning.

The reminder of this chapter looks at existing financial incentives for individuals and employers adopted in OECD and partner countries to encourage individuals and firms to share the cost of adult learning.

Table 5.2. Financial incentives for individuals and employers

	Individuals	Employers
Reduce cost of training	• Subsidies • Tax incentives	• Subsidies • Tax incentives
Decrease opportunity cost of training	• Paid training leave • Allowance for unemployed/job seekers	• Job rotation
Tackle temporary liquidity constraints	• Loans	• Loans
Set resources aside for future training	• Savings and asset building mechanisms	• Training levy/fund

Source: OECD (2017[1]).

5.3.1. Financial incentives for individuals

Individuals can benefit greatly from investing in adult learning, e.g. through higher incomes and better employability, lower unemployment risk, higher general well-being and health and greater social inclusion (OECD, 2005[11]; 2017[12]). Despite these potential benefits, individuals may face financial barriers to participation, which may lead to under-investments. Indeed, the direct costs of learning, such as tuition fees and learning materials, may be unaffordable for certain individuals, especially low-income earners or the unemployed.

In this context, some OECD countries have put in place measures to reduce the direct cost of training, including subsidies or tax incentives. In these schemes, the government typically contributes to (a share of) the cost (through direct payments, in the case of subsidies; or forgone revenues in the case of tax incentives), while individuals may be required to co-finance adult learning in order to participate. Often, the generosity of the subsidy or tax incentive depends on individuals' ability to pay – and therefore it may vary according to employment status and/or incomes.

- Subsidies: They exist in many OECD countries and can be designed so that the share of cost covered depends on trainees' ability to pay. In Austria, for example, the allowance *Beihilfe zu den Kurs- und Kursnebenkosten* covers course costs, but the amount covered varies between 50 to 100% of the cost depending on employment status and income.
- Tax incentives: In the context of adult learning, tax incentives can come in various forms such as tax allowances (i.e. deductions from taxable income) and tax credits (sums deducted from the tax due). In Latvia, workers are entitled to deductions from taxable incomes for education expenditures, including professional education and training at work (with a cap at EUR 215 per year per household). In Switzerland, the costs of training are deductible up to CHF 12 000 by law. In Italy, a personal Income Tax Relief for Expenditures on Education and Training (PIT) equal to 19% can be deducted until a maximum amount of around EUR 6 000.

Even if the programme is free of charge or subsidised, attending training may imply additional costs, including costs for transportation, accommodation, or expenses for the care of children or any other dependants. To address this challenge, some OECD countries have put in place subsidies and tax incentives to cover these additional costs. For example, in the Slovak Republic, jobseekers attending certain training programmes (*Kompas + and Repas+)* are givena travel and subsistence allowance intended to cover part of the cost of participating in the retraining course (EUR 4.64 per day of attendance). In Finland, unemployed people who participate in vocational training receive unemployment insurance and an expense allowance. In Argentina, adults receive social transfer payments when they participate in *Hacemos Futuro*, a programme that provides training (including formal primary and secondary education) to low-qualified adults.

In addition to the direct costs of learning, individuals may face opportunity costs, e.g. in the forms of foregone wages during learning periods, which may discourage participation and lead to under-investments in adult learning. To address this challenge, some OECD countries have put in place mechanisms to compensate wages of workers while in training, for example during training leave, although the generosity of the support varies considerably between countries (see Chapter 2). For example: in France, workers on training leave receive between 80 and 100% of their wage; in Wallonia (Belgium) imposes a cap is imposed on the replacement wage; in Austria, an allowance is paid which is equivalent to the level of unemployment benefit; and in Finland and Sweden, leave is unpaid but workers can have access to the general financial aid available to students (e.g. the Adult Education Allowance in Finland).

Loans are another policy measure countries have at their disposal to encourage individuals to participate and contribute to adult learning. Indeed, they can help adults overcome temporary liquidity constraints. Governments can put in place measures to facilitate take-up, e.g. learners begin to repay the loan only when they have completed their training, or have reached a certain income threshold. In addition, interest rates can be lower than market rates. While loans are important funding tools for initial formal education (e.g. higher education), they are less known/used in the context of adult learning. That being said, some OECD countries use loans for continuous vocational training, or for up-skilling of the unemployed. For example, in Poland, the training loan (*Pożyczka szkoleniowa*), targeted to the unemployed and some categories of job-seekers, is financed by the Local Labour Office for up to four times the average monthly salary. It is free of interest and has to be repaid within 18\ months after completion of the training. Similarly, in Korea unemployed and non-regular workers (excluding households beyond a certain income threshold and unemployment benefit recipients) who attend vocational training for at least three weeks can receive a loan at an interest rate of 1%. In England (United Kingdom), Advanced Learner Loans exist for adults to upskill and reskill, and repayments are due at the end of the course but only if the trainees earn more than GBP 25 000 a year. In the Netherlands, adults can receive a Lifelong Learning Loan (*Levenslanglerenkrediet*) for participation in education and training at the tertiary level and VET education and training at the secondary level. A preferential interest rate is applied to the loan, and the monthly repayment amount depends on income.

Another way countries can encourage individuals to financially contribute to their own adult learning is to help them set aside resources for *future* training, for example through savings and asset building mechanisms. These schemes can include, for example, individual learning accounts (ILAs). In Iceland, all workers have access to ILAs, funded through a training levy which equals 0.3-1.1% of the salary (depending on collective agreements); the money saved in the ILAs is available to the individual also during

unemployment, and the right to withdraw is also transferable between some job categories. About 45 000 people use ILAs in Iceland every year.

5.3.2. Financial incentives for employers

Employers benefit from investments in adult learning opportunities in many ways, for example through better equipped, more productive and satisfied employees, a more innovative workforce, and lower skill shortages within the company. However, many firms – and especially SMEs – face barriers to financing adult learning, which may lead to under-investments.

To overcome these barriers, virtually all OECD countries use financial incentives to encourage firms to provide training and financially contribute to adult learning. As for individuals, financial incentives for firms are primarily means to reduce the direct cost of learning. Two typical tools are subsidies and tax incentives:

- Subsidy: These schemes include subsidies for workplace training of employees and subsidies to take on and train the unemployed. One example of a subsidy for workplace training is the POVEZ programme in the Czech Republic, where employers can obtain a contribution to the education of their employees (15% co-financing of educational activities of the employer). In Estonia, the Training Grant for Employers compensates between 50 to 100% of the training costs (with a cap), depending on the age, education level, and previous employment history of the participant. To give one example among many subsidies for employers to take on and train the unemployed: in France, through the *Action de Formation Préalable au Recrutement* and the *Préparation Opérationnelle à l'Emploi*, employers receive subsidies for training for hiring jobseekers who does not have the skills for the job.
- Tax incentives: Tax incentives – such as reductions/exemptions in social security contributions – are used widely across OECD and emerging economies to encourage employers' investments in training. In Spain, training offered by firms to their workers is subsidised in the form of a reduction of social security contributions. In Argentina, firms can obtain tax credit rights when workers or job-seekers participate in training, including formal basic education, professional training, RPL, or on-the-job training. In Chile, as part of the *Impulsa Personas*, firms can subtract training or RPL costs from their tax (up to a maximum of 1% of annual taxable wages).

On top of training costs, firms face indirect costs such as continued wage payments during training periods. To address this challenge, subsidies and tax incentives can reimburse wage costs to employers. As an example of this type of subsidy, in Norway, the *Bedriftsintern opplæring* is designed to cover both the cost of training and wage costs (up to 70% of total costs), for a maximum training duration of 26 weeks. In Korea, part of wage costs (on top of part of training costs) are subsidised to firms with employees on paid training leave. Similarly, in Wallonia (Belgium), employers can obtain a reimbursement for employees on paid training leave, based on the number of training hours. In Japan, the *Jinzai Kaihatsu Shien Joseikin* provides a subsidy to firms to reimburse employees' wages while on training, the amount of which depends on the type of training attended and the size of the firm. As an example of a tax incentive that covers the cost of the worker, in Italy, the Tax Credit 4.0 (*Credito di Imposta Formazione 4.0*) introduced in 2018 is designed to cover 40% of the cost of the workers for the entire

duration of the training, for a maximum of EUR 300 000 per firm per year (and for certain types of training only).

On top of the direct costs of training (e.g. fees and training equipment), and employees' wages, firms also face *opportunity* costs of training their workforce, for example through foregone productivity during worker absence for training purposes. This can be particularly challenging for smaller firms who may find it hard to continue their production activities while a worker is on training, and for which work reallocation and recruitment is typically more difficult or costly. To address this challenge, some OECD countries have put in place job rotation schemes to help firms find a temporary replacement worker (e.g. usually an unemployed person) during the training period. However, these schemes can be found in very few OECD countries (Denmark, Finland) (OECD, 2017[1]).

