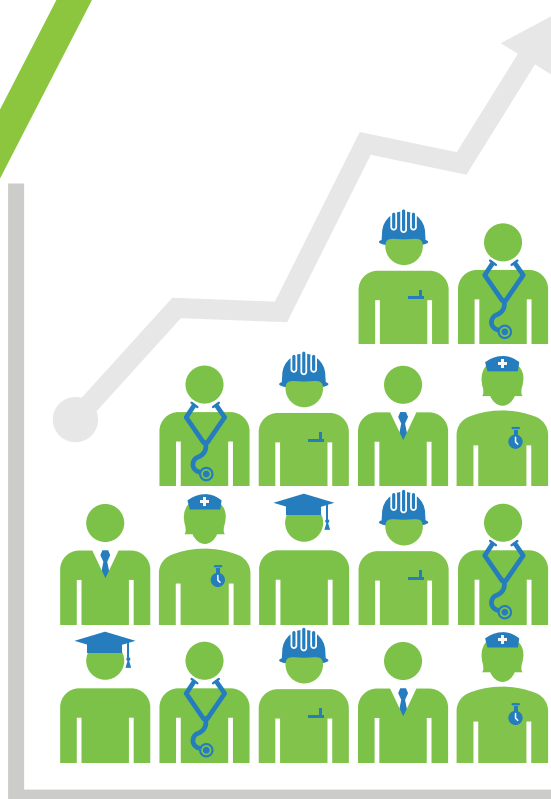


OECD Skills Strategy Diagnostic Report

Italy

2017



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



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

By supporting improvement in productivity and growth.

By supporting high levels of employment in good quality jobs.



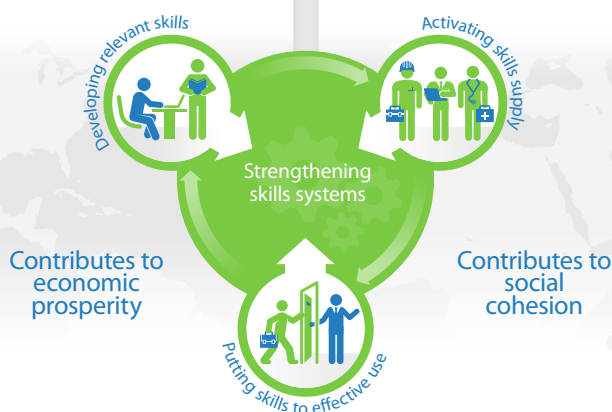
How is this achieved?

By strengthening skills systems

Designing and implementing an evidence-based national skills strategy.

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

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



**OECD SKILLS STRATEGY
DIAGNOSTIC REPORT:
ITALY**

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FOREWORD

Skills are the foundation upon which Italy will build a more prosperous and inclusive future. Over the past fifteen years, Italy's economic performance has been sluggish. Despite some improvements in employment, productivity growth has been stagnant. Paving the path to prosperity, inclusion and well-being will hinge upon developing high levels of skills that are relevant to the needs of the labour market, facilitating job growth and efficient transitions and returns to work.

Italy has introduced a series of ambitious reforms to improve the functioning and responsiveness of the labour market and the capacity of the education system to develop and recognise pupils' skills, while also enabling and encouraging individuals to develop skills beyond school. Recent reforms also promote innovation and digitalisation. These reforms go in the right direction, but more progress is needed to ensure their full and effective implementation. A whole-of-government approach will be needed to advance these reforms. However, governments alone cannot ensure success. The commitment and actions of a broad range of stakeholders will be central for the effective implementation of these reforms.

This National Skills Strategy country project was a collaborative effort of the OECD and the Government of Italy, with the support of the European Commission. The OECD Skills Strategy provides countries with a framework to promote policy complementarities that support the development, activation, and effective use of skills. Countries that are successful in mobilising the skills potential of their people share a number of features, such as: high-quality learning opportunities, which are also available beyond school and in the workplace; relevant education and training programmes; incentives for people to supply their skills in the labour market; good recognition and maximal use of available skills in workplaces; efforts to anticipate future skills needs; and easy-to-locate and -use information about learning and labour market opportunities.

The OECD Skills Strategy Diagnostic Report: Italy identifies 10 skills challenges for Italy based on analysis of OECD, European Commission and national data, as well as input received from the national government and a wide range of stakeholders, including individuals, entrepreneurs, employer associations, trade unions, education providers and researchers. We hope that this report will help Italy to achieve sustainable growth, prosperity and inclusion by fostering a national conversation on skills challenges, assets and aspirations. Success will ultimately depend on all actors working together to achieve a common goal. As ever, the OECD stands ready to contribute to ongoing efforts in designing and implementing better skills policies for better jobs and better lives.



Angel Gurría

Secretary-General of the OECD

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The OECD National Skills Strategy project with Italy was co-ordinated by Raffaele Trapasso. The authors of this report were: Emma Duchini (Directorate for Education and Skills), Alessia Forti (Directorate for Employment, Labour and Social Affairs), Ben Game (Directorate for Education and Skills), Luca Marcolin (Directorate for Science, Technology and Innovation), Pierce O'Reilly (Centre for Tax Policy and Administration), Mariagrazia Squicciarini (Directorate for Science, Technology and Innovation), and Raffaele Trapasso, (Directorate for Education and Skills), Tanja Bastianic, Bart Staats and Cuauhtemoc Rebolledo-Gómez (Directorate for Education and Skills) conducted the statistical research and analysis. As team leaders for the OECD National Skills Strategy country projects, Andrew Bell provided analytical and editorial input and guidance during the drafting process, while Joanne Caddy provided guidance in designing and delivering the workshops and inter-ministerial meetings.

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ACRONYMS AND ABBREVIATIONS

ALMP	Active labour market programmes
ANPAL	National Agency for Active Labour Market Policies
ANVUR	National Agency for the Evaluation of the University and Research Systems
ASL	Work-based learning (<i>Alternanza Scuola Lavoro</i>)
BERD	Business enterprise R&D expenditure
CEDEFOP	European Centre for the Development of Vocational Training
CPIA	Provincial Centre for the Education of Adults
CVT	Continuous Vocational Training
DIH	Digital Innovation Hubs
EC	European Commission
ECEC	Early childhood education and care
ERDF	European Regional Development Fund
ESF	European Social Fund
EU	European Union
FDI	Foreign Direct Investment
FFO	Ordinary Fund for Higher Education
G20	Group of Twenty (countries)
G7	Group of Seven (countries)
GDP	Gross domestic product
GVC	Global value chain
HERD	Higher education expenditure on R&D
HPWP	High-performance workplace practices
HR	Human resource
ICT	Information and communication technology

IeFP	Education and vocational training (regional schools)
INAPP	National Institute for Public Policies Analysis
INDIRE	National Institute for Documentation, Innovation and Educational Research,
INVALSI	National Institute for the Evaluation of the education and training systems
IRAP	Regional Tax on Productive Activities
IRES	Corporate Income Tax
ISCED	International Standard Classification of Education
ISFOL	Institute for the Development of Vocational Training for Workers
ISIC	International Standard Industrial Classification of all Economic Activities
ISTAT	National Institute for Statistics
ITS	Tertiary Technical Institute
KBC	Knowledge Based Capital
LEA	Essential Levels of Care (of Public Services)
MEF	Ministry of Economy and Finance of Italy
MISE	Ministry of Economic Development of Italy
MIUR	Ministry of Education, Universities and Research of Italy
MLPS	Ministry of Labour and Social Policy of Italy
NEET	(Youth) Not in employment, education or training
OC	Organisational Capital
OECD	Organisation for Economic Co-operation and Development
PES	Public Employment Services
PIAAC	Programme for the International Assessment of Adult Competencies (Survey of Adult Skills)
PID	Centre to Promote Digital Companies
PISA	Programme for International Student Assessment
PMR	Product Market Regulation
PNSD	National Plan for Digital Education

PPP	Purchasing power parity
R&D	Research and development
RIDAP	Italian National Network for Adult Education
RUIAP	Italian Network of Universities for Life Long Learning
SAA	Skills assessment and anticipation
SGI	Sustainable Governance Indicators
SME	Small and medium-sized enterprise
SSC	Social security contributions
STEM	Science, technology, engineering and mathematics
TALIS	(OECD) Teaching and Learning International Survey
VAT	Value Added Tax
VET	Vocational education and training
YG	Youth Guarantee

EXECUTIVE SUMMARY

Italy needs to take prompt action to bolster growth and improve people's skills across the country

Skills demands are increasing and changing rapidly everywhere, as advanced economies adapt to globalisation, technological change and ageing. Yet Italy is struggling more than other advanced economies to make the transition towards a thriving and dynamic skills-based society. In the post-war period, Italy enjoyed high growth rates and converged significantly towards the richest economies by exploiting its decentralised production base and highly specialised manufacturing districts that built upon and nurtured technical and vocational skills. Over the past fifteen years, however, Italy's economic performance has been sluggish. Despite some improvements in employment rates, productivity has stagnated due, in part, to relatively low levels of skills, weak demand for high skills and limited use of existing skills.

In recognition of the need for action, the Government of Italy has launched an ambitious package of reforms. These reforms are part of a long-term, comprehensive strategy that also involves the development and implementation of skills policies that respond effectively to Italy's unique national and regional conditions and challenges. However, stakeholders have indicated the need to make more progress on reform implementation and to take further steps to respond to these challenges. During the broad consultation process conducted in 2016 and 2017 as part of Italy's National Skills Strategy country project – which engaged more than 200 representatives of business, labour, the education sector, research institutes, and government – stakeholders sent a clear message about the importance of making skills policies a priority for the whole country as well as about the need to fully implement current reforms.

Making progress will require that Italy boost both its supply of, and demand for, skills

Italy's poor skills performance has contributed to its past economic stagnation – improving that performance will be critical to foster inclusive and sustainable growth across the country. The OECD Survey of Adult Skills (PIAAC) provides evidence that Italian workers have low average levels of cognitive skills and are less likely to use certain cognitive skills that are important drivers of workers' and firms' performance. These deficiencies are found even among university graduates. Important reforms, aimed at improving the quality of schooling, over the last decade will take time to translate into higher workforce qualifications. Still, there is great heterogeneity, with the top Italian workers performing on par with the most skilled workers of the other G7 countries in a number of skills areas. Moreover, Italian workers display comparatively high “Readiness to Learn” and good “Problem Solving skills”, which suggests that more co-ordinated and targeted education and workforce training policies could help Italy to develop and make more intensive use of higher levels of skills on the job.

But higher levels of skills will only contribute to stronger and more sustainable growth and prosperity if firms take action to make full and effective use of the skills that are available to them. Italy is currently trapped in a low-skill equilibrium – a situation in which the low supply of skills is accompanied by low demand from firms. While many, relatively large, companies compete in the global markets successfully, many others have low-skilled managers and workers with relatively low levels of productivity. The low levels of skills of managers and workers are coupled with low investment in productivity-enhancing work practices and in technologies requiring workers to use high-skills. These in turn reduce incentives and capacity to effectively invest in skills and productivity-enhancing work practices and technologies. This dynamic is partly explained by the way work is designed and organised, and the way firms are managed. In Italy, family-owned business account for more than 85% of all firms and about 70% of employment. But managers of family-owned businesses often lack the skills needed to adopt and manage new, complex technologies. Furthermore, pay scales in Italy are often related more to seniority than to individual performance of the worker, thereby reducing incentives for workers to use their skills more fully and intensively at work.

Italy must improve the alignment between skills demand and supply

Skill mismatch is pervasive in Italy. Around 6% of workers in Italy are under-skilled while 21% are underqualified. Surprisingly, despite the low average levels of skills proficiency, skills surpluses are also present, reflecting the low demand for skills in Italy. Over-skilled (11.7%) and over-qualified (18%) workers represent a substantial part of the Italian workforce. In addition, around 35% of workers are working in fields that are unrelated to their studies. Bringing skills supply and demand into better balance requires more responsive educational institutions and training providers, more effective labour market policies, better use of skills assessment and anticipation information as well as greater efforts on the part of the private sector to collaborate with these institutions.

Italy has launched a number of ambitious reforms to boost growth – but some implementation challenges lie ahead

Recognising these challenges and the importance of seizing the opportunities of a digital and globally interconnected world, recent governments have introduced a number of ambitious policy reforms of its labour market (2014 Jobs Act), education system (2015 Good School Act) and innovation system (2015 National Plan for Digital Schools and Industry 4.0 National Plan 2017-2020). These reforms go in the right direction and have the potential to generate the policy complementarities the country needs to break through the current low-productivity, low-skill equilibrium and create productive and rewarding jobs across the country. Stakeholders in OECD Skills Strategy workshops called for renewed efforts to move forward in the implementation of these reforms.

The Good School Act contains several measures aimed at improving skills outcomes, enhancing school management practices, recognising the important role of teachers, and smoothing students' transition from school to work. The reform introduces the National Plan for digital schools: a plan to strengthen digital competences among teachers and students and a modern learning environment through expanding access to the Internet and digital platforms. Measures with the allocation of EUR 1.1 billion of resources are in the process of being implemented, for infrastructure

interventions, learning spaces, technological equipment, administrative digitisation and connectivity, digital skills and staff professional development. Another important component of the reform, the *Alternanza Scuola Lavoro* (ASL), introduces a set of measures making traineeships compulsory in the last three years of upper secondary education, as well as a prerequisite for student admission to secondary school leaving examinations. These measures strengthen incentives for education providers and the world of work to co-operate, but their effective implementation requires reinforcing trust and dialogue between these actors. Consequently, more support to school managers and their staff may be needed to effectively absorb the changes brought about by the ASL and to establish meaningful partnerships with firms or to find alternative ways to deliver ASL (*i.e.* simulated enterprises). For example, it may be difficult to fully implement ASL in regions where there are comparatively fewer firms able to provide high quality work experiences, without providing specific training to school management staff and flexible pathways for students (*i.e.* work-based learning stages or placements abroad).

The Jobs Act is a milestone of recent reforms. Among the key objectives of the Jobs Act is to tackle labour market duality by introducing a single contract with increasing employment protection with job tenure (*contratto a tutele crescenti*). Moreover, it makes firing costs less uncertain by restricting the grounds for reinstatement in cases of dismissal for economic reasons and specifying the amount of compensation due in case of unfair dismissal. Another important element of the Jobs Act is the creation of the National Agency for Active Labour Market Policies (*Agenzia Nazionale per le Politiche Attive*, ANPAL), the first-ever national agency for the provision of active labour market policies. ANPAL has been fully operational as of December 2016, and it is expected to provide guidance to the regions and contribute to homogenise standards and practices across the territory. Lastly, the Jobs Act introduced an important shift from passive towards active measures, by on the one hand strengthening the welfare system (e.g. unemployment benefits) and on the other hand making passive benefits conditional on activation measures. In addition, by limiting the scope and duration of wage supplement schemes for industrial crises (*Cassa Integrazione Guadagni*), the Jobs Act intends to limit skills waste and promote a quick reallocation of workers in the labour market. These are positive steps forward that bring Italy closer to practices already implemented in many OECD countries.

The rejection of the constitutional reform proposed through a national Referendum in December 2016 has, however, modified the initial plan for ANPAL to centralise the responsibility for the delivery of ALMP in Italy. As it stands now, ALMP remain a shared competence between ANPAL and the regional governments. Some co-ordination issues may therefore emerge in the future. Moreover, it remains to be seen how ANPAL will effectively link and co-ordinate passive measures (which are currently under the responsibility of *Istituto nazionale della previdenza sociale*, INPS) with active ones (which are currently under the responsibility of regions).

Industry 4.0 is another important reform to improve the skills system and, in particular, the demand for skills in Italy. This policy aims to encourage and facilitate the transition to digital technologies among Italian firms so that they can keep pace with their partners and competitors. To help firms, especially SMEs, familiarise themselves with – and take advantage of – the new opportunities provided by digital technology, Industry 4.0 will set up a network of technological hubs including Digital Innovation Hubs, Digital Enterprise Points, and Competence Centres. These entities will be able to engage a broad range of actors including large private players, universities, research

centres, SMEs and start-ups to promote the increased adoption of technologies all over the country, and in key industrial sectors. The main challenges faced by these technological hubs will be to actually attract firms in partnerships and effectively promote all the opportunities and incentives provided by Industry 4.0.

Additional policy action is needed across a wide range of areas to leverage these reforms to boost skills acquisition and investment in new technology, stimulate productivity growth and improve the allocation of labour and resources. A comprehensive skills strategy that engages all of society to develop a shared vision for Italy's future could serve as the foundation for building commitment on the part of all actors in society to take the steps that are necessary to ensure that Italy finds its way back on the path to inclusive growth. Many of the policy actions required in Italy are laid out in this OECD Skills Strategy Diagnostic Report as well as in the OECD Economic Survey: Italy (2017) and Getting Skills Right: Italy Policy Review (2017).

Italy's National Skills Strategy country project – a collaborative effort of the OECD and the Government of Italy with the support of the European Commission – is an important first step towards developing this comprehensive skills strategy. That the Government of Italy has chosen to undertake this project and that stakeholders in Italy have shared so freely and frankly their perspectives on Italy's challenges is a clear demonstration of their shared commitment to ensuring that the hard won reforms of recent years are effectively implemented. All agree that strategic and co-ordinated approach to skills policies is needed to improve outcomes.

A strategic and co-ordinated approach to skills policies is needed to improve outcomes

The OECD Skills Strategy proposes a strategic framework for tackling Italy's low-skills equilibrium based on four pillars: developing relevant skills; activating skills supply; using skills effectively; and strengthening the skills system.

Applying this framework, the OECD has identified 10 main skills challenges for Italy, drawing from workshops with the Italian Inter-ministerial team, stakeholders, experts and government representatives, and through data analysis. In this report, the skills performance of Italy is assessed not only against that of other OECD countries, but also against its own aspirations to leverage skills investments to adapt and thrive in an a world characterised by increasing economic competition and technological and social change. The 10 challenges are described under each of the main pillars of the OECD Skills Strategy and are framed as outcome statements.

10 SKILLS CHALLENGES FOR ITALY



Pillar 1: Developing relevant skills

Challenge 1 - Equipping young people across the country with skills for further education and life

Italy has made good progress in improving the quality of schooling in recent years, with mean scores in the Programme for International Student Assessment (PISA) rising overall in reading, math and science. While math scores are now in line with the OECD average, Italy still lags behind peers in other OECD countries in reading and science. Continued effort is needed to improve these results because foundation skills (such as reading and math) are the building blocks for future learning, and, as such, influence the scope for acquiring more advanced skills including technical, professional and digital skills throughout life. Also of concern is the significant variation in student performance across the country, with Southern regions consistently lagging behind the others. For example, while students in the Autonomous Province of Bolzano do as well as top performing nations like Korea, students in Campania compare with their counterparts in Chile or Bulgaria. The performance gap in PISA between students in the Autonomous Province of Bolzano and Campania is equivalent to more than one year of schooling. Wide regional variation calls for co-ordinated, and yet differentiated, skills policy interventions across the country.

Italy has taken important steps to address these challenges. The 2015 Good School Act gives more autonomy to schools and introduces merit-based bonuses for teachers while strengthening the accountability of school principals and making teachers' professional development compulsory, structural and permanent. In order to achieve this goal, funding for professional development at national, school and individual level has been increased. Through the National Plan for digital schools, the Good School Act also establishes a plan to improve the digital skills of both students and teachers by creating a more modern learning environment with improved access to the internet and digital innovations. Measures totalling EUR 1.1 billion are in the process of being implemented, for infrastructure interventions, learning spaces, technological equipment, administrative digitisation and connectivity, digital skills and staff professional development. Another key element of the reform is the *Alternanza Scuola Lavoro* which makes participation in work-based learning mandatory for all upper secondary education streams (general, technical and vocational). The effective implementation of ASL is important to improve the links between schools and the labour market, better orient students in their education paths and reduce drop-out rates.

In addition, Italy has introduced compulsory work-based learning programmes in the regional system of upper secondary-level vocational educational training, called *Istruzione e Formazione Professionale* (IeFP), to reduce student drop-out rates and to offer students opportunities to acquire professional skills that are required in the labour market. Recent revisions to the regulations governing apprenticeship contracts, including the possibility to obtain a formal certification of skills acquired during the apprenticeship, also have the potential to strengthen the linkages between firms and students. The impact of these new efforts will need to be carefully monitored as support measures for firms and education providers to adopt apprentices in Italy have traditionally been weak.

Full implementation of all these policies and reforms will require sustained efforts, leadership and greater engagement of teachers, principals, families, employers and other stakeholders. In particular, enhancing trust and dialogue between educators and employers will support the implementation of the ASL. More training and support for the interpretation of labour market information should be provided to principals and to ASL school management staff to help them to better understand the needs of their local labour market, establish more effective partnerships with firms, and fully integrate ASL in school curricula. Similarly, employers need stronger incentives to participate in the ASL and need to be more involved in the identification of ASL training priorities.

Stakeholder perspectives

- Italian schools are considered inclusive and are perceived as being of good quality, but stakeholders highlighted the need to improve foundation skills – such as numeracy and literacy skills – as well as transversal, technical, and digital skills of young generations. Experts and practitioners repeatedly pointed out that in Italy many young people lack good numeracy skills, as well as a solid knowledge of English.
- A majority of stakeholders, including those representing business, recognised that the recent Good School Act is a move in the right direction, but challenges remain with its full implementation.
- There was agreement that the efforts to generalise work-based learning are positive and should be carried through by tackling remaining obstacles to the co-operation between schools and firms, especially SMEs, in all regions.
- Most stakeholders also considered it important to strengthen teachers' professional development and to introduce different career possibilities and rewards.

Recommended areas for action:

- Improve teaching quality across the country and bridge the performance gap across regions by establishing teaching standards and creating systems for evaluating teachers' performance against these standards. Underperforming schools may need additional help to attract and retain experienced teachers who can meet good performance standards. This could be achieved, for example, by awarding monetary bonuses or career promotions to teachers in underperforming schools that meet performance standards.
- Improve access to early childhood education and care in regions where there are limited spaces available, such as in the South of the country.
- Improve the quality and relevance of vocational education by providing training courses to existing teachers to ensure that they continue to have current knowledge about industry practices and technologies.
- Support the implementation of the ASL by providing training to school principals and teachers on the current skill needs in the labour market and how to effectively engage and develop relationships with employers.

- Increase incentives for firms to provide traineeships under the ASL reform and provide greater opportunities for integrating the views of employers both in the design of the content of work-based learning activities and in the assessment of the skills acquired by students during their traineeships.

Challenge 2 - Increasing access to tertiary education while improving quality and relevance of skills

Italy has relatively few tertiary educated workers and the inflow of new graduates to the labour market is relatively small. The share of 25-34 year-old Italians with university-level higher education is just 20% as compared with the OECD average of 30% for the same age group. Also, due to demographic trends, the absolute number of students enrolled at university has fallen by 8% between 2000 and 2015. Recently, however, the trend has turned to positive with a 4.9% increase in enrolment in 2016 relative to the previous year. Yet, adult graduates in Italy have among the lowest average literacy and numeracy scores compared with tertiary graduates in other countries (26th out of 29 OECD countries, in both dimensions). Finally, the labour market relevance of higher education also needs to be improved: employment rates of tertiary graduates are low vis-à-vis the OECD average while at the same time many firms cannot find the highly skilled people they need to fill job vacancies. These results raise questions about the quality and relevance of the skills developed in tertiary education. Among the problems, qualifications in Italy are not robust signals of workers' skills. This makes skill-matching difficult as employers have only weak information to sort candidates into jobs and skill requirements. Evidence shows, however, that graduates from universities that provide better professional and technical skills move quickly to high-quality and well-paid jobs and that strengthening the provision of professional and technical skills in universities leads to better labour market outcomes.

Tertiary education has been the object of several national reforms over the last decade. Some of these reforms have introduced important innovations, such as moving to the 3 year Bachelor plus 2 year Master degree structure of university programmes, the evaluation of university research, and more recently, tertiary professional education. In addition, Italy's new tertiary professional education institutes (*Istituti Tecnici Superiori* – ITS), although still producing small numbers of graduates, represent a good example of innovation, with very positive results in terms of graduates' employability, especially in dynamic business districts. Moreover, as of 2018, new university-track tertiary professional education pathways (*Lauree Professionalizzanti*) will be available to students alongside the ITS offer. The higher training and research apprenticeship, recently reformed under the 2014 Jobs Act, also represents an opportunity to increase access to tertiary level education while strongly connecting universities and non-academic higher education institutions with the labour market. To meet these challenges, the Ministry of Education, University and Research has recently begun to increase the funds allocated to universities and is currently working to improve career guidance and to strengthen the relevance of tertiary education. In addition, the recent increase in spending on scholarships (the Stability Pact 2017) is an effort that goes in the right direction to improve access to tertiary education in the country

Stakeholder perspectives

- Stakeholders had different, sometimes contradictory, views regarding the skills of tertiary graduates. Many – especially among those representing business – underscored the need for more graduates with strong professional skills, and felt that Italian graduates lack some of the skills needed to function well at work, such as knowledge of a foreign language (especially English), computer literacy, and the understanding of the basic requirements of a business environment.
- In particular, four major issues emerged among stakeholders.
 - First, there was consensus around the need for greater investment in tertiary education. Stakeholders recognised that while funding levels have improved recently, compared to the period between 2008 and 2013, Italy's tertiary education is still underfunded compared with other OECD countries.
 - Second, stakeholders welcomed the current effort to develop and scale-up professional tertiary education in Italy. In particular, most stakeholders consider ITS as a good innovation and suggest that this model be expanded. Other stakeholders, especially those representing universities, were of the view that professional tertiary education should be developed and delivered by universities, not least in order to guarantee greater coverage throughout the country.
 - Third, stakeholders highlighted that Italian firms tend to pay tertiary graduates low salaries and this may dampen the attractiveness of pursuing tertiary education among youth.
 - Fourth, it was generally agreed that universities should be better connected with business. Barriers to strengthening these linkages exist on both sides. Most Italian firms are small enterprises that struggle to deal with universities. Conversely, many universities have not developed the capacity and the flexibility needed to deal with small businesses.

Recommended areas for action:

- Improve access to tertiary education across the country, especially for students from low socio-economic backgrounds by, for example, expanding access to scholarships under the Stability Pact.
- Strengthen the quality and relevance of skills acquired in tertiary education, while at the same time improving the financial sustainability of the tertiary education system, especially in the south of the country. This could involve creating incentives to improve the quality of teaching and research in tertiary education by improving evaluation and linking funding to such outcomes as well as to completion rates, years taken to finish a degree and employability. Performance evaluation systems should recognise that institutions in some disadvantaged regions may face specific challenges.

- Scale up the size while also expanding and improving the quality of professional tertiary education institutions (ITS) by encouraging institutions to provide training in areas that match the economic specialisation of the territory and by improving collaboration with firms to ensure work-based training opportunities are well aligned with courses of study.
- Improve pathways from ITS to university by such means as an improved credit transfer system to ensure that graduates have further opportunities for education and professional development.

Challenge 3 - Boosting the skills of low-skilled adults

In Italy, over 13 million adults have low basic skills. Low-skilled adults in Italy are more likely to be older individuals and immigrants, and are concentrated in smaller firms and less economically advanced regions and sectors. While approximately 39% of 25-65 year olds have low levels of literacy and/or numeracy proficiency, only about 14% of low-skilled adults in Italy participate in adult learning, a share lower in only two other OECD PIAAC countries. Millions of these adults will be of working age for decades to come and will struggle to adapt to changes in the economy and society. The majority of low-skilled adults reported that they neither participated nor wanted to participate in education or training, which may suggest that employers' demand for, and use of, adults' skills may be too weak in certain Italian regions and sectors to motivate low-skilled adults to further develop their skills. Among low-skilled adults who report wanting to participate in adult learning, the most commonly cited barrier was a lack of time due to work and family responsibilities.

The recent re-organisation of adult education in Italy has sought to make delivery more flexible, recognise prior learning, and better tailor services to individuals' needs. The main forms of adult education available are second chance education, continuous vocational training (CVT), and training provided through active labour market programmes (ALMPs) for unemployed adults. The government recently took action to increase the provision of adult education and training by setting up education institutions known as the Provincial Centres for Adult Education (CPIA) under the responsibility of the Ministry of Education, University and Research. The Jobs Act has introduced important measures to increase access to active labour market policies (ALMPs) generally and training in particular, while unemployment benefits are now conditional on participation in activation measures designed by the recently-created National Agency for Active Labour Market Policies, ANPAL. Although ANPAL is currently organising its strategy in the institutional context that has emerged following the referendum of December 2016, this new co-ordinating agency has the potential to foster more effective and comprehensive active policies throughout the country. Inter-professional funds also finance training and educational activities at the sector and regional level that firms, either alone or in association, may decide to put in place for their employees.

Stakeholder perspectives

- Stakeholders expressed concerns about the large number of adults with low levels of skills, but also pointed at the need to recognise and certify skills acquired non-formally and informally on the job and in life.
- They acknowledged the different policy tools put in place by the government over the past years to improve the situation, including sectoral training funds, adult education programmes and the current efforts to put in place tailored employment services such as coaching and profiling – drawing upon the positive experience of the Youth Guarantee. In particular, they recognised the potential of the Jobs Act reform to improve this situation by providing tailored services, including profiling and guidance.
- Stakeholders identified poor governance as an issue impinging upon adult learning. Many noted that governance arrangements providing responsibility for key training, certification, and active labour market policies to regional governments have contributed to the fragmentation of training and skills certification systems. More specifically, many stakeholders have noted that issues concerning co-ordination across sectoral ministries, regional governments, and policies such as inter-professional funds represent a barrier to improving the targeting of training services to low skilled adults and leads to duplication of efforts. They also noted that there is a lack of public-private sector co-operation in the area of adult learning.
- Lastly, stakeholders mentioned the need to use training to improve the capabilities of managers and entrepreneurs in small firms.

Recommended areas for action:

- Make the education system more responsive to the needs of low-skilled adults by increasing the flexibility of pathways (e.g. through the increased offer of part-time and distance learning programmes and improving access to childcare).
- Use available funds for training for the development of skills that are truly demanded in the labour market (such as skills that prepare workers to adapt to rapid technological change and globalisation).
- Address the large bias in the provision of training opportunities against low-skilled adults by subsidising training specifically targeting such category.
- Further improve co-ordination and information sharing between ministries and different levels of government on adults' learning needs and participation in education and training to help ensure that low-skilled adults have access to integrated and tailored learning programmes.

Pillar 2: Activating skills supply

Challenge 4 - Removing supply and demand side barriers to the activation of skills in the labour market

Italy not only needs to step up efforts to develop the skills of its population, but also to activate these skills in the labour market. Despite recent improvements in labour market performance, employment rates remain among the lowest in the OECD area. Inactivity and unemployment rates are among the highest in the OECD, and still too many people end up becoming long-term unemployed. Large heterogeneity exists in the country among different socio-demographic groups – with women, young people (see Chapter 5), and those living in Southern regions facing the greatest challenges in entering and remaining engaged in the labour market.