As for individuals, loans targeted at firms for learning purposes can help firms overcome liquidity constraints to train their workforce. Across the OECD, however, these schemes are rarely used. One examples is Korea, where employers purchasing training equipment/establishing training facilities can obtain a loan from the government to cover up to 90% of the costs (with a cap of EUR 4.6 million), which need to be repaid within ten years. However, take up is very low, with only 20 beneficiaries in 2017.

Another option through which countries can encourage firms to set aside resources for *future* training is by using training levies/funds, i.e. employers pay a (compulsory or voluntary) contribution to a pooled fund out of which training is financed. These levies or funds can either be mandated by law or imposed on certain sectors through collective agreements. Many OECD countries – especially in Europe – and some partner economies have training levies in place (see Table 5.3). The size of employers' contributions varies significantly across countries, and sometimes even within countries when they are differentiated by sectors, firms size, or fund. Overall, contributions can be as low as 0.1% of payroll in certain sectors in Belgium and small firms in Korea, or as high as 2.5% in certain funds in the United Kingdom. They can also consist of a lump-sum per employee, such as in Denmark. Training levies/funds can be designed in three different ways depending on what they are supposed to finance and how:

- Revenue-generating schemes: under this scheme, employers' contributions are used to finance general training programmes. While this scheme provides no incentive for firms to invest in the training of their workforce (because contributions cannot be claimed back to finance workers' training), it is used to raise funds for publicly-provided training. One typical example of this scheme is the SENAI scheme in Brazil.
- Levy-grant schemes: under this scheme, funds are returned to firms so that they can finance workers' training. This scheme not only imposes contributions on firms to finance adult learning, but also provides incentives to firms to train their workers, especially because it can be designed so that grants are larger than contributions paid. Examples of these schemes can be found in various OECD countries, including France, Italy, Korea, the Netherlands, and Poland.
- Levy-exemption schemes: under this "train-or-pay" scheme the cost of training is reduced to zero when firms train, up to the amount of the tax liability, thereby providing high incentives to firms to train their workers. Examples of this scheme can be found in Australia, Belgium, Canada (Quebec), Greece, Spain, and the UK.

Many countries have hybrid systems which combine different elements of different schemes and funds are used to finance both general adult learning programmes (revenue-generating schemes) and employers' training (levy-grant or levy-exemption). These mixed systems can be found in Denmark, Hungary, Ireland, and South Africa.

Finally, employers may be reluctant to invest in training if they are not sure they can reap the benefit of their skills investments, for example if the worker leaves the company soon after training. One way to incentivise employers to increase investments in training their employees is to guarantee that they will benefit from the outcome. Payback clauses, *i.e.* a contract arrangement that allows employers to recover at least part of their investment in the training of staff members who voluntarily quit soon afterwards, is a policy tool that can help address this challenge. In Hungary, according to the law, the employer and the employee have to sign a study contract that sets out the commitments of the parties in case of training. This contract specifies the support provided by the employer (e.g. tuition fees, purchase of training equipment) as well as the obligations of the employee, including a time period (maximum five years) while s/he has to refrain from voluntary quitting the job. If the worker leaves the company before the agreed period, s/he has to pay back (all or part of) the training costs.

Table 5.3. Training levies in selected OECD and non-OECD countries

Country	Levy-rate (% of payroll)	Differentiation	Type
Australia	1.5%	No	Levy-exemption
Belgium	0.1% to 0.6%	By sector	Levy-exemption
Canada (Quebec)	1%	No*	Levy-exemption
Denmark	DKK 2 702 **	No	Revenue-generating/cost-reimbursement
France	0.55% to 1%	By firm size	Levy-grant
Greece	0.24%	No	Levy-exemption
Hungary	1.5%	No	Levy-exemption/revenue-generating/levy-grant
Ireland	0.7%	No	Ley-exemption/revenue-generating
Italy	0.3%	No	Levy-grant
Korea	0.1% to 0.7%	By firm size	Levy-grant
Netherlands	Up to 2%	By sector	Levy-grant
Poland	0.25%	No	Levy-grant
Spain	0.7% (of which 0.1% on workers)	No	Levy-exemption
United Kingdom	0.5% to 2.5%	By fund	Levy exemption
Non-OECD countries			
Brazil	1% to 1.5%	By firm size	Revenue-generating
South Africa	1%	No*	Levy-grant/revenue-generating

Note: *Canada (Quebec) and South Africa exempt the obligatory 1% of payroll contribution for firms with a payroll under a certain threshold. **Denmark has a lump sum of DKK 2 702 per full-time employee per year paid to the AUB, which reimburse wages paid to employees undergoing off-the-job training.
Source: Based on (UNESCO, 2018[13]), (Müller and Behringer, 2012[14]), (OECD, 2017[1]).

Notes

[1] In England, for example, a recent study looked at the various sources of adult learning financing and concluded that the largest investors are employers, followed by the government (through the Department for Business, Innovation and Skills), and European funds while the overall contribution of the voluntary and community sector is not known (Gloster et al., 2016[15]).

[2] Other areas include machinery and equipment; land, business building and infrastructures; research and development; organisation and business process improvements; software, data, IT networks and website activities.

[3] Training participant stock data can be considered as an observation of the number of participant-years completed, as an alternative to the usual interpretation as the average number of participants at any given time during the year. Dividing the annual training expenditure by the annual average participant stock therefore gives a measurement of expenditure per participant-year (which is not the same as expenditure by participant). This measurement effectively eliminates differences due to the duration of different training programmes and provides a useful way of comparing the costs of different types of intervention. (European Commission, 2018[16])

[4] Adult learning spending data include both public and private expenditures, but exclude indirect costs linked to adult learning (e.g. opportunity costs). For further information, see FiBS and DIE (2013[4]).

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Chapter 6. Building effective co-ordination mechanisms

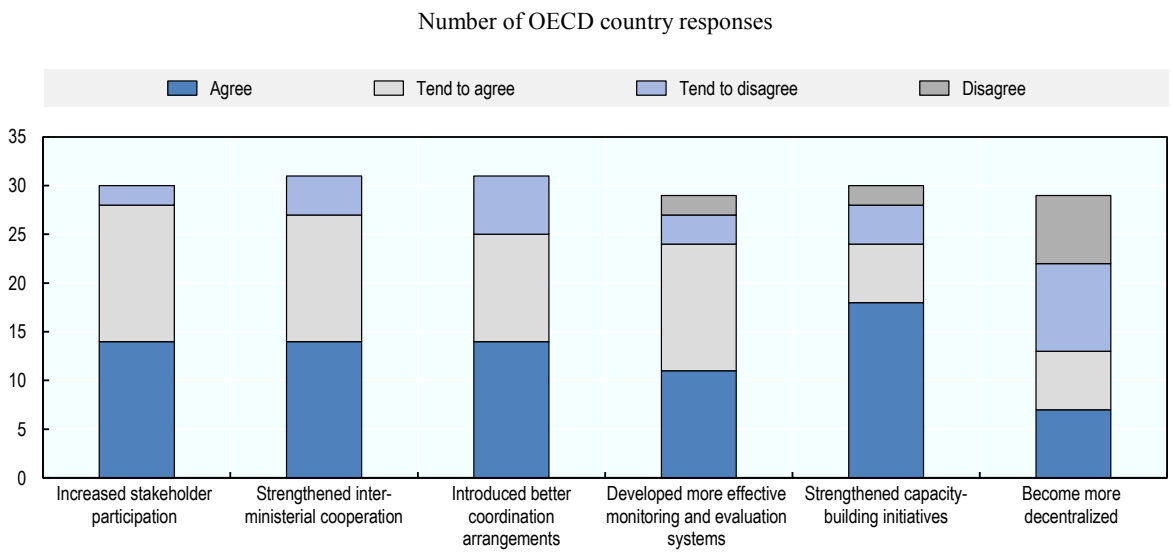
Adult learning is a complex policy field. It encompasses programmes designed to pursue a variety of objectives and reach different target groups. As a result, the responsibility for adult learning is often split across several ministries, the social partners and stakeholders, and encompasses different levels of governance. In this context, good co-ordination mechanisms are essential to ensure that policies do not duplicate, but reinforce each other. This chapter provides an overview of what OECD countries are doing to improve co-ordination across different actors involved in adult learning, and how adult learning strategies can be used to enhance policy coherence.

6.1. Governance and coordination in adult learning

Adult learning is a complex policy field. It encompasses programmes designed to pursue a variety of objectives and reach different target groups, e.g. basic skills courses for the low-skilled, second-chance programmes for school drop-outs, professional training for workers, training for the unemployed, or language classes for migrants. As a result, responsibility for adult learning policy is often split across several ministries, different levels of governance, and a variety of other actors (e.g. the social partners, training providers; NGOs). The different actors involved in adult learning have different responsibilities, pursue different goals, administer separate budgets, and often do not perceive themselves as being part of a joint adult learning system. The sheer diversity within adult learning systems suggests that strong co-ordination mechanisms are essential to ensure that training courses are not duplicated, and that policies are developed in a coherent manner and complement each other.