In recent years, the Italian government has put in place a comprehensive reform package, including the 2014 Jobs Act, which aims to tackle longstanding employment challenges and improve labour market performance. The Budget Law also introduced in 2015 a temporary social security rebate for firms hiring permanent workers. Taken together, these reforms have contributed to boost job creation, ease unemployment, and tackle labour market duality. Indeed, around 850 000 jobs were created since the adoption of these reforms, while the number of new permanent contracts increased and a number of temporary, atypical, and apprenticeship contracts were transformed into permanent ones. Moreover, by creating new permanent contracts, these reforms provide incentives to invest in on-the-job training and workers' skills. The Jobs Act also established ANPAL, which has been operational since December 2016. Lastly, the Jobs Act introduced an important shift from passive towards active measures, by strengthening the welfare system (e.g. unemployment benefits) and making passive benefits conditional on activation measures. This comprehensive policy package is showing its fruits and improvements are already visible. However, the impact of the reforms should be assessed over the longer-term, and some implementation challenges remain.

Stakeholder perspectives

- According to stakeholders public employment services (PES) are not working well and are fragmented across the national territory. Most Italians find a job through informal channels. Although some national databases with job vacancy information available for the whole country exist, as for instance ClicLavoro, they are not functioning well. Stakeholders also consider that PES staff is often underqualified, and that training is difficult considered that many are older workers and close to retirement age. Stakeholders, including regional representatives, have mentioned the need to improve co-operation between public and private employment agencies.
- Stakeholders discussed extensively about active labour market policies (ALMPs). They mentioned that the design of active labour market policies (ALMP) is rarely based on information on local skills needs. The lack of sophisticated skills profiling tool is a potential challenge for the effectiveness of ALMPs. Finally, stakeholders lament the lack of systematic monitoring and evaluation of the impact of ALMPs on participants. This lack of monitoring is due to a number of issues, including the existence of multiple programmes, fragmented and unconnected information systems, as well as cultural barriers.
- Stakeholders considered skills certification and recognition as key issues. Over the past years, a fragmented certification framework has significantly contributed to limited labour mobility across the Italian territory. Stakeholders considered as a problem impinging on skills activation the fact that a solid system for Recognition of Prior Learning (RPL) at the national level has not been developed yet.
- There was broad consensus about the fact that non-wage costs (and particularly employers' social security contributions) are high and likely represent an obstacle to skills activation.
- Stakeholders do not share the same narrative about the Jobs Act. Entrepreneurs tend to praise the Jobs Act, while on the other hand trade unions and subnational representatives, are less positive. There are some dimensions of the reform, however, in which there is consensus. For example, stakeholders recognise that by creating new permanent contracts, the reform provides incentives to invest in on-the-job training and workers' skills. Surprisingly, there is limited awareness about the reform among many stakeholders. For example, some were not aware of the recent developments in the unemployment benefit system.

Recommended areas for action:

- Continue efforts to create a clearer and more transparent certification system and establish a national system of recognition of non-formal and informal skills acquired on the job or in life.
- Improve supportive policies such as accommodating housing policies and relocation subsidies, greater work flexibility and family support to promote regional mobility. The diffusion of job-vacancies through formal channels – for example by setting up a national information system on vacancies – should be enhanced, considered that vacancies are too often “invisible” from the public domain.
- Strengthen the collaboration between ANPAL and local actors in the delivery of labour market programmes, drawing from the successful experience of the Youth Guarantee. Ensuring that ANPAL has the powers to set national standards, and monitor compliance, will also be crucial.
- Scale up the resources for PES and active labour market programmes, as the number of public employment service staff per jobseeker and investments in ALMPs are low. In the context of limited resources, alternative policy options could be adopted, such as outsourcing certain services to private employment services; and/or strengthen skill profiling tools which can help to use resources more efficiently.
- Design ALMPs in consultation with firms, education or social institutions, and based on information on local skills needs. It will also be crucial to carefully and regularly monitor the effectiveness of ALMPs through rigorous impact evaluation analysis, so as to regularly adapt their design and channel resources to the most effective interventions. Co-ordinate ALMP with Industria 4.0 and other economic development initiatives, so as to ensure that demand- and supply policies are well co-ordinated at the local and regional level.
- Stimulate job creation by permanently lowering employers’ social security contributions. Shifting the tax burden towards more skills-friendly taxes – environmental, consumption, and/or property taxes – and/or enhancing tax collection, may be one option worth considering for reducing disincentives for hiring while at the same time keeping the government balance sheet unchanged.

Challenge 5 - Encouraging more participation of women and youth in the labour market

Among OECD countries, Italy has the fourth lowest share of women who are employed. Worryingly, many women are not even looking for jobs such that Italy has the third highest inactivity rate among OECD countries. Part of the explanation comes from the fact that women are often perceived as the main “family carers”. Indeed, they take on the highest burden of unpaid domestic work, they lack access to affordable childcare facilities and flexible work that would help them combine work and family responsibilities, and live in a system that favours mothers – rather than fathers – taking child-related leave. This is only part of the story, though. Fertility rates in Italy are among the lowest in the OECD, the age of first birth for a woman is quite late, and there are many childless women. This suggests that other factors may lie behind the poor labour

market participation of women. For instance, women often choose degrees that are not highly demanded in the labour market, making it difficult for them to find a job after graduation. Moreover, the tax system provides second-earners (often women) with weak financial incentives to work.

Youth, for their part, struggle to make the transition from education to the world of work. They rarely have access to effective career orientation services to guide them through the vast array of possible education and career pathways. A number of them take too long to finish their studies. In many cases, before the introduction of mandatory traineeships for all upper secondary students (ASL), many students left education without having gained any previous work experience or a sufficient range of skills needed on the job (e.g. cognitive and/or soft skills). The implementation of the *Alternanza Scuola Lavoro* has to be carefully monitored and, if anything, reinforced by strengthening the linkages between employers and education providers. Employment services and support exist, but many disadvantaged youth may not be aware of the opportunities available to them.

Italy is currently undertaking several reforms to facilitate better integration of women and youth in the labour market. Concerning women, the government is stepping up efforts to increase the availability of childcare facilities and to help families meet the cost of childcare. The government has also introduced tax exemptions for firms hiring disadvantaged women. Another welcome step is the recent effort to tackle longstanding discrimination practices in the workplace (e.g. *dimissioni in bianco*) by establishing online procedures for voluntary resignations.

Regarding youth, one of the main policies implemented in Italy to tackle the NEET challenge is the EU Youth Guarantee, which targets youth (aged 15-29) within four months after leaving school or being laid off, and offers them a range of activities that facilitate school to work transition. The Youth Guarantee implementation proved successful in integrating NEETs into the labour market by providing them with employment services and training. Scaling up this initiative and extending it to other disadvantaged categories may help to tackle their low participation in the labour market and reduce long-term unemployment. Measures to boost the demand for youth in the labour market are currently being implemented as well. For instance, capped exemptions to employers' social security contributions are granted to firms hiring certain youth. Finally, the implementation of *Alternanza Scuola Lavoro* is a step towards bringing the skills taught in schools in closer alignment with the needs of the labour market, exposing youth to workplaces, and having a "career guidance" function for students. But while these policies go in the right direction, much remains to be done and complementary policy interventions may be required to fill existing gaps in the policy package.

Stakeholder perspectives

- According to stakeholders, one key issue of concern in Italy is the structure – and use – of the child-related paid leave system, which is strongly skewed towards women taking leave. Long spells out of employment during maternity leave may result in skills depreciation and a gradual detachment of women from firms’ ongoing activities.
- While the recent extension of paternity leave from 1 to 2 days is a step in the right direction, fathers’ entitlements to paternity leave remain too short.
- Lack of access to affordable childcare may be challenging for parents willing to combine work and family life. Working time flexibility in Italy also plays a limited role in helping parents to reconcile their work and care commitments.
- Firms are often not aware of the gender imbalances within their staff. Therefore, they are not able to identify sectors/positions where there is an underrepresentation of women and adjust recruitment practices accordingly.
- A reason for youth’s poor labour market outcomes is that there is a large disconnection between the education system and the world of work. For instance, schools and universities often fail to teach soft skills (e.g. team-working, punctuality, and flexibility), which are very much demanded by firms. Another key challenge for youth’s poor labour outcomes is the excessive duration of university studies, which delays entry to the labour market. Moreover, few youth combine work and study, hence very few leave the education system having gained some previous work experience.
- Youth have limited access to career orientation which could guide them through the vast array of possible education and career pathways. While progress is needed, one good step is the implementation of *Alternanza Scuola Lavoro* which could – indirectly – have a very important “career guidance” function for students.
- Many young NEETs are not aware of the opportunities offered by the Youth Guarantee, or through other ALMPs, and private employment agencies. Regional differences persist in the delivery of the Youth Guarantee, and information on the quality and quantity of offers provided at the local level is often lacking.

Recommended areas for action:

- Encourage fathers to take more child-related leave. Possible measures include increasing the length of paternity leave.
- Encourage the use of flexible work arrangements at the workplace to help parents balance work and family life. Strengthen both financial and non-financial incentives to firms to provide flexible work options to their employees.
- Secure availability of, and access to, affordable early childhood education and care as well as affordable long-term care for elderly relatives. Continue developing additional facilities so as to release families – and particularly women – from the burden of care.

- Adjust the tax system on second-earners to enhance spouses' financial incentives to work. This would ensure that both parents have broadly similar financial incentives to work.
- Raise awareness of gender stereotypes, and promote a cultural shift whereby men and women are provided equal employment opportunities and share unpaid domestic work more equally.
- Provide better and more systematic career guidance services for youth at all levels of education. This would reduce the role played by family background on youth's education and career choices. It would also ensure that students take informed decisions which are aligned with their interests, preferences, merit, and real labour market needs.
- Ensure that skills taught in the education system are aligned with skills demanded in the labour market. Design a comprehensive policy intervention to boost the demand for high skilled workers so as to fully exploit the existing skill supply and to generate incentives to increase it further.
- Provide pathways to combine work and study at all levels of education – not only at upper-secondary (as is being done with the *Alternanza Scuola Lavoro*) – but also at post-secondary and tertiary levels.
- Scale up the implementation of the Youth Guarantee. In particular, special attention should be paid to engage firms more systematically in the process, reach out to NEETs more proactively, align the quality of offers across regions, and allocate more (financial and human) resources to ensure an adequate service delivery.

Pillar 3: Making effective use of skills

Challenge 6 - Making better use of skills in the workplace

While much should be done on the supply side, higher levels of skills will only bring about growth and prosperity if firms demand and make effective use of these skills. Italy is the only G7 country with a higher share of tertiary educated workers in routine occupations (tasks that can be accomplished following a set of specific and well-defined rules) than in non-routine ones (tasks that entail performing more complicated activities, such as creative problem solving and decision making). This is a reflection of the low demand for higher levels of skills in Italy, which may be connected to the large share of family-owned businesses in the Italian productive sector. Low levels of participation in training and low adoption rates of High-Performance Workplace Practices (HPWP) are problems found across firms of all sizes in Italy that limit the capacity of firms to innovate and grow. In most jobs wage progression is determined mainly by seniority rather than by each worker's performance on the job or productivity. This may be a disincentive for workers to fully use their skills and to upskill.

The government has recently introduced a set of ambitious structural measures aimed at igniting a radical shift of the Italian economy towards the generation and use of new and high value-added technologies. This set of reforms, known as the Industry 4.0 National Plan (*Industria 4.0*), can play a pivotal role in boosting sluggish Italian skill demand by helping (especially) smaller firms to become more innovative, move closer to

the world technology frontier and to become more active on international markets. The incentive structure put in place by Industry 4.0 relies on a combination of broad and strategic measures coupled with more targeted interventions. Strategic measures are centred on research and development (R&D) and innovative investment, and are coupled with investment in the skills of the workforce (especially high-skills and digital-related skills). The interaction with the national business community, including SMEs, is facilitated and promoted through the establishment of specific entities such as Digital Innovation Hubs, Digital Enterprise Points, and Competence Centres. The successful implementation of Industry 4.0 will depend on the capacity of these technological hubs to engage firms as well as the capacity to generate complementarities with other public and private investment programmes that support skills.

Stakeholder perspectives

- Stakeholders often mentioned the low-skills equilibrium as a key over-arching challenge for Italy. They saw the need for a holistic national strategy to promote skills made of targeted policy actions aimed to boost both demand and supply.
- According to many stakeholders, Italian firms invest very little in the upskilling of their workforce and there are few opportunities for low-skilled workers – those who need upskilling the most – to benefit from formal and on-the job training. Also, most firms lack formal systems to reward training undertaken by their employees.
- Stakeholders agree that managerial skills are low in many Italian firms. The productive sector is home to an army of family-owned small businesses which often do not demand, or use, skills effectively.
- Limited use of training and of human capital-enhancing practices is not a problem only in small businesses, but also in large firms: Italy ranks very low in terms of share of jobs with High-Performance Workplace Practices (HPWP) across all firm sizes. In this context, the Government's Industry 4.0 initiative is generally considered as a good opportunity to boost firms' demand for skills.

Recommended areas for action:

- Encourage companies to invest in high-quality training targeted to the development of labour market relevant skills. Similarly, reward workers who participate in education and training. This could entail, for example, collecting and distributing information on good practices for developing and using the skills of workers.
- Improve the entrepreneurial and managerial skills and capabilities of Italian employers, especially those in family-owned enterprises and in SMEs. This could take the form of increased incentives for the adoption of High-Performance Workplace Practices (HPWP) such as job-rotation, training, mentoring and task discretion.
- Foster a better match between the supply and demand for skills by establishing a digital information hub connecting Italian firms demanding skills for the digital era with the universities, research centres and schools that create the supply of workers endowed with these skills.

- Strengthen the dissemination of information about Industry 4.0 technologies and related initiatives to all firms, especially smaller ones, to further enhance its take-up.
- Encourage the use of wage incentives and bonuses and link them to workers' productivity so that these have incentives to develop their skills further and to apply them in jobs that make full use of available skills.

Challenge 7 - Leveraging skills to promote innovation

Productivity has been sluggish in Italy for many years. This is related in part to Italy's low levels of investment in innovation and low innovative output. A number of structural features are likely to constrain the country's ability to leverage on the skills of its workforce to innovate and perform. Among them: the low level of spending in R&D (only 1.2% of Italy's GDP, which is half the OECD average); the low endowment of organisational and managerial capabilities; the high proportion of small and/or old firms; and the low proportion of both SMEs and large firms collaborating with higher education or research institutions.

Italy has recently put in place a set of policy initiatives to promote innovation and facilitate the transition to digital technologies, including the country's new approaches to industrial policy (Industry 4.0), its support to innovative start-ups (the Startup Act), and its efforts to attract FDI and link firms to the international market (Italtrade). Industry 4.0 recognises the large heterogeneity of firms in the country and provides incentives and guidance to all firms, including SMEs and micro firms, to adopt digital technologies. New firms are those most likely to generate the most radical innovations and successfully bring them to market, while also creating spillover effects for others. Targeted public support may help those firms that managed to weather the crisis and raise their productivity to now focus on the need to acquire new skills and knowledge assets.

Stakeholder perspectives

- Stakeholders highlighted the need to promote innovation through skills. The country is less innovative than it used to be.
- Stakeholders mentioned the need to generate more linkages between firms and research institutions, including universities. The presence of many SMEs as well as the lack of flexibility on the side of universities are considered as the problems that need to be addressed to improve the capacity of research and business to co-operate more effectively.
- Representatives from the government discussed the need to create synergies by improving the alignment and coherence of different policy investments. Innovation policy should capitalise on Italy's traditional know how as well as the many centres of excellences active in the national framework.
- The recent policy initiatives, and in particular Industry 4.0, were considered as a good opportunity to fill the technological gap the country has accumulated over the past decades vis-à-vis international competitors and partners.

Recommended areas for action:

Italy needs to promote synergies and policy complementarities to spur investment in R&D and, in particular, in research-related human capital and skills:

- Provide firms and other relevant stakeholders with more accessible information about existing policy supports.
- Target R&D tax credits (including the patent box) at innovative SMEs and start-ups. Investing more in R&D and, in particular, in research-related human capital and skills would be important for Italy to get out of the low skills equilibrium in which the country has been trapped for some years.
- Strengthen linkages between small- and medium-sized firms and higher education to promote innovation, for instance, by promoting traineeship programmes for graduates (*apprendistato di terzo livello*), which are currently underutilised.
- Create a system to facilitate shared hiring to make highly skilled workers accessible for SMEs operating in a same territory and/or in the same supply-chain.
- Improve the organisational capabilities of firms by investing in improving the skills of managers, including of owners and managers of family firms. There is a need for entrepreneurship and managerial skills to become more widespread, as they support the diffusion and absorption of new technologies and can help firms adapt to the challenges of production in a digitalising and international environment.

Pillar 4: Strengthening skills systems

Challenge 8 - Strengthening multilevel governance and partnerships to improve skills outcomes

Complex governance systems are common across OECD countries, and co-ordinating skills policies among different sectors and across levels of government represents a challenge for all of them, including Italy. In Italy, longstanding obstacles to the effective implementation of public policy include: weak co-ordination mechanisms between the centre and subnational levels of government, the instability of legal and regulatory frameworks which creates uncertainty, and limited use of consultation with key stakeholders.

Italy's efforts to ensure full implementation of the recent reforms involving subnational governments, business, and social partners are steps in the right direction to promote complementarities among policy domains. Progress has been made in strengthening the capacity of the public administration to interact with citizens and business thanks to the 2015 "Delegation to the Government for Public Administrations' Re-organisation Law" (known as the Madia Law). This law also reorganised the central administration, introduced measures to facilitate co-ordination among public entities and strengthened the Prime Minister's Office's function to co-ordinate and evaluate public policies. Efforts to ensure open policy-making are also supported by Open Government Initiative, which promotes a digital agenda to: better engage citizens in policy making; simplify bureaucracy; and increase transparency.

Stakeholder perspectives

- Stakeholders identified weak governance arrangements as one of the main challenges negatively affecting Italy's capacity to develop and implement a national skills strategy. In particular, skills policies and programmes are perceived as complex and ever-changing, making it hard for stakeholders, and in particular business, to interact effectively with public authorities. Accordingly, lack of co-ordination and co-operation within the public sector and between public authorities and the private sector were identified as key issues.
- Many stakeholders identified regional labour market institutions and qualifications frameworks as a barrier to labour mobility and the optimal use of existing talent. For instance, some innovations such as "territorial networks", now co-ordinated by the national employment agency (ANPAL), are seen as positive and should be fully implemented. In the same vein, stakeholders praised the integration between passive and active labour market policies under ANPAL. There is widespread expectation that the presence of ANPAL will favour the co-ordination of skills policies, and also facilitate policy monitoring and evaluation.
- As a possible solution for the (multi)governance challenge affecting skills policies in Italy, stakeholders identified the creation of a national co-ordination framework (a *cabina di regia*, in Italian) operating across sectoral policies and tiers of governments.

Recommended areas for action:

- Continue improving the current efforts to adopt a whole-of government approach to developing and effectively using skills to maximise emerging policy complementarities by requiring enhanced co-ordination and information sharing across ministries and with subnational levels of governments and with relevant stakeholders.
- Boost the public administration's capacity to implement skills policies by increasing training for public servants, exchanging data and information across public authorities.
- Improve public sector engagement with key stakeholders by making a greater effort to encourage them to participate in established policy forums, as well as by undertaking targeted focus groups. In particular, ensure that the needs of disadvantaged groups and regions are well represented in the policy development process.
- Strengthen transparency and accountability by clarifying responsibilities across public authorities and requiring public reporting of results.

Challenge 9 - Promoting skills assessment and anticipation to reduce skills mismatches

A great diversity of different skills assessment and anticipation (SAA) exercises exists in Italy, reflecting the different objectives and needs of the actors involved. However, despite the wealth of information on skill needs produced, some gaps persist. In particular, the development of domestic long-term skills needs forecasts, measurement of soft skills in the population, and the use of big data, could be strengthened. The level of granularity of certain information could be deepened in the future, and the statistical soundness of some SAA exercises improved. Moreover, despite the vast array of SAA information produced, the providers of SAA information still do not exploit all different dissemination channels available (e.g. social and public media) and could do more to engage their audiences more effectively. Crucially, Italy could make better use of available SAA information. Indeed, the use of SAA information is ad-hoc rather than systematic, partly reflecting the fact that regional and local authorities, as well as education and employment programmes providers, have a great deal of autonomy on policy/programme delivery. Career guidance – based on solid SAA information – is limited and provided in a scattered way.

Italy is taking several steps to improve its SAA information systems. For instance, efforts are currently being undertaken to link different SAA exercises with one another. One notable example is the establishment of the *Information System on Occupations* which centralises data from different sources and create co-ordination and structural links between the different SAA exercises scattered across the country. Good efforts have been recently undertaken to harmonise different existing definitions of skills. One example is the recent establishment of the *Atlante del Lavoro e delle Qualificazioni*, developed by ISFOL (now INAPP), which describes job contents (e.g. tasks) related to

occupations, with the aim to harmonise the language used by the world of work with that used by the Regional VET pathways, ITS and Apprenticeship across the territory.

Stakeholder perspectives

- Different users of SAA information end up having very different understandings of what the current and future skills needs of the labour market will be, suggesting that greater efforts are needed to produce and disseminate clear, concise, integrated, and user-friendly information.
- Not enough is done to make use of big data to assess the pulse of the labour market in real time.
- Despite recent improvements, information on the level of soft skills in the population remains also scattered.
- The level of granularity of information could be deepened in some cases.
- Information on job vacancies is dispersed across multiple regional databases and there is no national information system that brings them all together.
- ALMPs are designed by regions, often without consultation with firms, education or social institutions, and with little consideration of available SAA information negatively affecting the possibility to implement evidence-based policy making.
- Good quality career guidance and counselling services – informed by up-to-date SAA information – are virtually inexistent or are provided in a scattered way.

Recommended areas for action:

- Fill existing gaps in SAA information. Areas for improvement include: (i) expand existing skills forecasts to cover a longer-term time span (over 5 years), which could be used to inform more forward-looking planning (e.g. in education and VET policy); (ii) enhance skills assessment in real time, by using other less traditional data sources, such as big data; (iii) better assess the level of soft skills in the population; (iv) deepen the level of granularity of certain SAA information; (v) improve the statistical soundness of some existing SAA exercises to produce more robust results.
- Strengthen dissemination practices. For example, it will be important for the developers of SAA information to engage their audiences more proactively by combining different dissemination channels, and using additional ones such as public and social media.
- Continue involving other actors – regions, ministries – in the Information System of Occupations. This is important to allow additional SAA information sources to be linked to one another and adopt a common language across all existing SAA exercises.

- Use SAA exercises more systematically to inform education, employment, and migration policy. This will ensure that policies are designed in a way to respond to current and future skills needs.
- Strengthen the provision of career guidance for lower- and upper-secondary students and jobseekers based on SAA information. This will help students – especially those coming from disadvantaged socio-economic background – to make decisions based on their skills, merit, preferences and real labour market needs; and it will help jobseekers have access to reliable information on job vacancies and upskilling opportunities.

Challenge 10 - Investing to improve skills outcomes

Italy's invests comparatively little in skills development especially on tertiary education and adult learning. While spending per-student on primary and secondary education in Italy is similar to the OECD average, spending at the tertiary level ranks Italy only 21st among 31 countries. The private sector in Italy funds training at the firm level in a number of ways, most notably through inter-professional funds (*Fondi Inter-professionali*). They fund training plans at the sectoral and regional level that firms, either alone or in association, may decide to create for their employees. Still, private investment in skills is also low by international standards. Italy benefits from a significant allocation of funds from the European Commission Structural Funds, but struggles to spend them effectively. Low and ineffective investment in education and training – along with other factors – may have negative implications for both access to, and quality of, skills development opportunities, with long lasting negative effects on productivity and well-being. Several factors are making additional spending on education and training complicated, including the challenging budgetary situation and the large imbalance between current public expenditure and investment. These challenges underscore the importance of improving the efficiency with which revenues are raised in Italy.

Despite Italy's challenging economic circumstances, some measures have been taken to strengthen skills financing. Italy's education spending has risen in recent years as a share of GDP. Several other positive steps have been taken including a targeted fund to finance grants for students in need, defined according to their family income. Performance-related funding for universities has been rising as a share of total funding and the National Reform Programme confirmed the government's intention to continue this increase. The 2017 Stability Pact provides additional funding for scholarships to promote access to tertiary education. In addition, the 2017 Budget law introduced several measures to increase the quality of the research system, such as additional funding for the best departments and the best researchers, and increased annual endowment for ANVUR (the National Agency for Evaluation of the University and Research System). The 2014 Jobs Act has reformed the delivery of ALMPs, which may increase the amount of funding for these supports at regional level. Through the Industry 4.0 programme, Italy has allocated a total EUR 13 billion in tax credits between 2017 and 2020 to firms adopting digital technologies, which should positively affect the demand for high-skills.

Stakeholder perspectives

- Representatives from subnational governments and from business strongly advocated for an increase of public investment in skills accompanied by reducing taxes on labour.
- Nonetheless there is widespread understanding that there is only limited fiscal room for such increases and, therefore, it would be important to strengthen policy complementarities to improve the efficiency and the effectiveness of public investment in skills while also raising private investment in skills.
- Stakeholders flagged that the limited fiscal room hinders Italy's capacity to implement recent reforms, but recognised that the recent increases in public expenditure on education, including tertiary education go in the right direction.
- Finally, stakeholders praised the investment in new technology undertaken in the framework of the national policy Industry 4.0.

Recommended areas for action:

- Increase public investment in skills, including on education, well-targeted active labour market programmes and innovation.
- Increase private investment in skills through a combination of incentives for employer investment in skills. Policies providing incentives to private investment such as Industry 4.0 go in the right direction and should be empowered by creating complementarities with other policies and investment programmes. Tax credits for individuals should be made refundable so that they can be accessed by those in low-paying jobs before they become unemployed or leave the labour market. More training should be provided at the sectoral level to alleviate poaching concerns between firms. Other options pursued across the EU have included payback clauses, social security contribution reductions, train-or-pay schemes, and expanded corporate tax deductions for training.
- Improve the efficient use of resources by strengthening existing efforts to: (a) determine how the costs of University degrees should be shared by the beneficiaries (fees) versus the rest of society; (b) refine the funding formula that take into account quality as much as quantity (number of students); (c) define thresholds for the creation/closure of new University Departments that take into account both the number of students and outputs; (d) improve selection procedures for lecturers and promotion mechanisms in such a way that merits become more relevant than seniority; and (e) improve Governance systems.
- Rigorously monitor and evaluate skills investment to ensure good value for money, particularly with respect to inter-professional funds.

Moving from diagnosis to action

This report presents a diagnosis of Italy's skills challenges and provides a solid basis for identifying possible areas for action to improve skills outcomes. The report can be used in many ways, including as a basis for raising public awareness, fostering broader public dialogue while encouraging social partners, national and regional governments to work together to address these challenges.

The next step for Italy will be to determine which skills challenges should be tackled as a priority and to develop concrete plans for action, building on the active engagement of all relevant ministries, regional authorities and stakeholders. The OECD stands ready to help in this endeavour.

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

Skills have become the key drivers of individual well-being and economic success in the 21st century. Without proper investment in skills, people languish on the margins of society, adopting new technology is difficult, and countries can face difficulties to compete in increasingly knowledge-based economies. The more that countries strive to achieve the highest levels of innovation and competitiveness in their economies, the more they must focus on generating the right skills mix, making sure that these skills are fully activated and adapted during working lives, and maximising their use in workplaces.

The OECD Skills Strategy provides countries with a framework to analyse their strengths and weaknesses as a basis for taking concrete actions relating to three pillars:

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



In addition, the OECD Skills Strategy examines how well countries facilitate policy collaboration and coherence across these three pillars. Strengthening the skills system overall helps countries build the right skills and turn them into better jobs and better lives.

Objective of this country project: Building an Effective Skills Strategy for Italy

The main objective of this project between the OECD and the Government of Italy on Building an Effective Skills Strategy for Italy was to provide a strategic assessment of Italy's performance in developing, activating and using skills. This diagnostic report achieves that goal by bringing together insights from a wide range of stakeholders in Italy with the best available internationally comparative evidence on the country's skills outcomes. In particular, stakeholder perspectives were recorded at the workshops by moderators and note-takers – mostly members of the Italian National Project Team which worked in parallel with the OECD Secretariat at this report – that produced very detailed summary notes which are reflected in the OECD Diagnostic Report.

Applying the OECD Skills Strategy in practice: Building a whole-of-government team and engaging stakeholders

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

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

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

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

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

Fostering a whole-of-government approach to skills in Italy: In Italy, the National Project Team includes representatives from the Ministry of Education; the Ministry of Labour; the Ministry of Economy and Finance; the Ministry of Economic Development and the Presidency of the Council of Ministers. The National Project Team was responsible for setting the strategic direction for the project, liaising with the OECD team, co-designing stakeholder workshops and ensuring that the diagnostic phase covered all relevant aspects of the national skills system. The Ministry of Economy and Finance ensured project co-ordination throughout.

Stakeholders play an active role in Italy's skills system: Thanks to the strong impetus provided by the National Project Team, stakeholders have played a central role in identifying the main skills challenges facing Italy set out in this report. In total, more than 200 people, including representatives of business, labour, the education sector, research institutes, and government, took part in the three workshops held in Rome and Milan. They helped identify the main skills challenges facing the country at the scoping workshop (Rome, 21 July 2016), the underlying factors causing them during the diagnostic workshop (Milan, 28 September 2016), and reviewed national good practices at the skills challenges workshop (Rome, 20 March 2017). The workshops were designed to encourage all stakeholders to express their diverse views and generate useful qualitative evidence and insights on the main skills challenges facing Italy.

While many of these skills challenges are long standing and well known to all participants, they acknowledged that this exercise also generated new insights and understanding as to how different stakeholders perceived or formulated challenges. Through their active participation in these events, stakeholder input has helped to shape this diagnostic report

CHALLENGE 1: EQUIPPING YOUNG PEOPLE ACROSS THE COUNTRY WITH SKILLS FOR FURTHER EDUCATION AND LIFE

Key messages

- Italy has made good progress in improving the quality of schooling in recent years, with mean scores rising overall in reading, math and science. While math scores are now in line with the OECD average, Italy still lags behind other OECD countries in reading and science.
- The significant variation in student performance across the country, with Southern regions consistently lagging behind the others, remains a concern. For example, while students in the Autonomous Province of Bolzano do as well as top performing nations like Korea, students in Campania compare with their counterparts in Chile or Bulgaria. In other words, the performance gap in PISA between students in the Autonomous Province Bolzano and Campania is more than one year of schooling.
- Italy has taken important steps to address these challenges. The 2015 Good School Act (*Buona Scuola*) gives more autonomy to schools and introduces merit-based bonuses for teachers. The reform strengthens the accountability of school principals and establishes a National Plan for digital schools to improve the digital skills of both students and teachers, also creating a more modern learning environment with improved access to the internet and digital innovations. In particular, the Good School reform makes participation in work-based learning mandatory in all schools through the so-called *Alternanza Scuola Lavoro*. Work-based learning is now part of all education pathways, after the positive experience realised in the regional system of upper-secondary-level vocational educational training (IeFP). Finally, the recent revisions to the regulations governing apprenticeship contracts have the potential to strengthen the linkages between firms and students.
- Full implementation of all these policies and reforms will require sustained efforts, leadership and further engagement of teachers, principals, families, employers and other stakeholders.