Over the past years, many countries have taken steps to improve the governance of adult learning systems. The most recent UNESCO GRALE Survey shows that, between 2009 and 2014, many governments across OECD countries have been taking a range of efforts, including to: increase stakeholder participation to develop more effective monitoring and evaluation systems; introduce better co-ordination arrangements; strengthen capacity-building initiatives; and strengthen inter-ministerial cooperation (Figure 6.1).

Figure 6.1. Changes in governance of adult learning systems between 2009 and 2014, OECD countries



Note: For country-level responses, see Table A D.2.
Source: Based on responses to the UNESCO GRALE III Survey.

Governance and co-ordination mechanisms are not included in the PAL dashboard due to the difficulty of collecting internationally comparable quantitative information on this topic. Therefore, this chapter focusses on policy examples of what OECD countries are doing to enhance co-ordination: i) horizontally across ministries; ii) vertically between ministries and regional/local authorities; iii) between the government and the social partners; and iv) between the government and other stakeholders. The last section focuses

on how adult learning strategies can be used to enhance co-ordination across actors and policy coherence.

6.2. Horizontal (inter-ministerial) co-ordination

Unlike other policy areas, adult learning is rarely under the responsibility of one single ministry (UNESCO, 2016[1]). Some formal types of adult learning (*e.g.* basic skills training, second-chance programmes, and university courses for adults) are typically embedded in the formal education system and therefore fall under the responsibility of the Ministry of Education. Other types of adult learning opportunities (*e.g.* ALMP training) target the unemployed and generally fall under the responsibility of the Ministry of Labour.

Moreover, adult learning policies typically do not work in isolation but are deeply anchored in a variety of policy fields, which can influence/reinforce each other. To give a few examples, old-age pension measures that increase the retirement age can increase firms' incentives to invest in older workers' training; and family policies that expand access to affordable early childhood education and care (ECEC) can free up time for parents to take up adult learning opportunities. Likewise, various policy fields rely on adult learning to achieve their goals: supporting adult learning in firms is a must for innovation policy; and adult learning is a crucial component of migration policy for the integration of immigrants into the labour market and society.

Within this context, good horizontal (inter-ministerial) co-ordination is important to ensure that policies designed by different ministries minimise overlaps, address gaps in adult learning provision, and are mutually reinforcing. OECD countries have adopted various approaches to horizontal cooperation in adult learning. These mechanisms are highly institutionalised in some countries (e.g. inter-sectoral advisory bodies) and sometimes embedded in the legal frameworks or dedicated guidelines. In other countries, horizontal cooperation in adult learning is more informal and/or takes place in the context of a specific policy or programme.

One approach commonly adopted by countries to favour horizontal collaboration is the establishment of inter-sectoral advisory bodies on adult learning. These bodies typically bring together different ministries to jointly work on adult learning, or on aspects related to adult learning policy. They can also facilitate the exchange of information and good practices, take on monitoring tasks, and engage in planning strategies. For example, in Poland, the *Inter-Departmental Team for Lifelong Learning* is led by the Ministry of Education and is composed of ten other ministries as well as the Prime Minister office (European Commission, 2013[2]).

In some countries, inter-sectoral advisory bodies or teams focus on one specific aspect of adult learning policy, rather than addressing the whole spectrum of adult learning measures. For example, in the Czech Republic, The National Guidance Forum (NGF) – an advisory body established in 2010 by the Minister of Education, Youth and Sports and the Minister of Labour and Social Affairs – aims to ensure inter-ministerial co-ordination of activities and project plans implemented in the field of lifelong guidance.

Other countries have put in place inter-sectoral advisory bodies that cover broader policy areas, with the aim of building complementarities among different policy fields, including adult learning. In Japan, for example, the *Council for Designing 100-Year Life society* was established in 2017, with the aim of bringing together different stakeholders to

discuss the policy challenges associated with a rapidly ageing population, including workers' continuous up-skilling and adult learning opportunities.

In a few OECD countries, mechanisms to foster horizontal cooperation among different ministries on issues related to adult learning are embedded in the legal framework and/or in dedicated guidelines. For example, Korea has embedded in legislation (Framework Act on Employment Policy) provisions to ensure that adult learning programmes do not overlap and are complementary.[1] Switzerland has recently adopted its first law on adult learning, which provides a legal framework for different sectors to cooperate, including health, labour, culture and migration (Kozyra, Motschilnig and Ebner, 2017[3]).

In some countries, horizontal collaboration on adult learning is not institutionalised through formal inter-sectoral advisory bodies or in the legal framework/guidelines, but takes place in the form of regular meetings between officials from different ministries. For example, in Ireland, quarterly meetings take place between various ministries and public bodies involved in adult learning[2] to ensure stakeholder engagement and continued liaising in relation to the skills agenda, including adult learning.

Inter-ministerial collaboration can also take place on an ad-hoc basis, typically in the context of a specific policy or programme. In Portugal, for example, there do not seem to be strong permanent co-ordination mechanisms across different ministries (OECD, 2018[4]), yet different ministries collaborate for the implementation of the *InCode 2030* strategy – launched in 2017 to equip the adult population with digital skills.

6.3. Vertical co-ordination between different levels of government

Responsibilities for adult learning are often split across different levels of government. Some countries (e.g. Portugal) have a highly centralised system, with the central government being responsible for most of the legislation, policy design, as well as implementation and financing. Other countries (e.g. Italy, Korea) have more decentralised systems where responsibilities are shared between the national level (typically responsible for policy planning) and the regional/local level (typically responsible for implementation). In Federal systems (e.g. Austria, Canada, Germany, United States), the national government typically define broad national objectives, while lower level governments (e.g. states, regions) have the bulk of responsibility for adult learning.

There is no ideal governance model and each approach has its strengths and weaknesses. For example, more centralised systems have the advantage of being simple, accountable and transparent, but there is a risk of misalignment between national policy and local needs. More decentralised systems have the potential to improve alignment with local skills needs and favour the development of innovative practices, but large differences may emerge across the country in terms of provision, funding, and quality of programmes.

Building vertical co-ordination mechanisms can help central governments understand and respond to the specific training and skill needs of local/regional areas. It can allow local actors to better understand and support national adult learning policies. It may also favour the scaling up of positive local/regional practices and the termination of unsuccessful ones.

Some OECD countries have adopted clear leadership and governance arrangements for cooperation that allow various levels of government to work together on adult learning. For example, in Italy regions work with the central state on most issues related to

education, including adult learning, through the State-Regions Conference (*Conferenza Stato-Regioni*) (European Commission, 2015[5]). In July 2014, an agreement was signed between the Government, Regions and Local Authorities, which defined the roles and responsibilities on adult learning across different levels of government.[3] In Greece, a law passed in 2013 establishes decentralised services for adult learning: an administration for adult learning is established in each region, monitored by the General Secretariat for Lifelong Learning and Youth (Kozyra, Motschilnig and Ebner, 2017[3]).

In other countries, co-ordination across different levels of government takes place on a less systematic, more ad-hoc, basis, *e.g.* in the context of a specific policy or programme. For example, in Austria, the Austrian Initiative for Adult Education (AIAE) started in 2012 with the aim of helping the low-skilled/low-qualified[4] to finish education. It arose from a cooperation effort between the Austrian Federal Ministry of Education and the nine Austrian provinces. Unlike other adult learning programmes available in the country, AIAE is financed through the national budget, and responds to training quality guidelines that apply to all parts of Austria (Initiative Erwachsenenbildung, 2016[6]). Similarly, in Sweden in the context of the 2015 *Kunskapslyftet* initiative, municipalities, the PES and other actors responsible for regional development are required to consult in order to access state funding, with a view to ensure that courses correspond to the skills needs of different regions.

6.4. Co-ordination between the government and the social partners

The social partners, i.e. employers' organisations and trade unions, play an important role in adult learning systems across the OECD. They are often involved in the development, financing, and monitoring of adult learning programmes, and also influence the adult learning agenda by having a say in the policy debate while ensuring that adult learning provisions are reflected in collective agreements (OECD, 2019[7]). Due to their proximity to workers and employers, governments should aim to collaborate with them and involve them in the elaboration and implementation of the adult learning policy agenda.

The social partners in some OECD countries collaborate with the government by jointly developing, or influencing, the adult learning legal framework. For example, in some countries the social partners can be invited to participate in working groups designed to develop or revise the legislation relative to adult learning. In Iceland, for instance, the social partners are currently part of the working group set up to revise the *2010 Adult Education Act*. In other countries, they can be called upon to express their views on new legislation regarding adult learning. For example, in Wallonia (Belgium), the social partners are invited to provide feedback on every regional regulatory act (including legislation relative to adult learning), which should be taken into account by government. In Sweden, government proposals – including on adult learning – are typically referred to the social partners who are given the possibility to express their views.