Introduction and stakeholder perspectives

Developing skills in compulsory educational is fundamental both for people's own success and a country's economic development and social cohesion. A wide range of skills is needed to be successful in all facets of life. These include strong cognitive, socio-emotional and technical skills. All these skills can have a positive effect on people's transitions to higher education, employment and income prospects, their health, and

social outcomes. In addition, people's skills are beneficial to the society as a whole, in so far as they translate into higher civic engagement, higher productivity, lower dependency on social benefits and larger contributions to the tax system. Importantly, acquiring or reacquiring skills in adulthood is hard and costly. Developing a rich bundle of skills in compulsory education is therefore fundamental both for individual prosperity and a country's economic and social success.

Italian stakeholders participating in the Skills Strategy Workshops expressed a variety of views concerning the skills of young people. A majority of them recognised that the recent reform – the Good School Act – is a move in the right direction, but challenges remain. Experts and practitioners repeatedly pointed out that in Italy many young people lack good numeracy skills, as well as a solid knowledge of English. In addition, they stressed the importance of fostering both transversal and digital skills. And they also highlighted that technical and vocational skills should be developed throughout compulsory education. Most stakeholders consider that the priorities for the country are: reducing the North-South divide in skills outcomes, generalised access to pre-school, tackling school drop-out. Finally, there was agreement that the efforts to generalise work-based learning (Alternanza Scuola Lavoro) are positive and should be continued by solving issues related to the co-operation between schools and firms, especially SMEs, in all regions.

Stakeholder perspectives

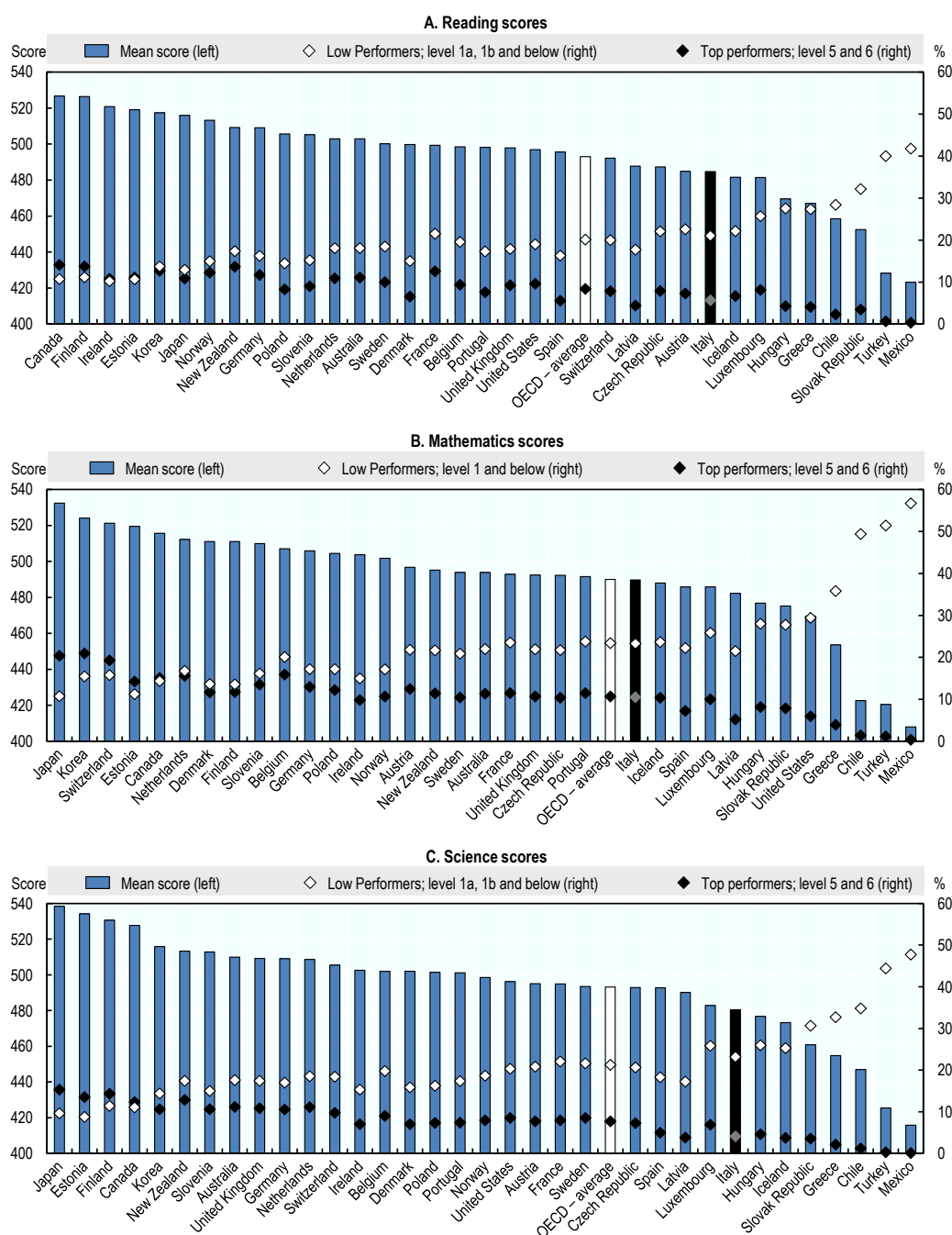
- Italian schools are considered inclusive and are perceived as of good quality, but stakeholders highlighted the need to improve foundation skills – such as numeracy and literacy skills – as well as transversal, technical, and digital skills of young generations. Experts and practitioners repeatedly pointed out that in Italy many young people lack good numeracy skills, as well as a solid knowledge of English.
- A majority of stakeholders, including those representing business, recognised that the recent Good School Act is a move in the right direction, but challenges remain with its full implementation.
- There was agreement that the efforts to generalise work-based learning are positive and should be carried through by tackling remaining obstacles to the co-operation between schools and firms, especially SMEs, in all regions.
- Most stakeholders also considered it important to strengthen teachers' professional development and to introduce different career paths and rewards.

Italy has made good progress in improving the quality of schooling in recent years and continued efforts are needed to improve this performance

Italy has made good progress in improving the quality of schooling in recent years, with mean scores rising overall in reading, math and science. While math scores are now in line with the OECD average, Italian 15-year-olds still lags behind their peers in other OECD countries in reading and science (OECD, 2017a; OECD 2016b).¹ Continued efforts are needed to improve this performance given that foundation skills are the building blocks for future learning, and, as such, influence both the possibility of acquiring other skills, such as digital and professional skills, and of expanding their portfolio of skills later in life.

Figure 1. Italy's performance in PISA 2015

Mean score and share of students that are low and top performers in reading, mathematics and science



Source: OECD (2016), PISA 2015 Results (Volume I): Excellence and Equity in Education, PISA, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264266490-en>, Figure I.2.15 Students' proficiency in science, Figure I.4.8 Students' proficiency in reading, Figure I.5.8 Students' proficiency in mathematics.

Another issue revealed by PISA 2015 (OECD, 2016b) is that the share of high-performing Italian students has decreased in both reading and science, while across OECD countries it has remained stable in reading, and only slightly decreased in science. Conversely, the share of students in Italy who are low performers is similar to the OECD average in all three skills domains.

There are important gender differences in skills outcomes in Italy. While boys are catching up with girls in reading, the gender gaps in maths and science in favour of boys are among the largest in the OECD. The gap in science is also widening. PISA 2015 shows that, since 2009, the gender gap in favour of girls in reading shrank substantially more in Italy than in other OECD countries. Yet, Italian boys outperform girls by an average of 20 points in maths and 17 points in science. Across OECD countries these differences amount to only 8 and 4 points, respectively. Importantly, the gender gap in science in favour of boys also widened by 14 score points, between 2006 and 2015. Box 1 provides evidence of what schools can do to help close the gender gap in foundation skills development.

Box 1. Gender equality by design: what schools can do

PISA 2015 reveals that the gender gaps in maths and science in favour of boys are amongst the highest across OECD countries. In this respect, the experience of other countries in tackling gender differences in skills outcomes might be helpful to the Italian community.

Machin and McNally (2006) show that in the United Kingdom, the introduction of highly structured methods of teaching in 1990s, under the National Literacy and Numeracy Strategies, was especially beneficial for the gender that is generally weaker in a particular subject. According to the authors, the results suggest that raising the standard of teaching practices can disproportionately help the weaker students.

Many studies show that teachers' gender biases affect student achievement. Lavy and Sand (2015) show for instance that teachers' stereotypical biases play an important role in explaining the gender gap in maths achievement in Israel primary schools and have long-term consequences on the gender gap in enrolment in advanced studies as well. Similarly, Terrier (2016), using a combination of blind and non-blind test scores, shows that middle school teachers in France favour girls when they grade. Combating teachers' biases can, therefore, be a first step towards the reduction of gender gaps in skills outcomes.

In the same spirit, Beaman et al (2012), exploiting a randomized natural experiment in India, show that female leadership raises girls' career aspiration and educational attainment. Overall these studies suggest that many factors, both internal and external to schools, can influence gender differences in educational attainment. While changing external factors requires a holistic approach involving many actors in the society (Bohnet 2016), school principals and teachers can actively modify teaching practices and attitudes that are known to have different consequences across genders.

Source: Beaman et al. (2012), Bohnet I. (2016), Victor Lavy, (2015), Machin et al (2005).

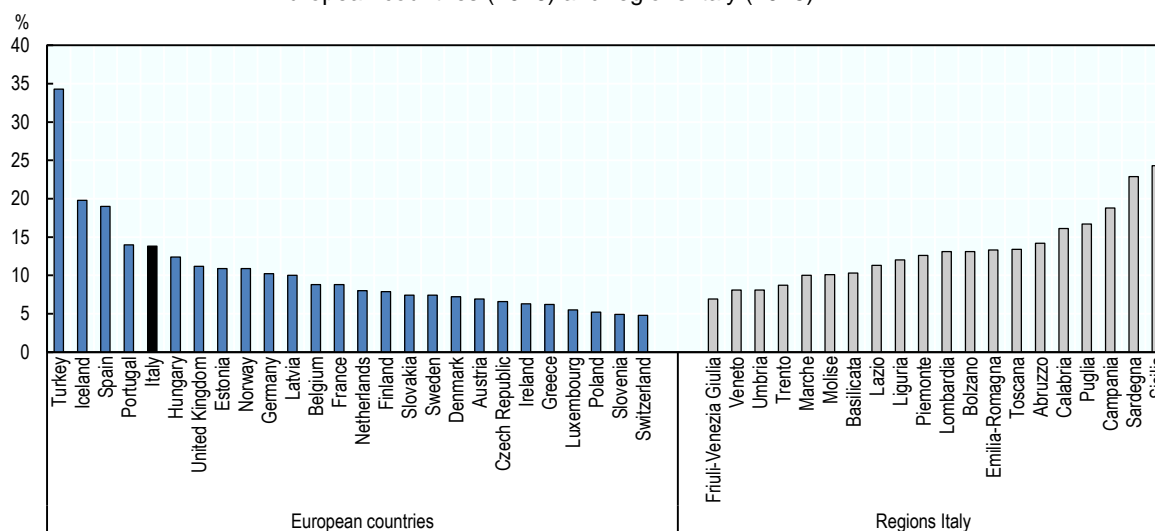
Efforts to reduce school drop-out over successive governments has had some positive results. The early school leaving rate has been steadily decreasing in Italy and in recent years the downward trend has accelerated more than in all other European countries (Eurostat). However, continued progress is needed as Italy's schooling leaving rate (almost 14% in 2016) (Eurostat) is still one of the highest in OECD countries.

Students who do not complete secondary education are at higher risk of not participating in education, employment or training (NEETs) and, thus, becoming economically and socially excluded (see Chapter 5; OECD 2016a).

Student truancy in Italy is particularly high in comparison with other OECD countries and has increased since 2012. On average, across OECD countries, 20% of students reported that they had skipped a day of school or more in the two weeks prior to the PISA test, while in Italy 55% of students reported doing so. Importantly, the share that has skipped class has substantially increased since 2012. Italian students who had skipped a whole day of school at least once in the two weeks prior to the PISA assessment score 21 points lower in the science assessment than students who had not skipped a day of school. A strong focus on the enhancement of pupils' aspirations and behaviours is needed to address this challenge.

Figure. 2. School drop-out rate

Early leavers from education and training, share of 18-24 year-olds, European countries (2016) and regions Italy (2015)



Source: Eurostat (2017), Early leavers from education and training by sex and labour status, http://appsso.Eurostat.ec.europa.eu/nui/show.do?dataset=edat_ifse_14&lang=en, and Italian National Statistical Agency (ISTAT).

Notably, for most of these indicators, performance varies significantly across the country, with Southern regions consistently lagging behind the others. For example, while students in the Autonomous Province of Bolzano do as well as top performing nations like Korea, students in Campania compare with their counterparts in Chile or Bulgaria. Wide regional variation calls for co-ordinated, and yet differentiated, skills policy interventions across the country. The performance gap in PISA between students in the Autonomous Province of Bolzano and Campania is equivalent to more than one year of schooling.

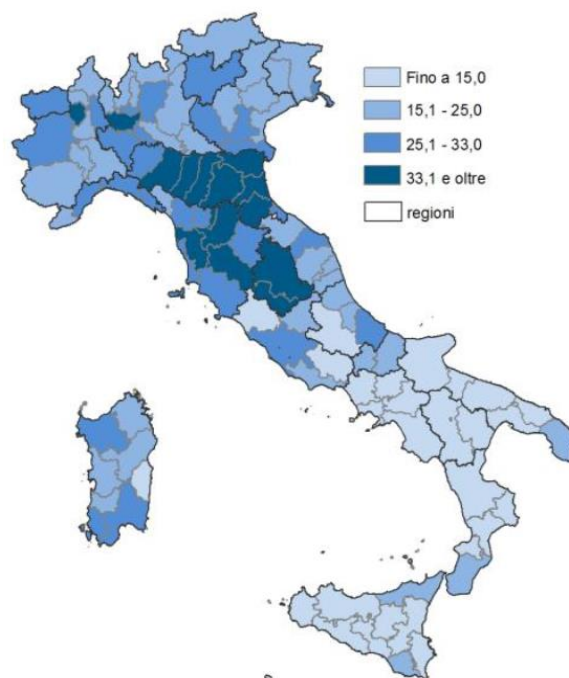
There is a common understanding among stakeholders and experts that the North-South divide in educational outcomes is a real challenge for the country that should be dealt with at the national level. Many factors contribute to explaining this phenomenon, including different returns to skills across regions, as well as differences in students' socio-economic background (OECD, 2017b) and in the level of social capital (Bratti et al. 2007). An integrated approach involving not only the supply-side for skills (see this challenge as well as challenges 2 and 3), but also the demand-side (see challenge 6 and 7) is needed to tackle all these issues.

Access to early childhood education and care could be improved

In Italy, early childhood education is generally of good quality, but nursery settings for children below 3 are not easily accessible across the country. Increasing availability of high-quality childcare may help to reduce variation in skills outcomes. Children's cognitive and non-cognitive outcomes are largely determined early in life and returns on investments in early childhood are higher than those on investments at later stages, especially for disadvantaged children. In particular, the impact of pre-school education attendance has been proven to be strong and long-lasting (Heckman et al. 2013, Brilli et al. 2014).

Early Childhood Education and Care (ECEC) has two components with different governance systems involving the national, regional and local levels. The first component of ECEC is represented by nursery services (*asili nido*) for 0-3 year-olds, which are mainly organized at local level by municipalities and private providers. Nursery services are organised following regulation issued at regional level. The Ministry of Labour and Social Policies (MLPS) and the Department of Family Policy, in the Presidency of the Council of Ministries have the responsibilities to promote and monitor nursery services. The second component is represented by the pre-schools (*scuole dell'infanzia*) for children between 3 and 6 years old. The *scuole dell'infanzia* provide ECEC following guidelines set by the Ministry of Education, Universities and Research (MIUR) and can be run at local level directly by the State, by the municipalities, or by the private sector. Recently, Italy has initiated a reform to integrate these two components of ECEC into a single framework – called *Poli per l'infanzia* – in order to streamline governance and improve the quantity and quality of services provided to the kids and their families.

Figure 3 and a recent report from the Italian Statistical Agency (ISTAT 2016) reveal that child care spaces are much harder to find in the South of the country, where, in the 2013/14 school year, there were only 11.5 seats for every 100 0-3 years old children, in comparison with 28.2 in the Centre-North. Expanding the supply of high-quality childcare is a necessary step to reduce the regional divide in educational outcomes, and could also help boost female labour force participation (see challenge 5). However, in the South of Italy there are also issues related to demand-side of ECEC services. For instance, Families are usually required to pay at least some money towards the cost of the services. So the younger generations with children, who have the problem of childcare, often do not find work and cannot afford to contribute to fees.² Several measures have thus been implemented by the Italian government to help families meet the cost of childcare facilities, such as a nursery voucher (EUR 1,000) recently established as a contribution for children born after January 2016 and below the age of 3 (see Chapter 5).

Figure 3. Availability of childcare seats for every 100 children aged 0-2

Source: Italian National Statistical Agency (ISTAT) (2016).

Italy's reform efforts to improve teaching and learning outcomes go in the right direction but challenges remain

Italy has undertaken a substantial effort to improve the effectiveness of its primary and secondary school system. In addition to the points discussed above, the Good School Act (*Buona Scuola*) of 2015 contains several measures aimed at improving skills outcomes, enhancing school management practices, and smoothing students' transition from school to work (see Box 2 for more information on the reform).

Box 2. The Good School Act

In 2015 the Italian parliament approved Law 107/2015, commonly known as the Good School Act (*La Buona Scuola*). The main points of the reform include the following:

Teacher recruitment: Italy is making efforts to *recruit new teachers*, which could give schools greater flexibility in the organisation of learning time. In 2015/16, 86 076 teachers with short-term contracts were recruited as permanent teachers, while 38 611 teachers filled existing posts (including 14 241 teachers in special education needs [SEN]), and 47 465 teachers entered new posts (including 2 788 SEN teachers). A new open competition to recruit around 64 000 teachers on a permanent basis took place in spring/summer 2016.

Merit-based component of teacher salaries: Part of teachers' salaries will be based on performance criteria to be established by school-level teacher evaluation committees. MIUR will issue guidelines for the assessment of teacher merit at the end of the 2016-18 period (based on reports of the regional branches of MIUR on the criteria adopted in schools to reward teachers).

Teachers' professional development: A national plan with a financial resource package of well over EUR 1.5 billion was launched for 2016-19, with the following national priorities: development of system skills (in school autonomy, evaluation and innovative teaching); 21st century skills (such as foreign languages, digital skills and school-work schemes); and skills for inclusive schooling.

School autonomy: School leaders will have greater freedom to manage their financial, technological and human resources. They will be evaluated every year during their three-year contract. School heads will identify the persons to be added to their staff, according to the needs of the school as expressed in the triennial School Development Plan.

Curriculum: Emphasis will be put on introducing or enhancing the teaching of certain subjects, such as economics, music, arts, law, sports, sustainable development, Italian, English and mathematical reasoning. Since 2010, upper-secondary schools have had greater flexibility in introducing optional courses.

Digital and language skills: The three-year National Plan for Digital Education (Piano Nazionale Scuola Digitale, PNSD), aims to improve digital competencies of both teachers and students, through a complex set of actions ranging from upgrading Internet connections in schools to setting up learning environments in which creativity and laboratory activities are possible.

Work-based learning: Traineeships now become mandatory for all upper-secondary students. General education students will have to complete at least 200 hours and technical/vocational education students at least 400 hours in their final three years. The government has allocated EUR 100 million per year for this purpose, starting in 2015.

Source : OECD (2017a), Education Policy Outlook 2017 Country Note: Italy.

Improving the quality of teaching and making the profession more attractive

The Good School Act focusses on teacher quality, which is considered the single most important school variable influencing student skills outcomes (OECD 2015b). In recognition of the important role of teachers, many countries have introduced policies and reforms to attract, evaluate, develop and motivate teachers.

The Good School Act recognises the important role teachers play in raising skills outcomes. The government has undertaken significant efforts to recruit new teachers with permanent contracts. In 2015/16 alone, approximately 86 000 teachers with short-term contracts were recruited as permanent teachers, more than 38 000 teachers filled existing posts, and about 47 000 entered new posts. In spring/summer 2016, the government promoted an open competition to recruit around 64 000 teachers with open-end contracts. Reducing teachers' turnover by enhancing contract stability is extremely important for students' educational progress (OECD, 2017a).

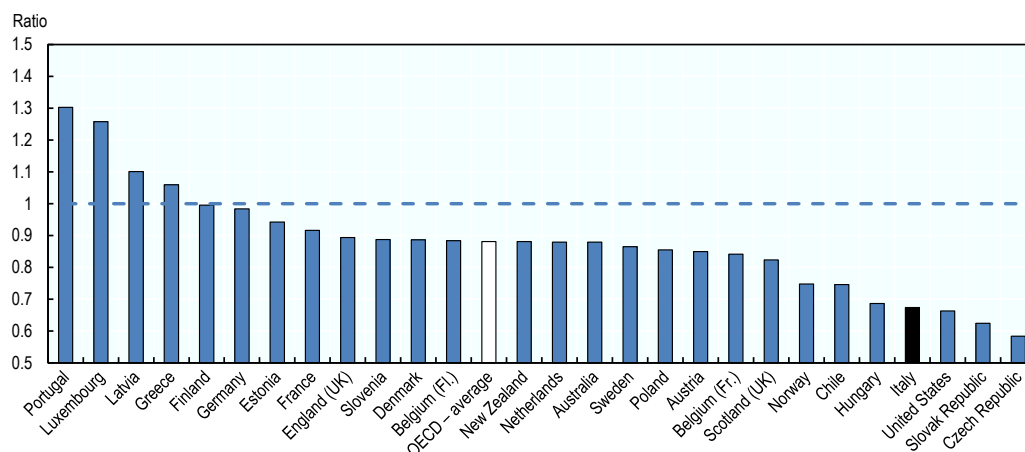
The Good School Act has also widened teachers' opportunity for professional development. For instance, it introduced a EUR 500 voucher for every teacher to be spent on activities aimed at enhancing their professional development. In addition, teachers are now required to take part in in-service training planned at school level and included in the triennial School Development Plan. These measures aim at providing a continuum between initial, induction and on-the-job training, focussed on disciplinary and transversal skills, as well as adaptation to new technologies.

Working conditions have an important impact on countries' ability to attract and retain high-quality teachers. In comparison with other OECD countries, teachers in Italy are paid considerably less than workers with the same level of education in other occupations (Figure 4) (OECD 2016). Cross-country comparisons using PISA data show that relative pay levels of teachers are related to average student performance in education systems, even after other system-level factors have been accounted for (Schleicher, 2014). OECD data also shows that the supply of teachers can be depressed where teachers' salaries are low relative to professions requiring similar qualification (Schleicher, 2014). The European Commission (European Semester Country Report 2016) comments that Italy should consider the possibility of raising teachers' salaries to attract high-quality teachers. In this respect, the introduction of merit-based elements in teachers' salaries in the Good School Act is a step in the right direction. However, increased funding alone will have little impact if high-quality teachers are not hired in the first place and if teachers do not continue to develop their skills after entering the profession, through mentoring and other forms of professional development (Gomendio, 2017).

Talented and experienced teachers are particularly important for raising the skills of students in disadvantaged schools. Many OECD countries have introduced financial incentive packages to attract and retain competent and experienced teachers in disadvantaged schools (Schleicher, 2014). The policies employed by countries include the provision of salary allowances for teaching in difficult areas, transportation assistance for teachers in remote areas, and additional payments for teachers with skills in short supply. These types of approaches can be more cost efficient than across-the-board salary incentives (Schleicher, 2014).

Figure 4. Teachers' actual salaries relative to earnings for tertiary-educated workers

Actual salaries of lower-secondary teachers teaching general programmes in public institutions relative to earning for tertiary-educated workers, 2014



Source: OECD (2017), *Education at a Glance 2017: OECD indicators*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933558762>.

Another means to attract, retain and motivate talented teachers can be to increase the range of career pathways for teachers, especially in disadvantaged schools. These positions should provide incremental supports to other teachers in recognition of the unique demands and increased challenges associated with raising the skills outcomes of youth in these schools. For example, in 2015 New Zealand introduced four new roles within schools: Executive Principal, Expert Teacher, Lead Teacher and Change Principal. Beyond the substantive support that these new roles provide to teachers and students, they provide talented teachers with new career pathways providing additional remuneration. Differentiating teaching pathways more in Italy could help to attract and motivate teachers (Schleicher, 2014).

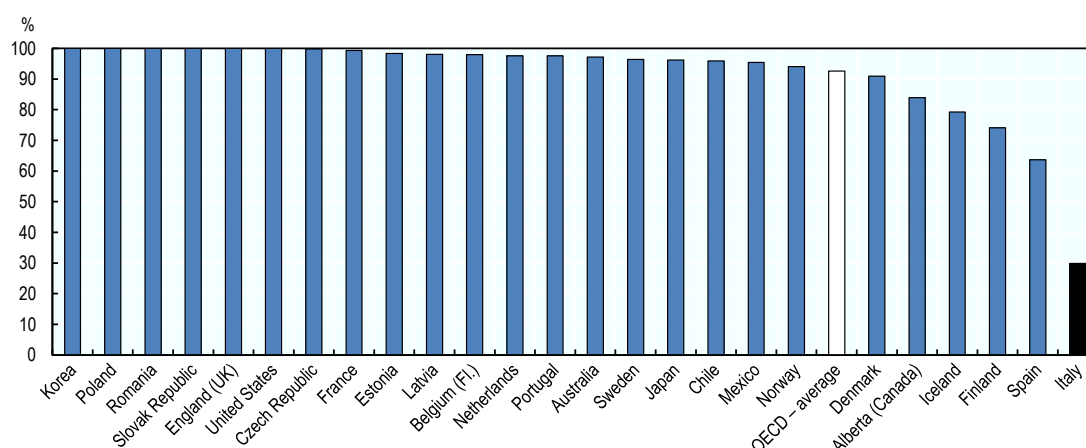
A key challenge for Italy is the absence of national standards to guide teacher appraisal (OECD, 2013b). Developing and adopting such standards, as well as related systems for evaluating teacher performance, would complement and reinforce Italy's recent education reforms (as also discussed below). Many countries have put in place standards for teachers to provide a framework for what is considered quality teaching against and set a coherent learning and development system for teachers (Gomendio, 2017; Guerriero, 2017; OECD, 2015b). In so doing, teacher standards allow for the assessment of teacher performance and, by extension, enable that provision of supports for teacher professional development.

In Italy, teachers do not receive sufficient feedback from their principals (Figure 5). Ongoing performance feedback is important for teacher performance. According to TALIS 2013, while 93% of teachers on average across TALIS countries worked in schools where principals reported some forms of appraisal, in Italy 70% of teachers worked in schools where the principal reports that there was generally no form of teacher appraisal. Many studies show that providing frequent teacher feedback and appraisal is a key feature of successful schools (Angrist et al. 2013, Dobbie et al. 2013). Moreover, TALIS 2013 finds that in Italy, teachers who received public recognition as

the result of appraisal or feedback reported higher levels of self-efficacy. However, it is also important to note that teachers are now undergoing annual forms of appraisal based on performance criteria established by school-level teacher evaluation committees, as required by the policy framework put in place by the Good School Act, for the assigning of the merit-based component of their salaries.

Figure 5. Appraisal used in the school where the teacher works

Share of lower-secondary education teachers whose school principal reports that appraisal is used in their school, 2013



Source: OECD (2013), Teaching and Learning International Survey (TALIS), <http://oecd.org/education/talis.htm>.

Teachers in Italy need better access to professional development opportunities to ensure that they meet the required standards. TALIS 2013 showed that the percentage of teachers in Italy who had participated in professional development activities in the 18 months preceding the survey, at just under 85%, was below the international average across countries of 89%. Better monitoring of the quality and content of teachers' training will be fundamental to make such an intervention cost-effective (Gomendio, 2017). This is especially important when considering that 66% of Italian teachers participating in TALIS 2013 declared that an inadequate offer of training courses often prevented them from participating in such courses. In this respect, recent reforms (see below) to increase teachers' opportunity for professional development and teachers' appraisal should be welcome, as stakeholders participating in National Skills Strategy for Italy have also repeatedly indicated.

Modernising learning environments

Through the National Plan for digital school, the Good School Act establishes a plan to improve the digital skills of both students and teachers by creating a more modern learning environment with improved access to the internet and digital innovations. These reforms could help Italy to close the digital skills and infrastructure gap that has opened up between Italy and many other advanced economies and could

help students to be better prepared for transition to further education, work and life (OECD, 2017a, 2017b, 2017c).

Improving the evaluation of learning outcomes

Evaluation and assessment arrangements are an important means for boosting student outcomes. Evaluation and assessment policies aim to engage students in their own learning, promote school self-evaluation and provide comprehensive information on accountability to the public. To be successful, these policies must also help staff to develop evaluation skills and be supplemented by external validation (Gomendio, 2017). Principals in Italy report an above average level of internal evaluation, but significantly below level of external evaluation (OECD, 2016b). Italy has already taken steps to improve in this area.

In particular, the government has recently reformed the existing National Evaluation System, in which school leaders co-operate with external institutions in order to evaluate the performance of their school, identify their strengths and weakness and set improvement targets (OECD 2015b). Moreover, since 2004, the National Institute for the Evaluation of the Education and Training System (INVALSI) introduced yearly national standardised tests in foundation skills, currently submitted at the three school levels (primary, lower and upper-secondary).

Strengthening school management and accountability

As underlined by the European Commission (European Semester Country Report, 2016), Italy's efforts to enhance management practices, school autonomy and accountability are positive. Concerning school management practices, Italy has recently adopted many initiatives to strengthen both school autonomy and accountability.

In order to meet the needs of the school as expressed in a triennial School Development Plan, the Good School Act grants principals/school managers – *dirigenti scolastici* – the autonomy to select, after the yearly teachers' mobility procedures, the residual teaching staff within the local district (*ambito territoriale*). In addition, as already mentioned, the government has further regulated the so-called National Evaluation System (SNV, in its Italian acronym) to promote quality assessment, comprising both schools' self-evaluation, external appraisal conducted by the autonomous National Institute for the Educational Evaluation of Instruction and Training (*Istituto nazionale per la valutazione del sistema educativo di istruzione e di formazione*, INVALSI), schools' improvement responses and publication of evaluation results (OECD, 2017a).