In some OECD countries, cooperation between the government and social partners on adult learning can result in tripartite agreements, which set strategic directions on specific adult learning policy priorities. For example, in Flanders (Belgium), the government and social partners recently reached an agreement (Education and Training Pact, *Guldensporenakkoord*) on the reform of the Flemish education and training incentives, including the Flemish training vouchers, educational leave and educational credit. In Denmark the social partners and the government have concluded *a tripartite agreement on adult and continuing training (VEU)* that runs for the period 2018-21 and devotes DKK 400 million (approximately EUR 53.6 million[5]) to a 'reconversion fund', which

will enable adults to upgrade their qualifications within their current occupation/sector, or undertake a career shift (Eurofound, 2018[8]).

Some OECD countries have put in place permanent advisory bodies where trade unions and employers' organisations can advise and influence the government on adult learning policy issues on an ongoing basis. For example, France has a dedicated adult learning social partners advisory body: the COPANEF,[6] formed by social partners at the national and inter-sectoral level. COPANEF defines the strategic political orientation in the area of training and employment, ensures their co-ordination with policies defined by other actors. An example of a country with a social partners advisory body that focusses on adult learning among other issues is the Netherlands, where the *Dutch Social and Economic Council* (SER) – the permanent advisory body for the cabinet and parliament composed by the main trade unions and employers' organisations, and independent members appointed by the government – has the right to propose new measures to the government, and is consulted on specific policies, including adult learning.

In countries where there is no systematic mechanism for cooperation, the social partners can still contribute to adult learning by participating in ad-hoc meetings and working groups. For example, in Finland, the Ministry of Education has the overall responsibility for developing education policy, including adult learning, but specific issues are discussed in working groups appointed by the ministry, which involve various actors including the social partners.

Finally, the social partners can be called upon to cooperate with the government for the development and implementation of specific adult learning programmes, with a view to ensure that the voices of businesses and employees feed directly into policy. For example, in the UK, the development and implementation of the National Retraining Scheme is being driven by a key partnership between businesses (Confederation of British Industry), workers (Trades Union Congress, TUC) and the government working together. The partnership entails formal meetings two to three times per month. It provides strategic direction and guidance on how the scheme will operate, and oversees development and implementation.

6.5. Co-ordination between the government and other stakeholders

In addition to social partners, stakeholders involved in adult learning include training providers, civil society and NGOs. Because of their proximity to learners, these actors are well placed to understand the skills and training needs of adults. Building mechanisms for cooperation between the government and these additional stakeholders can help governments align adult learning programmes to local needs, facilitate the sharing and replication of good practices, and improve training quality.

Evidence from the UNESCO GRALE III Survey shows that virtually all OECD countries consult stakeholders and civil society on the formulation, implementation and evaluation of adult learning policies (see Table A D.3. in Annex D). Moreover, as highlighted in Figure 6.1, 28 OECD countries report that between 2009 and 2014 the cooperation with stakeholders in the governance of adult learning has improved.

Although in most OECD countries there is consultation with stakeholders for adult learning policy, the type and extent of the consultation process can take different forms. Some countries have established formal procedures, which are embedded in the legal framework. In Slovenia, for example, the Adult Education Act (2018) establishes that prior to adopting the annual programme for adult education (that determines the

objectives, priority areas, activities, and funding of adult learning) the government has to obtain the opinion of the Council of Experts of the Republic of Slovenia for Adult Education – a body composed of well-known experts in the field of adult learning appointed by the government. Obligations to cooperate can also go in the other direction, with stakeholders being required to coordinate with the government for training planning and delivery. In Korea, for example, in a view to limit training duplication, since 2016 any vocational training provider has to consult with the Ministry of Employment and Labour in order to change or open a new adult learning programme.

Many OECD countries have established committees/councils, or fora, where stakeholders and the government can meet and have a structured dialogue on adult learning policy. In Quebec (Canada), the CoPMT has 17 multi-stakeholder regional councils and 29 multi-stakeholder sectoral workforce committees that provide inputs into adult learning policies and programmes. In Ireland, the new Further Education and Training Strategy foresees the establishment of a forum for adult learners to help them influence policy decisions.

In some OECD and partner countries, cooperation/consultation is still far from being regular or systematic, with stakeholder involvement largely depending on the goodwill of policy makers, and engagement with stakeholders taking place mainly in the context of specific programmes. Moreover, often consultation with stakeholders only takes place at the early stages of the policy cycle, with little involvement in decision-making processes and policy implementation (Kozyra, Motschilnig and Ebner, 2017[3]). One example of a country where co-ordination with stakeholders has taken place in the context of a specific programme is Portugal, which has carried out an open discussion with civil society on the law that created and implemented the country's '*Qualifica*' centres.

6.6. Adult learning strategies

Establishing an adult learning strategy is another way to reach policy coherence. By helping countries identify their vision, objectives, and priorities for action, adult learning strategies can encourage different actors to work together towards a common objective in a coherent manner.

Virtually all countries have developed some type of policy strategy document to support adult learning (European Commission, 2015[9]), either through a stand-alone adult learning strategy, by including adult learning as part of a wider strategy (*e.g.* industrial strategy; employment strategy; skills strategy), or by focusing on a specific aspect of adult learning (e.g. ICT and digital skills, low-skilled adults). Countries that do not report any specific adult learning strategy typically build on policy directions set out in earlier strategies (European Commission, 2015[9]).

All adult learning strategies identify policy priorities. Across OECD countries, strategies pursue a wide range of objectives. For example, many have focused on one or more of the following: i) developing adults' basic skills (e.g. the Australian National Foundation Skills Strategy for Adults; and the German National decade for literacy and basic skills); ii) offering jobseekers adult training opportunities aligned with labour market needs (*e.g.* the Spanish Activation Strategy 2017-20); iii) enhancing workers' professional training opportunities and apprenticeships (*e.g.* the French *Plan d'investissement dans les compétences*); and iv) improving the digital skills of the population (e.g. the Czech Republic's Digital Literacy Strategy 2015-20).

In some OECD countries, adult learning strategies go beyond setting general policy priorities and overall objectives, and establish measurable (quantitative) targets to be

achieved within a predefined deadline. Setting targets can help different actors work together towards a common goal, and allow countries to monitor progress. While setting measurable targets is not systematically adopted by all countries with an adult learning strategy in place – as in many countries targets remain very broad and qualitative – several good practice examples can be highlighted. For example, in Estonia, the *Estonian Lifelong Learning Strategy 2020* states that by 2020 80% of individuals (age 16-74) should have computer skills (European Commission, 2015[9]). In Latvia, the Action Plan 2016-20 on the Development of Adult Education Provision and its Governance Model aims to increase Latvia's participation rate in adult learning from 5.7% in 2015 to 15% by 2020. In Slovenia, the Development Strategy 2030 adopts a target to increase the participation of 25-64 year olds in learning from 11.6% (2016) to 19% by 2030.[7] In Australia, the National Foundation Skills Strategy for Adults aims to equip at least two thirds of working age Australians with literacy and numeracy skills at level 3 or above (benchmarked to PIAAC) by 2022. In Portugal, the Qualifica Programme aims to achieve an adult participation rate in lifelong learning activities of 25% by 2025. In Poland, the Lifelong Learning Perspective aims to have at least 10% of people aged 25-64 participating in education or training (in a given month).

In order to ensure that policy directions are effectively implemented and targets are achieved, governments can allocate dedicated funding to the implementation of adult learning strategies. While in many countries governments do not allocate any specific funding to adult learning strategies, good examples can be highlighted. For example, in Ireland, an allocation of nearly EUR 826 million was made in 2014, and another EUR 645 million in 2018, for the provision of *Further Education and Training Strategy 2014-19*. In Latvia, the *Adult Education Governance Model 2016-20* is being implemented with the support of EU funds. In Estonia, the *Estonian Lifelong Learning Strategy 2020* involves concrete financial resources to implement the activities and measures, mainly covered by the European Social Fund. France has devoted EUR 15 billion for the implementation of the *Plan d'Investissement dans les Competences* for the period 2018-22. Germany has destined around EUR 180 million for the implementation of the National Decade for Literacy and Basic Skills, until 2026.

In many countries, adult learning strategies are subject to weak monitoring mechanisms. This can make it difficult to assess if policy actions are making a difference and if they are efficient (European Commission, 2015[10]). That being said, some countries do monitor progress in the achievement of the adult learning strategy, and keep track of progress either through mid-term reviews/reports, and/or by setting up dedicated overseeing bodies/expert groups. In Ireland, the implementation of the *Further Education and Training Strategy 2014-19* is overseen through mid-term reviews, which assess progress in the implementation of the plan. In the Czech Republic, the implementation of the Digital Literacy Strategy 2015-20 is evaluated each year, and an interim performance report is prepared. In Brussels (Belgium), a supervision body (*Observatoire bruxellois de l'Emploi et de la Formation*) has been created to monitor the deliverables, achievement, timing and resources put in place to implement the Plan Formation 2020. In Slovenia, the Adult Education Master Plan (AEMP) for 2013-20 is monitored by a mandated expert group every two years.

Table 6.1. Examples of adult learning strategies, OECD and emerging countries

	Adult learning strategy				Contains quantitative targets	Sets deadlines	Has dedicated funding	Is monitored	Name of the strategy
	Stand- alone	Part of a wider strategy	Specific aspect	No					
Argentina				x					
Australia	x				x	x	x	x	National Foundation Skills Strategy for Adults
Austria			x				x	x	Austrian Initiative for Adult education
Belgium		x	x		x	x	x	x	*Plan Formation 2020* (Brussels), Lifelong learning and a dynamic professional career (Flanders)
Canada		x					x		Innovation and skills plan in Budget 2017
Chile				x					
Czech Republic			x		x	x	x	x	Digital literacy strategy 2015-20
Denmark		x							Strategy for Lifelong Learning (2007)
Estonia	x				x	x	x*	x	Lifelong Learning Strategy
France			x		x	x	x	x**	*Plan d' Investissement dans les Compétences*
Germany			x			x	x	x	National decade for literacy and basic skills
Greece	x								National lifelong learning programme 2013-15
Hungary		x				x		x	Lifelong Learning Policy Framework Strategy 2014-20
Iceland				x					
Ireland	x				x***		x	x	Further Education and Training Strategy 2014-19
Italy				x					
Japan		x			x	x		x	Growth strategy 2017
Korea	x								3rd Basic plan for vocational skills development
Latvia	x				x	x	x	x	AL − Adult Learning Development Plan (2016)
Luxembourg	x							x**	*Stratégie Lifelong Learning* (adopted in 2012)
Norway	x							x	National Skill Strategy 2017–21
Poland		x			x	x		x	Lifelong learning perspective (*Perspektywa uczenia się przez całe życie*)
Portugal	x				x	x	x		*Qualifica* programme
Romania	x				x	x	x	x	National lifelong learning strategy 2015 -20
Slovak Republic				x					
Slovenia	x				x	x	x	x	Adult Education Master Plan (AEMP) for 2014-20
Spain	x				x****			x	Strategic lifelong learning plan
Sweden				x					
Switzerland			x			x	x	x	Promotion of the basic skills of adults 2017-20
Turkey	x				x****	x		x	Lifelong learning strategy paper and an action plan (2014-18)
United Kingdom		x							'People', one of the five pillars of the Industrial Strategy

Note: * Funding is based on the strategy, but funded by the budget; ** Strategy states that a committee should be set up to monitor the progress and the indicators; *** Specific quantitative targets are laid out by department of Education and skills; **** Very specific indicators for the monitoring, although no reference value provided in the strategy.
Source: OECD Adult Learning Policy Questionnaire and national sources.

Notes

[1] The Ministry of Employment and Labour has developed guidelines (The 2018 Guidelines for the Design and Operation of Government-Funded Employment Programs) to prevent different ministries from implementing similar and overlapping programs, i.e. programmes that share similar objectives, content, and target groups.

[2] Namely Further Education and Training Authority (SOLAS), the Department of Education and Skills (DES) and the Department of Employment Affairs and Social Protection (DEASP).

[3] For example, the agreement establishes that national authorities are responsible for policy planning, monitoring and evaluation, regions are responsible for making an integrated use of available adult learning resources, and identify skills needs at the regional level.

[4] Namely those lacking basic skills or never graduated from a lower secondary school.

[5] As of 5 March 2018.

[6] CNEFOP and FPSPP will merge into *France Compétence* in the future.

[7] Based on a Labour Force Survey measurement of participation in the last four weeks.

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Annex A. Country responses to the OECD Adult Learning questionnaire

Table A A.1. Country responses to the OECD Adult Learning Questionnaire

	Ministry of Labour/Ministry of Education/Other Ministry	Employers' Organisation	Trade Unions
Australia	x		
Austria	x		x
Belgium	x		x
Canada	x		x
Chile	x		
Czech Republic	x		
Denmark	x	x	x
Estonia	x		
Finland	x		
France	x	x	
Germany	x		
Greece	x		
Hungary	x	x	
Iceland	x	x	x
Ireland	x		x
Israel			
Italy	x		x
Japan	x		
Korea	x		
Latvia	x		
Lithuania	x		
Luxembourg	x		
Mexico	x		
Netherlands			x
New Zealand		x	x
Norway	x		x
Poland	x		
Portugal	x		
Slovak Republic	x		
Slovenia	x		
Spain	x		x
Sweden	x		x
Switzerland	x		
Turkey	x		
United Kingdom	x		x
United States	x		
Non-OECD countries			
Argentina	x		
Brazil	x	x	
Colombia		x	
Romania	x		

Annex B. The PAL dashboard

Table A B.1. Urgency – dimension, sub-dimensions, indicators

Sub-dimension	Indicator	Description	Reference year	Source
Population ageing	**Old-age dependency ratio 2015**	Population aged 65+ as % of population aged 15-64, 2015	2015	UN world population prospects
	Old-age dependency ratio 2050	Population aged 65+ as % of population aged 15-64, 2050	2015	UN world population prospects
Automation and structural change	**Risk of automation**	% of workers facing a significant risk of automation (>50%)	2011-12/ 2015	PIAAC / OECD 2018
	Structural change	Lilien index (structural change over last ten years - calculated as the weighted standard deviation of sectoral employment growth relative to aggregate employment growth)	2015	OECD national accounts database
Adult skills	**Numeracy and/or literacy skills**	% of the adult population (25-64) with low literacy and/or numeracy proficiency (0/1 level)	2011-12/ 2015	PIAAC
	Problem-solving skills	% of the adult population (25-64) who have no computer experience, failed the ICT core test or have minimal problem-solving skills in technology-rich environments (0/1 level)	2011/2012	PIAAC
Globalisation	**Trade openness**	Total trade (export + import) as a % of GDP	2016	OECD national accounts database
	Trend in trade openness	10-year change in total trade (export + import) as a % of GDP	2007-16	OECD national accounts database
	Workers engaged in meeting foreign demand	% of business sector jobs sustained by foreign final demand	2014	OECD Science, Technology and Innovation Scoreboard 2017
	Trend in workers engaged in meeting foreign demand	10-year change in the % of business sector jobs sustained by foreign final demand	2004-14	OECD Science, Technology and Innovation Scoreboard 2017

Table A B.2. Coverage – dimension, sub-dimensions, indicators

Sub-dimension	Indicator	Description	Reference year	Source
Employers	Provision of training	% of enterprises providing continuing vocational training	2015	CVTS/ENCLA[a]/ Business Operations Survey[b]/ Basic Survey of Human Resource Development[c]
	Coverage of training provision	% of training enterprises providing continuing vocational training courses to more than 50% of their employees	2015	CVTS/ Business Operations Survey
	Trend	10-year change in the share of enterprises providing continuing vocational training (%)	2005-15	CVTS/ Business Operations Survey[d]
Individuals	Formal and non-formal learning	% of adults who participate in formal or non-formal job-related adult learning in the past 12 months	2011-12/ 2015	PIAAC
	Informal learning	% of workers who learn from others, learn by doing, or keep up-to-date with new products or services at least once per week (participate in informal job-related learning)	2011-12/ 2015	PIAAC
	Learning intensity	Median number of hours participants spend on non-formal job-related adult learning per year	2011-12/ 2015	PIAAC
	Trend	10-year change in the share of adults participating in non-formal job-related adult learning (%)	2007-16	AES/WRTAL[e]

Note: [a]. ENCLA (Chile, 2014) data refers to training provision in the last two years, while other sources refer to the last year; b. The Business Operations Survey (New Zealand, 2016) refers to firms with at least six employees, while other sources only exclude firms with less than ten employees; c. The Basic Survey of Human Resource Development (Japan, 2016) refers to firms with at least 30 employees; d. The trend in the Business Operations Survey (New Zealand) refers to the period 2005-16; e. The trend in the WRTAL survey (Australia) refers to the period 2005-16/17.