Reforms to work-based learning should help students acquire the skills needed for the world or work

Education and training should provide students not only with facts, but also with help to translate learning into professional skills. Combining school-based education with workplace learning can accomplish the dual goal of developing technical and soft skills and raising students' interest and motivation. The education and training system should also help students to discover and cultivate their talents. This function of work-based learning is clearly recognised in the text of The Good School Act, which explicitly

mentions the importance of career guidance and mentoring programmes for both Italian and students with immigrant backgrounds. The importance of career guidance was also mentioned by stakeholders in OECD Skills Strategy workshops.

Stakeholders stressed that the education system should aim to translate knowledge into skills and recognised the important role played in this regard by the *Alternanza Scuola Lavoro* (ASL hereafter), *Istruzione e Formazione Professionale* (IeFP, here after) and apprenticeships. Work-based learning is also discussed in challenges 2, 3, and 5 of this diagnostic report.

Alternanza Scuola Lavoro

The ASL, introduced under the Good School Act, has made work-based learning compulsory both in technical and vocational high-schools (400 hours) and in the academic track (200 hours). The number of hours students are required to spend in traineeships have been increased also in the IeFP– the regional system of upper-secondary-level vocational educational training – and now they total 400 per year. These initiatives are welcome, especially considering that until 2012 about 95% of students enrolled in upper-secondary vocational education exclusively attended school-based programmes, in comparison to 63% on average across OECD countries with available data (OECD, 2013a).

The success of the ASL will depend in part on how effectively businesses and schools collaborate to ensure that students are exposed to quality work-based experiences. With this challenge in mind, the government is working to build alliances with several large companies and a number of other stakeholders. OECD (2017b, 2017c) notes that finding businesses that can provide quality work-based training is likely to be more challenging in some of the economically less dynamic regions. The 2017 Budget Law provides firms with incentives to offer work-based experiences by extending social security contribution exemptions for newly permanent or apprenticeships contracts for young people who have completed a traineeship with the firm.

A strong assessment system will also be needed to ensure that training is of high-quality. This will be key to successful implementation of the ASL (OECD, 2017c). Box 2 provides an example of how Switzerland engages social partners in the design and delivery of work-based learning to ensure high-quality and relevance.

Box 3. Partnerships in VET: The Switzerland example

In Switzerland, the involvement of professional organisations (trade and employer organisations and trade unions) in VET policy-making is required by law. Professional organisations have the leading role in the content and examination process of both secondary and post-secondary programmes; they also draft core curricula for professional college programmes, which are then approved by the Swiss federal authorities. National examinations leading to a federal diploma are also led by professional organisations that ensure that diplomas are relevant to the needs of the profession and the labour market. Professional organisations draft examination rules, which cover admission requirements, occupational profiles, the knowledge and skills to be acquired, qualification procedures and the legally protected title. They also conduct examinations. The role of Swiss authorities (at Confederation level) includes approving examination rules, supervising examinations and issuing federal diplomas.

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

Stakeholders participating in OECD workshops and experts have highlighted several barriers to implementing ASL in Italy:

- Schools receive little support to reach out to firms and bear the burden of implementation. The government has established a web-portal, the *Registro Nazionale Imprese-Scuola Lavoro*, where firms can register to advertise their availability to take up students for work-based learning, but apart from this initiative, schools bear the full burden of implementation. Autonomous initiatives have developed to ensure a smooth implementation of the *Alternanza* and create bridges between firms and schools. One example is provided by *Consorzio ELIS*, an association which has developed a task force that engages with schools, teachers and students, and helps them get in touch with firms. Private employment agencies (e.g. Gi Group SPA) are also playing a role to establish linkages between firms and schools.
- School principals and teachers already have demanding and challenging jobs. Under the reform, they are given additional responsibilities. Recognising this challenge, the government committed to upskill teachers and school principals in the period 2016-2019. But the implementation arrives with a considerable time lag with respect to the urgency of the situation. More specific training in the interpretation of labour market information may need to be provided to the school management staff to put it in a better position to understand the needs of their local labour market and to establish more meaningful partnerships with firms.
- Synergies between students' curricula and the experience/skills learnt at the workplace remain underdeveloped. Unlike what is observed in other OECD countries (e.g. Germany) that have adopted a more bottom-up approach to the design of work-based learning activities, Italy has adopted a more top-down approach (OECD, 2017b). As a consequence, schools find it difficult to establish synergies between students' curricula and the experience/skills learnt at the workplace.

- The role of the firm-tutors needs to be strengthened. In many cases the assessment of skills acquired during the ASL is still done by teachers who may lack the necessary technical knowledge to judge on the work-related skills acquired by students. In other countries, (e.g. Germany) firms are much more involved in this process.
- There are some institutional barriers that undermine firms' ability and willingness to implement work-based learning. Despite the fact that firms generally see the reform as a step in the right direction, more could be done to favour implementation. For instance, firms may be deterred from participating due to the risk of taking on board unmotivated students. In most cases firms participate for reasons related to corporate and social responsibility, without a clear bound with their productive activities (see OECD, 2017b).
- Another challenge is to implement ASL in areas sparsely populated by firms, such as in the south of the country. There is a very real risk that it will be much more difficult to implement the ASL system with high-quality work-based learning experiences in the South of Italy. While 'simulated enterprises' at school (*i.e.* laboratories that mimic the work done in firms) can partly solve this issue in areas where simply "there are no firms", these remain a second-best option (OECD, 2017b).³

Istruzione e Formazione Professionale

Another important dimension to improve learning outcomes and skills is the regional system of upper-secondary level vocational educational training, called *Istruzione e Formazione Professionale* (IeFP), which was largely reformed in 2010. The aim of IeFP is twofold: reducing student drop-out rates; and offering students learning opportunities designed to acquire vocational skills that are required in the labour market. Given their regional and local design, the IeFP also have the potential to provide tailored solutions for skills imbalances that are specific to the territory (OECD 2017b). IeFP programmes are managed by regions and are funded by regional governments or autonomous provinces. Programmes are delivered by accredited vocational training agencies and upper-secondary vocational institutes (on a subsidiary basis) (OECD, 2017a).

IeFP encompasses 3 to 4-year vocational education and training (VET) programmes that aim to provide students with technical skills reflecting the productive specialisation of their territories, and allow students to obtain one of the 22 qualifications established via a consultation between the central government and the Italian regions. These qualification are recognised both at national and European level. The 3-year IeFP provide students with a formal vocational qualification, while the 4-year IeFP provides students with a professional diploma. Besides the acquisition of a specific qualification, students attending these programmes can also obtain a detailed certification of skills acquired while in education. Importantly, individuals can also obtain these qualifications via an apprenticeship contract. In addition, efforts are being undertaken to strengthen standards for the delivery of IeFP courses across all regions and improve the quality of training pathways.

Mainstream upper-secondary education lasting 5 years, offered by State schools called *Istituti Professionali* (IP) can also offer IeFP courses, in some cases. Direct access to

higher education is not possible with a IeFP qualification and/or diploma, although those with the four-year diploma can progress to higher technical specialisation (IFTS), or with an additional one-year integration course to *Istituti Tecnici Professionali* or ITS, which are short-cycle tertiary professional education institutes (see challenge 2, 6, 8) and universities.

Recent policy efforts aim to integrate IeFP with broader VET and professional education pathways encompassing also tertiary professional education – in particular the above mentioned ISCED 5-level ITS – to provide students with more learning options while positively affecting employability and skills matching.

Despite their important role and ongoing efforts to improve them, IeFP face a number of challenges that could undermine their capacity to respond effectively to labour market needs. One of these is a lack of visibility. A recent study by ISFOL (2016) shows that one third of Italians interviewed did not know the existence of IeFP programmes. This low visibility is likely related to the ongoing social stigma towards non-academic programmes (OECD, 2017b). IeFP programmes are also generally perceived as low-quality courses. Standards for the delivery of IeFP courses and systems of quality assurance of education providers are, for instance, not of equivalent quality in all regions and should be homogenised and strengthened where needed. Higher take-up of IeFP may also be hindered by the fragmentation of vocational programming in Italy, where there is a confusing variety of different and sometimes overlapping delivery vocational pathways (OECD, 2017b). ISFOL (2016) notes that there are important regional variations in the way IeFP is organised and that some regions have not yet identified a legislative framework to implement them.

Apprenticeships

Reforms adopted in 2011 and, in particular, 2015 to the regulations governing apprenticeship contracts have strengthened the linkages between firms and students and put in place a fully-fledged dual system encompassing education and work. Apprenticeship contracts are now simpler and more advantageous for apprentices who receive more protection. There are now three types of apprenticeship contracts: i) a contract covering upper-secondary vocational qualifications/diplomas and short-term higher professional education (as provided by IFTS/ITSs); ii) a contract covering research and encompassing university education, including PhDs; and iii) a contract that focusses on the acquisition of technical skills also in regulated professions (e.g., lawyers, accountants, etc.). To facilitate and promote the use of apprenticeships in Italy, which has traditionally been weak, the reform put in place a series of incentives, including the fact that the apprenticeship contracts are now prepared by schools, training providers, and universities in co-operation with firms.

Recommended areas for action

- Improve teaching quality across the country and bridge the performance gap across regions by establishing teaching standards and strengthening systems for evaluating teachers' performance against these standards. Underperforming schools may need additional help to attract and retain experienced teachers who can meet good performance standards. This could be achieved, for example, by

awarding monetary bonuses or career promotions to teachers in underperforming schools that meet performance standards.

- Improve access to early childhood education and care in regions where there are limited spaces available, such as in the South of the country.
- Improve the quality and relevance of vocational education by providing training courses to existing teachers to ensure that they continue to have current knowledge about industry practices and technologies.
- Support the implementation of the ASL by providing training to school principals and teachers on the current skill needs in the labour market and how to effectively engage and develop relationships with employers.
- Increase incentives for firms to provide traineeships under the ASL reform and provide greater opportunities for integrating the views of employers both in the design of the content of work-based learning activities and in the assessment of the skills acquired by students during their traineeships.

NOTES

1. PISA 2015 introduced a change in the assessment mode from paper-based to computer. Over the past 20 years, digital technologies have fundamentally transformed the ways in which we read and manage information. To better reflect how students and societies access, use and communicate information, starting with the 2015 round, the assessment was delivered mainly on computers, although countries had the option to use a paper-based version. Italy is one of the 57 countries, of 72 participating in PISA, in which computerized evidence has been provided. In order to ensure comparability of results between paper-based tasks that were used in previous PISA assessments and the computer-delivered tasks used in 2015, the 2015 assessment was anchored to previous assessments through a set of items that showed, across countries, the same characteristics in paper- and computer-delivered form. The statistical models used to facilitate the mode change are based on an approach that examines measurement invariance for each item in both modes. In effect, this both accounts for and corrects the potential effect of mode differences by assigning the same parameters only for item-response variables that are comparable on paper and computer. It is conceivable, however, that country differences in familiarity with computers, or in student motivation to take the test on computer or on paper could influence differences in country performance. An examination of the country-level correlation between students' exposure to computers and changes in mean mathematics performance between 2012 and 2015 show that countries where students have greater familiarity with ICT tools are roughly as likely to show positive and negative performance trends, as are countries where students have less familiarity with ICT. However, because the national field-trial samples were small, only large differences in performance between students who were given the computer-based version of the test and an equivalent group of students,

selected through random assignment, who were given the paper-based version of the test could be detected. It was not possible to rule out small and moderate effects of the mode of delivery on the mean performance of countries/ economies (OECD, 2016c).

- 2 www.ingenera.it/articoli/nidi-mezzogiorno-e-lavoro-alle-madri, accessed on 6 September 2017.
- 3 Simulated Enterprises are useful tools in contexts where the productive fabric is not well-developed and the establishment of co-operation between education providers and employers may be more difficult. They are, however, a second-best option as the skills and work experience that can be acquired through them is more limited when compared with the 360 degrees experience in a real firm. Trying to overcome this barrier, the ASL reform foresees that the set of simulated training enterprises can be linked together by a computer platform and network through a National or Local Central Office (SimuCenter). This system allows the virtual companies that are part of the network to simulate all the actions related to their specific areas and entrepreneurial activities in a more ‘real’ and sophisticated manner. Similarly, the SimuCenter allows the simulated enterprises to connect to the real world through the Chambers of Commerce, the national Tax agencies and the national company register. For the correct functioning of this part of the reform, resources should be allocated for hiring an internal tutor with the necessary skills within the school personnel, as defined by Law 107/2015, article 1, paragraph 63.

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CHALLENGE 2: INCREASING ACCESS TO TERTIARY EDUCATION WHILE IMPROVING QUALITY AND RELEVANCE OF SKILLS ACQUIRED IN TERTIARY EDUCATION

Key messages

- Italy has relatively few tertiary-educated workers and the inflow of new graduates to the labour market is relatively small. The share of 25-34 year-old Italians with university-level higher education is just 20% as compared with the OECD average of 30% for the same age group. Also due to negative demographic trends, the absolute number of students enrolled at university has fallen by 8% between 2000 and 2015. Recently, however, the trend has turned to positive with a 4.9% increase in enrolment in 2016 relative to the previous year.
- Adult graduates in Italy have among the lowest average literacy and numeracy scores compared with tertiary graduates in other countries (26th out of 29 OECD countries, in both dimensions). The labour market relevance of higher education also needs to be improved: employment rates of tertiary graduates are low vis-à-vis the OECD average while at the same time many firms cannot find the highly-skilled people they need to fill job vacancies. These results raise questions about the quality and relevance the skills developed in tertiary education.
- Qualifications in Italy are not robust signals of workers' skills. This makes skill-matching difficult as employers have only weak information to sort candidates into jobs and skill requirements. Evidence shows, however, that graduates from universities that provide better professional and technical skills transit quickly to high-quality and well-paid jobs and that strengthening the provision of professional and technical skills in universities leads to better labour market outcomes.
- Tertiary education has been the object of several national reforms over the last decade, including the introduction of the 3 year Bachelor plus 2 year Master degree structure, the introduction of a performance evaluation system to allocate funds to universities, and more recently the creation of tertiary professional education pathways (*Istituti Tecnici Superiori (ITS)* and *Lauree Professionalizzanti*).

Introduction and stakeholder perspectives

Improving tertiary education is important to provide Italy with the skills needed to compete in a global and digital economy and to promote a fairer, healthier and more

inclusive society. Currently, there are relatively few tertiary graduates in Italy and many of them do not have the skills needed to succeed in the labour market and society.

Italian stakeholders involved in the Skills Strategy Workshops expressed a range of views about the challenges facing tertiary education in Italy. In particular, stakeholders agreed about the need to improve the interaction between universities and firms to positively affect skills use and innovation capacity. The large number of SMEs within the Italian productive sector is viewed as a barrier to increased collaboration because their short-term view of innovation processes limits their capacity to interact with universities. Universities were also perceived to be rigid, lacking the capacity to respond swiftly to the skill and research needs of the business sector. Lastly, stakeholders noted that professional tertiary education – *Istituti Tecnici Superiori* – has been producing good results in terms of student employability and highlighted it as a good practice that should be scaled-up.