Table A B.3. Inclusiveness – dimension, sub-dimensions, indicators

Sub-dimension	Indicator	Description	Reference year	Source
Socio-demographic characteristics	Age gap	Percentage point difference in the participation rate between older (>55) and prime age population (25-54)	2011-12/ 2015	PIAAC
	Gender gap	Percentage point difference in the participation rate between women and men	2011-12/ 2015	PIAAC
	Skill gap	Percentage point difference in the participation rate between low-skilled (literacy and/or numeracy at or below level 1) and medium/high-skilled workers	2011-12/ 2015	PIAAC
	Low-wage gap	Percentage point difference in the participation rate between low-wage (i.e. earning at most two third of the national median wage) and medium/high wage workers	2011-12/ 2015	PIAAC
Employment and contract status	Unemployment gap	Percentage point difference in the participation rate between the unemployed and employed	2011-12/ 2015	PIAAC
	Long-term unemployment gap	Percentage point difference in the participation rate between the long-term unemployed and employed	2011-12/ 2015	PIAAC
	Temporary workers gap	Percentage point difference in the participation rate between workers on temporary and permanent contracts	2011-12/ 2015	PIAAC
	SME gap	Percentage point difference in the participation rate between workers in SMEs and large enterprises	2011-12/ 2015	PIAAC

Table A B.4. Financing – dimension, sub-dimensions, indicators

Sub-dimension	Indicator	Description	Reference year	Source
Government	**Government spending per unemployed**	Public expenditure on ALMPs training per unemployed-year, % of GDP per head	2015	OECD/ Eurostat
	Government spending per participant	Public expenditure on ALMPs training per participant-year, % of GDP per head (5-year average)	2015/2016	OECD/ Eurostat
	Government investments towards individual's training	% of participants in formal and non-formal training whose training was fully or partially paid for by public institutions	2016	AES
	Government investments towards firm's training provision	% of training enterprises that benefitted from government subsidies and/or tax incentives to provide CVT	2015	CVTS
Employers	**Employers investment**	Investment in non-formal training, % of GVA	2011/2012	OECD calculations based on PIAAC data[a]
	Employer-sponsored training	% of participants who have received funding from their employer for at least one learning activity	2011-12/ 2015	PIAAC
	Financial barriers to training provision	% of enterprises stating that high costs of continuing vocational training courses was a limiting factor on provision or a reason for non-provision	2015	CVTS/ Business Operations Survey[b]
	Employers spending	Investment in training of employees, % of total investments	2016	EIBIS
Individual	**Individuals spending**	% of participants who paid for taking part in non-formal learning activities (fully or partially)	2016	AES/ WRTAL
	Financial barriers to training participation	% of adults who wanted to participate (more) in training, but did not because too expensive	2011-12/ 2015	PIAAC

Note: [a]. Calculations from Squicciarini, M., L. Marcolin and P. Horvát (2015), "Estimating Cross-Country Investment in Training: An Experimental Methodology Using PIAAC Data", OECD Science, Technology and Industry Working Papers, 2015/09, OECD Publishing, Paris. [b]. The Business Operations Survey (New Zealand, 2016) refers to firms with at least six employees, while other sources only exclude firms with less than 10 employees. Firms in the Business Operations Survey are said to see high costs as a limiting factor when they respond that the cost of training was a restriction on training of employees (either high, medium or low restriction).

Table A B.5. Alignment – dimension, sub-dimensions, indicators

Sub-dimension	Indicator	Description	Reference year	Source
Assessment of skill needs	**Firms assessing skill needs**	% of enterprises that assess regularly or not regularly their future skill needs	2015	CVTS
Training for future skill needs	**Training to fill skill gaps**	% of enterprises that provide continuing vocational training to employees or recruit and train new staff in response to future skill needs	2015	CVTS
	Non-compulsory training	% of training hours outside compulsory training (health and safety at work)	2015	CVTS
	Training for development	% of the top three skills priorities for the enterprise that are also among the top three skills targeted by CVT courses in terms of training hours	2015	CVTS
Training for workers at risk	**Easy-to-fill occupations**	Percentage point difference in participation between workers in easy-to-fill occupations and hard-to-fill occupations	2011-12/ 2015	PIAAC
	Jobs at risk of automation	Percentage point difference in participation between workers in jobs with significant risk of automation and low risk of automation	2011-12/ 2015	PIAAC
Labour market imbalances	**Self-reported training needs**	% of workers reporting they need more training to do their current tasks	2011-12/ 2015	PIAAC
	Hiring difficulties	% of employers reporting difficulty filling jobs	2017/2018	Manpower talent shortage survey
	Obstacle to long-term investments	% of enterprises reporting availability of staff with the right skills as a major obstacle to long-term investment decisions	2016	EIBIS

Table A B.6. Perceived impact – dimension, sub-dimensions, indicators

Indicator	Description	Reference year	Source
Usefulness of training	% of participants for whom at least one formal or non-formal job-related adult learning activity was "very useful" for the job they had at the time of the learning activity	2011-12/ 2015	PIAAC
Use of acquired skills	% of participants in non-formal job-related adult learning who are currently using or are expected to use (a lot or a fair amount of) the skills or knowledge acquired	2016	AES/WRTAL[a]
Impact on employment outcomes	% of participants in non-formal job-related adult learning for whom the skills and knowledge acquired helped them: i) getting a (new) job, ii) higher salary/wages, iii) promotion in the job, iv) new tasks, and/or v) better performance in present job.	2016	AES
Wage returns to adult learning	Hourly wage returns to participation in formal or non-formal job-related adult learning	2011-12/ 2015	OECD calculations based on PIAAC

Note: [a]. The Australian WRTAL Survey (2016/2017) refers to individuals responding that they use at least sometimes their acquired skills.

Table A B.7. Flexibility and Guidance – dimension, sub-dimensions, indicators

Sub-dimension	Indicator	Description	Reference year	Source
Flexibility of AES provision	**Time or distance barriers to participation**	% of adults who wanted to participate (more) but did not due to time or distance constraints	2011-12/ 2015	PIAAC
	Distance learning	% of participants in job-related adult learning who state that at least one of their adult learning activities was organised as distance learning	2011-12/ 2015	PIAAC
Use of career guidance services	**Looked for information**	% of adults who looked for information concerning learning possibilities (formal or non-formal)	2016	AES
	Received information	% of adults who received (free of charge or paid for) information or advice/help on learning possibilities from institutions/organisations	2016	AES

Annex C. Methodology and data sources

Theoretical framework

The conceptual framework of the Priorities for Adult Learning (PAL) Dashboard was developed by the OECD based on a literature review and expert opinion. It aims to assess the readiness of adult learning systems to respond to the challenges of changing skill needs in OECD countries. It highlights key priorities to reduce skill imbalances while ensuring access to high-quality adult learning for everyone. To this effect, the Dashboard encompasses seven dimensions, 18 sub-dimensions and 52 indicators. The dimensions reflect seven major aspects of the readiness of adult learning systems to address changing skill needs:

1. **Urgency of training need**, which summarises a range of contextual factors relevant to the skills development needs of the adult population. While adult learning is an important policy area for all countries, some countries face greater pressure to update the skills of their adult population based on their specific demographic, technological or educational context. This dimension includes indicators on population ageing, automation and structural change, adult skill levels, as well as data on globalisation.
2. **Financing**, which assesses the degree to which investments are made at individual, employer and public level, and to what extent costs of training constitute a limiting factor to employers' provision and individuals' participation. Sufficient levels of investment in adult learning are key to inclusive and high quality provision. This dimension includes the sub-dimensions government, employer and individual.
3. **Coverage**, which captures the level and intensity of participation in and provision of training activities by both individuals and firms. Adult learning systems can only address changing skill needs, where they involve significant parts of the adult population in updating their skills. The sub-dimension relative to individuals measures the incidence of participation, the number of average training hours, as well as time trends in participation. The sub-dimension employers measures the share of enterprises that provides training to workers, the training intensity and time trends.
4. **Inclusiveness**, which assesses the extent to which different groups of the population take part in adult learning to similar degrees. Research shows that those with greater need to update their skills, e.g. the low-skilled or mature-age adults, are less likely to take part in adult learning. To improve the readiness of countries to address changing skill needs, participation in adult learning must be inclusive and involve those most in need of training. This dimension analyses the gap in participation of disadvantaged groups, namely older workers, women, adults with low skills and those with low wages (sub-dimension socio-demographic characteristics); of the unemployed and long-term unemployed,

temporary workers and workers in SMEs (sub-dimension employment and contract status).

5. **Perceived impact**, which includes some aspects of the perceived usefulness and effectiveness of training participation. There are a variety of aspects of impact of adult learning which are difficult to capture using quantitative data, and this dimension is therefore limited to measurable aspects of perceived impact of training. It assesses the self-reported usefulness and effectiveness of training as measured by the satisfaction of learners, the effectiveness of adult learning in terms of producing useful skills and improving labour market outcomes, as well as wage returns to participation in adult learning
6. **Alignment with skills needs**, which captures the extent to which the provided adult learning is directly relevant to address current and future skill needs. In particular, this dimension looks at labour market imbalances, whether firms assess future skill needs, the extent to which training is provided in response to the identified needs, and the participation in training by workers at risk of skills obsolescence.
7. **Flexibility and guidance**, which summarises in how far there is sufficient information on existing adult learning provision and the extent to which training is provided in a flexible manner. Many people face a variety of barriers to access adult learning opportunities, including a lack of information, time and distance constraints. Addressing these barriers can have important effects on participation levels in adult learning. This dimension includes indicators on the extent to which time and distance constitute a barrier to participation, the availability of distance learning and the availability and use of guidance on adult learning.

To the extent possible, the indicators in the dashboard focus on job-related adult learning activities. Job-related training activities are defined not only to refer to a specific job, but also to include training activities that improve employment chances more generally.

Data selection

The quality of any dashboard is crucially dependent on the availability of high quality data with appropriate country coverage. The data sources used to develop the dashboard are:

- Continuing Vocational Training Survey (CVTS), a long-running enterprise survey on continuing vocational training and other training in enterprises (excluding micro-enterprises). The survey is part of the EU statistics on lifelong learning and covers all EU Member States and Norway. Latest data available refers to 2015 (fifth wave).
- European Adult Education Survey (AES), a regular household survey covering persons between 25 and 64 years old and their participation in education and training. The survey is part of the EU statistics on lifelong learning and covers 35 countries, including all EU Member States, Albania, Bosnia-Herzegovina, Former Yugoslav Republic of Macedonia, Norway, Switzerland, Serbia and Turkey. Latest data available refers to 2016 (third wave).
- OECD and Eurostat data on public spending on active labour market policies. Data collection takes place yearly and the latest data available refers to 2015/2016.

- Survey of Adult Skills (PIAAC) data, a household survey covering adults aged 16-65 and assessing their key cognitive and workplace skills, as well as skill use at work. This OECD survey has covered 38 OECD and partner countries in three rounds. Round one took place in 2008-13 and collected data in Australia, Austria, Belgium (Flanders), Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Japan, Korea, Netherlands, Norway, Poland, Russian Federation, Slovak Republic, Spain, Sweden, United Kingdom (England and Northern Ireland) and the United States. Round two took place in 2012-16 and collected data in Chile, Greece, Indonesia, Israel, Lithuania, New Zealand, Singapore, Slovenia and Turkey. Data collection for round three of the 1st cycle of PIAAC is currently on the way in Ecuador, Hungary, Kazakhstan, Mexico, Peru and the United States, however data is not yet available.
- UN world population prospects data, for the demographic indicators used in the 'Urgency of training need' dimension

In addition, country level surveys were used to fill some data gaps. These are the Australian Works-related Training and Learning survey (WRTAL), the Chilean Labour Survey (ENCLA), the Japanese Basic Survey of Human Resource Development, the New Zealand Business Operations Survey, and the Turkish Continuing Vocational Training Survey.

The data selection for the OECD Priorities for Adult Learning Dashboard respected four criteria:

- **Coverage**: Coverage of the Priorities for Adult Learning Dashboard was driven by considerations on data availability. Countries are included in the dashboard if data on them is available in at least one of the three major data sources AES, CVTS and PIAAC. All available data is presented using individual indicators. The aggregation of the indicators into sub-dimensions is only implemented where data is available for at least 50% of the indicators in a sub-dimension. Similarly, the aggregation of sub-dimensions into the overarching dimension is only done when at least 50% of sub-dimensions are non-missing. Countries covered by the dashboard include OECD countries, namely: Australia; Austria; Belgium; Canada; Chile; Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Hungary; Ireland; Israel; Italy; Japan; Korea; Latvia; Lithuania; Luxembourg; Netherlands; New Zealand; Norway; Poland; Portugal; Slovak Republic; Slovenia; Spain; Sweden; Switzerland; Turkey; United Kingdom; United States.
- **Relevance and quality**: Data that was relevant to assess the performance of adult learning systems, as suggested in the relevant literature. Out of the relevant data, only data which had undergone rigorous quality control was selected for inclusion. All included data represents the best measure of a domain currently available.
- **Accessibility**: Data was publicly available or available upon request (microdata).
- **Timeliness**: The most up-to-date datasets available, with data selected from 2011 to 2016.

Imputation of missing data

It is likely that imputations are used in the underlying microdata (PIAAC, AES, CVTS). It was deemed inappropriate to impute values in the dashboard and the issue of missing observations was dealt with at the aggregation stage.

Normalisation

Normalisation was carried out in order to make the indicators comparable. The normalisation was implemented as a step-wise process:

1. Outliers were identified using criteria of both the skewness and kurtosis of the distribution. Identified outliers were replaced by the second largest (or smallest) observation in the sample to achieve a normal distribution (i.e. winsorising). Following this approach, only one outlier was identified and adjusted across all indicators.
2. Normalisation was implemented using the min-max method, i.e. y_i=(x_i-min x)/(max x-min x). This resulted in indicators that were mapped onto a uniform scale, where 0 corresponds to the minimum and 1 to the maximum. This method can widen the distance of the observations compared to other normalisation methods, which gives more 'power' to the final composite index. Sensitivity tests were applied to test the impact of different normalisation methods (see below).

Weighting and aggregation

The weighting and aggregation was carried out according to the theoretical framework. Aggregation was implemented for each dimension separately and countries are ranked in each of the seven different domains. The domains highlight important aspects of the readiness of adult learning systems, in which better performance benefits society through better aligned skill demand and supply. No overall aggregation into a final index of "future-readiness" was made.

The approach to aggregation was driven by the fact that each dimension aims to capture complex, often multidimensional concepts (such as quality of training or alignment with skill needs). The multi-dimensionality was expressed through the introduction of sub-dimensions. Each sub-dimension has equal weight in the aggregation process, as they are considered equally important determinants of performance in a given dimension. Meanwhile almost all of the sub-dimensions consists of multiple (2-4) indicators, in order to capture them in the most comprehensive way, given data and measurement constraints.

As mentioned above the dataset is not complete, i.e. not all of the indicators are available for all the countries and imputation is not possible. The issue of missing observations was treated at the aggregation stage.

Hence, weighting and aggregation is carried out as a two-step process:

1. Equal weights were assigned to each indicator and data was aggregated as the sub-dimension level. Addressing the issue of missing data, data had to be available for at least half of the indicators in a sub-dimension for a country to receive an aggregate score.

2. Equal weights were assigned to each sub-dimension and data was aggregated at the dimension level. Addressing the issue of missing data, data had to be available for at least half of the sub-dimensions in a dimension for a country to receive an aggregate score.

As a result the final score is a simple average of the sub-dimensions; but typically not the indicators themselves.

Using arithmetic averages allows some compensability between the components. This means that countries are not 'punished' if they have a very low score in a given indicator or sub-dimension (as opposed to using geometric average or the multi-criteria method). This acknowledges that there are various possible ways for countries to do well in a given dimension.

Uncertainty and sensitivity analysis

Various robustness tests were carried out to test the validity of the indicator choices, normalisation method, weighting and aggregation methods. It was found that overall, the final rankings of the countries in the various dimensions are robust to the methodological choices.

Indicator selection

Multivariate analysis was carried out to examine the underlying structure of the data and confirm that the indicator, sub-dimension and dimension choices made. This included factor analysis, Cronbach alpha coefficient (c-alpha) and pairwise correlations of the sub-dimensions as well as indicators within the dimensions. The analysis found that the framework of the dashboard was appropriate.

Looking at the relationship between dimensions and sub-dimensions, the analysis found that sub-dimensions were strongly and positively correlated within each dimension. Two exceptions to this were the urgency dimensions, which intends to describe a context of loosely connected forces, and financing, which intends funding sources which in many cases are complimentary (rather than correlated).

Turning to the relationship between dimensions and individual indicators, the analysis showed that individual indicators within the dimensions are not overly correlated. Only around 10% of the indicator-pairs have stronger than +/- 0.5 correlations (without the urgency dimension). The correlation analysis confirmed that indicators included in each dimensions were indeed measuring different aspects of an overall concept and double-counting was avoided.

Results of the Factor Analysis and Cronbach-Alpha indicate that some variables could be omitted from certain dimensions if internal consistency of each index was to be maximised. It was however decided to not omit any variables as the indicators concerned were considered important aspects of performance in their dimensions.

Normalisation method

Two further normalisation methods were tested, namely z-score normalisation and ranking aggregation. Different normalisation techniques produced highly similar results.

Compared to the chosen min-max method, z-score normalisation compresses the distribution of the data points, while using rankings further prevents outliers from

influencing the results. Regardless of these differences country rankings achieved through different normalisation methods correlated in almost all cases higher than 0.9. Only in case of the financing dimension were the correlations slightly lower, 0.76 for the Z-score method and 0.78 for the ranking method.

Aggregation method

The chosen aggregation method (aggregation method A) assigns a rank to a country if:

- It has data for at least half of the sub-dimensions within a dimension; and
- It has data for a least half of the indicators within each sub-dimension.

Three alternative aggregation methods were examined to analyse the robustness of the results to the choice of aggregation method:

1. Aggregation method B: at least one indicator has data within the sub-dimension to receive an aggregated score per sub-dimension; at least half of the sub-dimensions have data to receive a final aggregated score per dimension.
2. Aggregation method C: at least half of the indicators have data within the sub-dimension to receive an aggregated score per sub-dimension; at least one of the sub-dimensions have data to receive a final aggregated score per dimension.
3. Aggregation rule D: more than half of the indicators within the sub-dimension have data to receive an aggregated score per sub-dimension; more than half of the sub-dimensions have data to receive a final aggregated score per dimension.

Aggregation rules B and C produce close to identical results to Aggregation rule A with regards to the ranks. Even the strictest criterion (Aggregation rule D) has a higher than 0.9 correlation with Aggregation rule A, except for the Flexibility and Guidance dimension (0.8). At the same time it should be noted, that when using this more demanding rule the number of countries included in the dashboard shrinks by a quarter.

Lastly, equal weighting of all the indicators within the different dimensions would result in highly similar country ranks in every case (above 0.9). This suggests that the final rankings are not subject to weighting decisions.

Annex D. Detailed tables

Table A D.1. Government financing of adult learning across OECD countries

Responses by country

	Percentage of public education spending that currently goes to adult learning	Development of public spending on adult learning as a proportion of public spending on education between 2009 and 2014	Government's plan to increase or decrease spending on adult learning
Australia	n.a.	Stayed the same	n.a.
Austria	n.a.	Stayed the same	Plans to stay the same
Czech Republic	Do not know/figures not available	Increased	Plans to stay the same
Denmark	4% or more	Increased	Plans to stay the same
Spain	4% or more	Increased	Plans to stay the same
Estonia	Do not know/figures not available	n.a.	Plans to increase
Finland	4% or more	Stayed the same	Plans to stay the same
France	n.a.	Increased	Plans to increase
Greece	0.5%-0.9%	Increased	n.a.
Hungary	2%-3.9%	Decreased	Plans to increase
Ireland	4% or more	Stayed the same	Plans to stay the same
Iceland	n.a.	n.a.	Plans to stay the same
Israel	0-0.4%	Increased	n.a.
Korea	1%-1.9%	Increased	Plans to stay the same
Lithuania	n.a.	n.a.	Plans to increase
Luxembourg	4% or more	n.a.	Plans to increase
Latvia	0-0.4%	Stayed the same	Plans to increase
Mexico	1%-1.9%	Stayed the same	Plans to stay the same
Netherlands	0-0.4%	Decreased	Plans to stay the same
Norway	4% or more	Increased	n.a.
New Zealand	4% or more	Increased	Plans to stay the same
Poland	n.a.	Stayed the same	Plans to increase
Slovak Republic	Do not know/figures not available	Increased	Plans to increase
Slovenia	0.5%-0.9%	Decreased	Plans to stay the same
Sweden	4% or more	Stayed the same	Plans to increase
Switzerland	0-0.4%	Stayed the same	Plans to increase
Turkey	2%-3.9%	Increased	Plans to increase
USA	0-0.4%	Stayed the same	Plans to stay the same

Note: Question 4.1: What percentage of public education spending currently goes to AEL?; Question 4.2: Between 2009 and 2014, public spending on ALE as a proportion of public education spending in my country has:…; Question 4.3: Does the government plan to increase or decrease spending on ALE?; n.a. indicates that the country did not give a response to the question in the survey.
Source: Authors' elaborations based on UNESCO GRALE III Survey.

Table A D.2. Governance of adult learning systems between 2009 and 2014

Country responses to the question "Which of these statements apply to your country: Since 2009, the governance of ALE has…"

	Increased stakeholder participation	Developed more effective monitoring and evaluation systems	Introduced better coordination arrangements	Become more decentralized	Strengthened capacity-building initiatives	Strengthened inter-ministerial cooperation
Australia	Agree	Tend to agree	Agree	Tend to disagree	Agree	Agree
Austria	Tend to agree	Agree	Tend to agree	Tend to disagree	Tend to agree	Agree
Belgium	Agree	Agree	Agree	Disagree	Agree	Agree
Canada	n.a.	n.a.	n.a.	Tend to disagree	n.a.	Tend to agree
Czech Republic	Tend to agree	Tend to agree	Tend to agree	Disagree	Disagree	Tend to agree
Germany	Tend to agree	Tend to agree	Tend to disagree	Tend to agree	Tend to disagree	Tend to disagree
Denmark	Tend to agree	Agree	Agree	Agree	Agree	Tend to disagree
Spain	Tend to agree	Agree	Agree	Tend to agree	Agree	Agree
Estonia	Agree	Tend to agree	Tend to agree	Tend to disagree	Agree	Agree
Finland	Tend to agree	Disagree	Tend to disagree	Disagree	Tend to disagree	Tend to agree
France	Agree	Tend to agree	Agree	Agree	Agree	Tend to agree
Greece	Tend to agree	Tend to agree	Tend to agree	Agree	Tend to disagree	Tend to disagree
Hungary	Agree	Tend to agree	Tend to agree	Disagree	Agree	Tend to agree
Ireland	Tend to agree	n.a.	Tend to agree	Disagree	n.a.	Tend to agree
Israel	Tend to agree	Disagree	Tend to agree	Agree	Agree	Tend to agree
Japan	n.a.	n.a.	Tend to agree	n.a.	Tend to agree	Tend to agree
Korea	Agree	Agree	Agree	Agree	Agree	Agree
Lithuania	Tend to agree	Tend to agree	Agree	Tend to agree	Agree	Tend to agree
Luxembourg	Agree	Agree	Agree		Tend to agree	Tend to agree
Latvia	Agree	Tend to disagree	Tend to disagree	Tend to agree	Tend to agree	n.a.
Mexico	Agree	Tend to agree	Tend to agree	Tend to agree	Agree	Agree
Netherlands	Agree	Agree	Agree	Agree	Agree	Agree
Norway	Tend to agree	Tend to agree	Agree	Tend to agree	Agree	Agree
New Zealand	Agree	Agree	Agree	Agree	Agree	Agree
Poland	Tend to agree	Tend to agree	Tend to disagree	Tend to disagree	Tend to disagree	Tend to agree
Portugal	Tend to disagree	Tend to agree	Tend to agree	Tend to disagree	Tend to agree	Agree
Slovak Republic	Agree	Agree	Agree	Tend to disagree	Agree	Agree
Slovenia	Tend to disagree	Tend to disagree	Tend to disagree	Disagree	Disagree	Tend to agree
Sweden	Tend to agree	Tend to agree	Tend to agree	Tend to disagree	Tend to agree	Tend to agree
Switzerland	Tend to agree	Tend to disagree	Tend to disagree	Tend to disagree	Agree	Tend to disagree
Turkey	Agree	Agree	Agree	Disagree	Agree	Agree
USA	Agree	Agree	Agree	n.a.	Agree	Agree

Note: Question 3.1: Which of these statements apply to your country?; n.a. indicates that the country did not give a response to the question in the survey.
Source: UNESCO GRALE III Survey.

Table A D.3. Consultation with stakeholders and civil society about the formulation, implementation, and evaluation of adult learning policies since 2009

	Yes	Not yet, but the government plans to do so	No, and not foreseen	Not answered
Australia				x
Austria	x			
Belgium	x			
Canada	x			
Chile				x
Czech Republic			x	
Germany	x			
Denmark	x			
Spain	x			
Estonia	x			
Finland	x			
France	x			
United Kingdom				x
Greece	x			
Hungary	x			
Ireland	x			
Iceland				x
Israel		x		
Italy				x
Japan	x			
Korea	x			
Lithuania	x			
Luxembourg				x
Latvia		x		
Mexico	x			
Netherlands	x			
Norway	x			
New Zealand	x			
Poland	x			
Portugal				x
Slovak Republic	x			
Slovenia		x		
Sweden	x			
Switzerland			x	
Turkey	x			
USA	x			

Note: Question 3.2: Since 2009, has the government consulted stakeholders and civil society about the formulation, implementation and evaluation of ALE policies?
Source: (UNESCO, 2016[1]).

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Getting Skills Right

Future-Ready Adult Learning Systems

With digitalisation, deepening globalisation and population ageing, the world of work is changing. The extent to which individuals, firms and economies can harness the benefits of these changes critically depends on the readiness of adult learning systems to help people develop relevant skills for this changing world of work. This report presents the key results from the Priorities for Adult Learning (PAL) Dashboard which facilitates comparisons between countries along seven dimensions of the readiness of adult learning systems to address future skill challenges. Based on the dashboard, the report highlights in which areas action is needed, and policy examples from OECD and emerging countries throughout the report illustrate how these actions could be implemented.

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