Stakeholder perspectives

- Stakeholders had different, sometimes contradictory, views regarding the skills of tertiary graduates. Many – especially among those representing business – underscored the need for more graduates with strong professional skills, and felt that Italian graduates lack some of the skills needed to function well at work, such as knowledge of a foreign language (especially English), computer literacy, and the understanding of the basic requirements of a business environment.
- In particular, four major issues emerged among stakeholders.
 - First, there was consensus around the need for greater investment in tertiary education. Stakeholders recognised that while funding levels have improved recently, compared to the period between 2008 and 2013, Italy’s tertiary education is still underfunded compared with other OECD countries.
 - Second, stakeholders welcomed the current effort to develop and scale-up professional tertiary education in Italy. In particular, most stakeholders consider ITS as a good innovation and suggest that this model be expanded. Other stakeholders, especially those representing universities, were of the view that professional tertiary education should be developed and delivered by universities, not least in order to guarantee greater coverage throughout the country.
 - Third, stakeholders highlighted that Italian firms tend to pay tertiary graduates low salaries and this may dampen the attractiveness of pursuing tertiary education among youth.
 - Fourth, it was generally agreed that universities should be better connected with business. Barriers to strengthening these linkages exist on both sides. Most Italian firms are small enterprises that struggle to deal with universities. Conversely, many universities have not developed the capacity and the flexibility needed to deal with small businesses.

Tertiary attainment rates are low by international standards

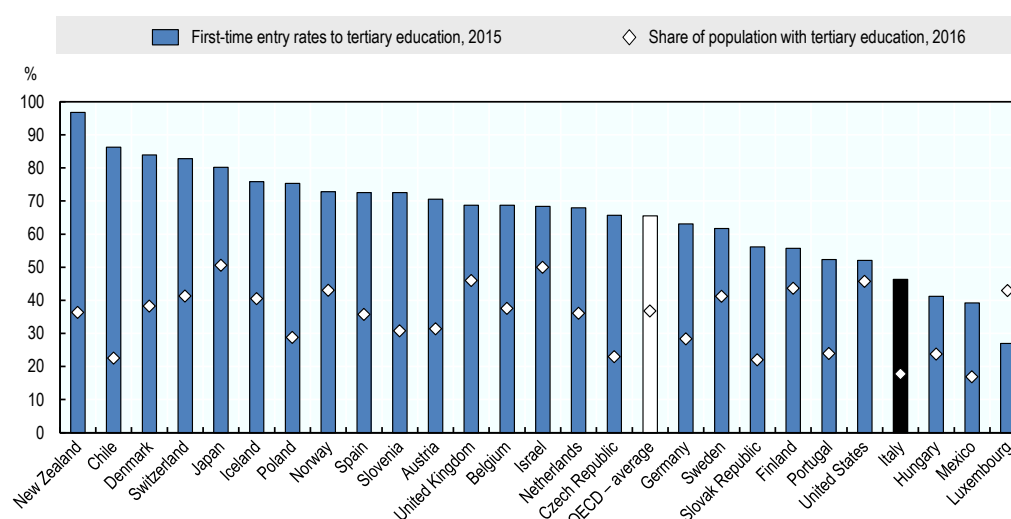
Italy is the cradle of the university – both the oldest university and the oldest public university were founded in Italy in 1088 and 1224 respectively. But the share of working age adults with a tertiary degree today remains very small. Even among 25-34 year-old Italians, only 20% have completed university-level higher education, compared with an OECD average of 30% for the same age group.

Italy's tertiary education system is predominantly university education. Italian universities offer 3-year and 5-year programmes (respectively ISCED 6 and ISCED 7) with enrolments of around 1.8 million Italian students in 2015 (Eurostat). Moreover, a larger share of students complete a master's programme after their bachelor's degree compared with other OECD countries; this may indicate that 3-year degrees are less attractive for Italian students compared with their international peers.

Although the share of Italians holding a tertiary degree has increased over the past decades, this increase has been lower than in other OECD countries with historically low rates of tertiary attainment, such as Turkey, Greece or Portugal. In particular, the number of students enrolled at university has suffered for a long negative trend and has fallen by 8% between 2000 and 2015. As a result, in 2015, a smaller share of young people entered tertiary education in Italy than in all other OECD countries, with the exception of Luxembourg and Mexico (Figure 6). Recently enrolment turned positive with a 4.9% increase in enrolment in 2016 relative to the previous year, but it is unclear whether this represents the start of a sustained trend.

Figure 6. Entry rates and size of tertiary education in Italy

Entry rates to tertiary education for all age groups in 2014 and share of 25-65 year-olds with tertiary education in 2015

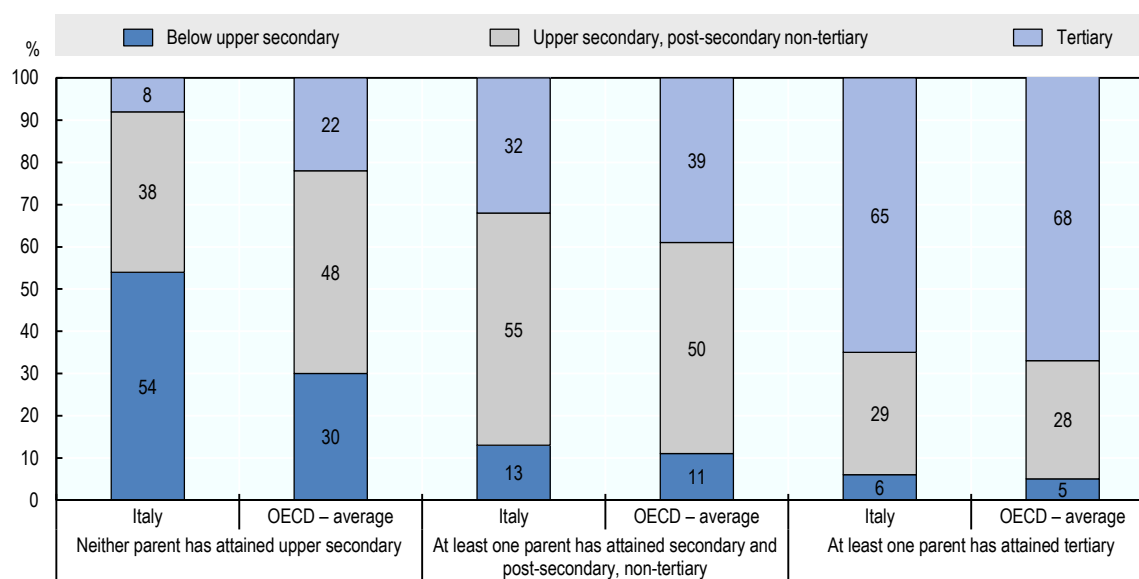


Source: OECD (2017), Education at a Glance 2017: OECD indicators, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933561042>.

The socio-economic background of Italian students significantly affects educational attainment. In Italy, students whose parents have not attained tertiary education are much less likely to enrol in university themselves. The effect of family background on enrolment is greater in Italy than in most other OECD countries (Figure 7). These features may undermine intergenerational social mobility and impinge upon the inclusiveness of Italian society.

Figure 7. Educational attainment by parents' educational level

Education level of 25-54 year-olds by education level of parents, 2012, 2015



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

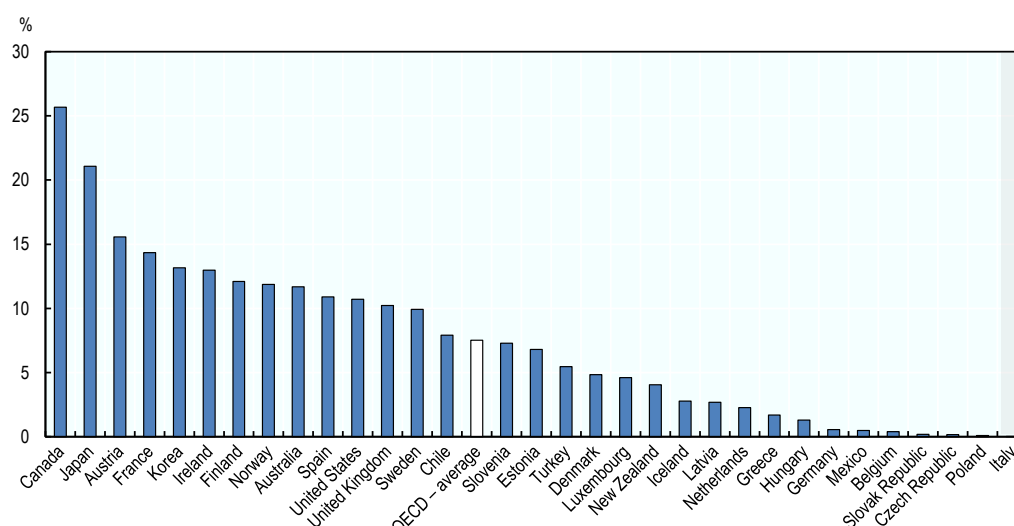
The rate of secondary education attainment is above 90%, which is in line with the EU average, but less than one student out of two in Italy enrolls in tertiary education. In addition, in Italy a small share of those young people who lost their job during the economic crisis went back to education, in contrast to other European countries experiencing large youth unemployment such as Spain and Greece (OECD 2016b). As a result, the number of Italians between 15-29 years old not in employment, education or training (NEETs) was above 2 million, in 2015. NEETs are at risk of becoming socially excluded and impoverished, while lacking the skills to improve their economic situation (see challenge 5).

Italian students also spend a longer time in university and are more likely to drop-out compared to the OECD average. The average time taken to complete the first cycle of tertiary education (3 statutory years) is 5.1 years, with only around 30% of students graduating on time (ANVUR, 2016). Furthermore, the longer students spend in university, the more likely they are to drop-out. For instance, the non-completion rate for Bachelor's degrees (ISCED 6) in Italy was approximately 45% in 2011-12, which is among the highest in the EU and OECD. Late or non-completion comes at a cost for

both individuals and society. In addition, students that drop-out from university are more likely to become NEETs than those who graduate.

Short-cycle tertiary education⁴ (ISCED 5) provided by the Higher Technical Institutes or *Istituti Tecnici Superiori* (ITS) represent a recent innovation in Italy, with around 10 000 students enrolled in 2-year tertiary professional programmes in 2016 (OECD, 2017b). This compares with over 1.2 million adults having completed short-cycle tertiary education in Germany (Figure 8). The aim of short-cycle tertiary education is to provide participants with the professional competencies needed for work. In particular, ITSs have been set up in collaboration with the regions to provide a rapid response to the skills demands of local economies, particularly in those technological areas covered by the “Industry 2015” plan (European Commission/EACEA/Eurydice, 2015).

Figure 8. Population with tertiary professional education
Share of 25-64 year-olds with short-cycle tertiary education, 2016



Source: OECD (2017), Education at a Glance 2017: OECD indicators, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933559142>.

A low-skill equilibrium may depress demand for higher education in Italy

Many stakeholders mentioned that Italian firms have a lower propensity to hire university graduates than other OECD countries. Many further claimed that the country is trapped into “low-skills equilibrium” – a situation in which weak supply of skills is matched by weak demand for skills by employers, who concentrate on low value-added products at low-productivity levels and offer low quality jobs to workers (see challenges 6 and 8). This low-skills equilibrium may also have negative implications for society, undermining the quality of institutions and other aspects of peoples’ lives such as their earnings and health (OECD, 2016).

Although it is difficult to disentangle the demand from the supply-side of the “market for tertiary graduates”, available evidence may help to explain the weak demand for university graduates. For instance, the large presence of small and medium-sized enterprises and the fact that there are very large number of family-run businesses in Italy all help to explain why demand for university graduates is weak (see challenge 6).⁵ In addition, some research suggests that entrepreneurs who do not themselves hold a tertiary degree have a lower propensity to hire tertiary graduates (Schivardi and Torrini, 2011). Better earnings and employment prospects for Italian graduates working abroad (AlmaLaurea, 2014) provide further support to the hypothesis that that demand for their skill in Italy may be structurally weak (see challenge 4).

As reported by the European Commission (Montanari et al, 2015), which based its analysis on a survey done by national Chambers of Commerce (Excelsior database), most of the demand for tertiary graduates comes from bigger firms, mainly in the North-West and Centre of Italy, and to a greater extent from other services such as financial and insurance services, IT or other services to businesses.

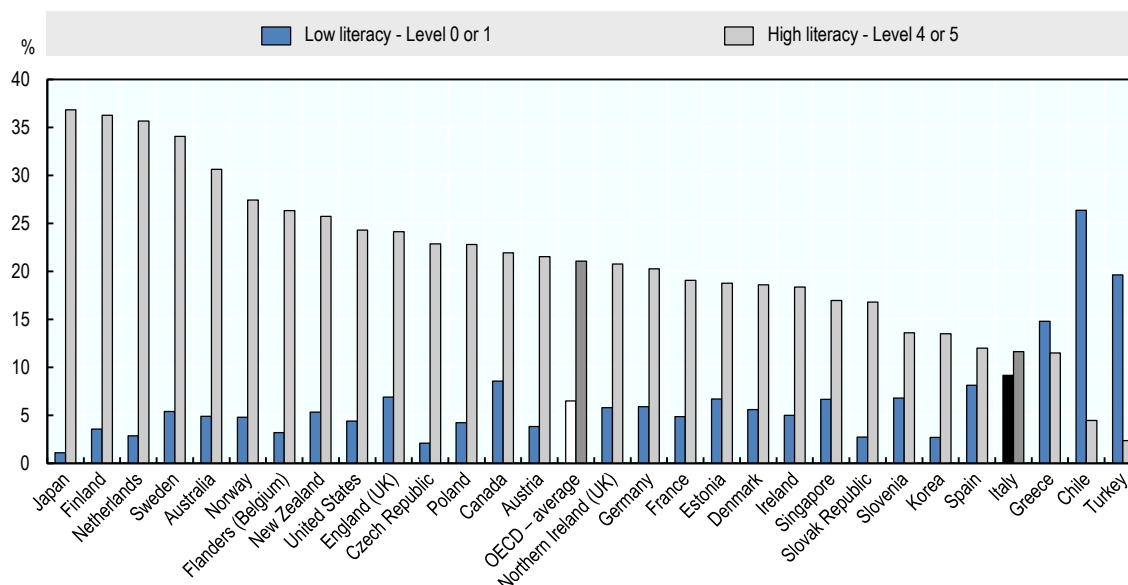
There are concerns about the quality and relevance of graduates’ skills

Italian graduates have relatively low literacy and numeracy skills as shown in the OECD Survey of Adult Skills (PIAAC, 2012). Only 12% of Italian university graduates attain the highest levels of literacy proficiency (levels 4 or 5) as compared to 20% of graduates across the 33 nations participating in the Survey (Figure 9). At the same time around 9% of Italy’s tertiary graduates have very low levels of literacy proficiency (less than level 2), as compared to an average of 7% for the 33 PIAAC countries

A number of stakeholders participating in Skills Strategy workshops and meetings expressed concerns about the skills of Italian tertiary graduates. Many stakeholders mentioned that a relatively large share of Italian graduates do not have the skills needed to function at work, such as knowledge of a foreign language (especially English), computer literacy, and the understanding of the basic requirements of a business and work environment. Numerous stakeholders representing Italian business mentioned that while graduates often have good technical skills in their field of study, they often lack the “soft skills” needed in the work environment.⁶

Employers often reported that recent graduates need extensive training before they can be productive at work. Entrepreneurs often do not trust that recent graduates have the capacity to adapt to the requirements of a working environment, and argue that they do not have the resources to train them or wait for their productivity to increase (cf. Schivardi, Torrini, 2011).

Figure 9. Low and high literacy skills among tertiary graduates
Share of 16-65 year-olds with tertiary education at different literacy levels



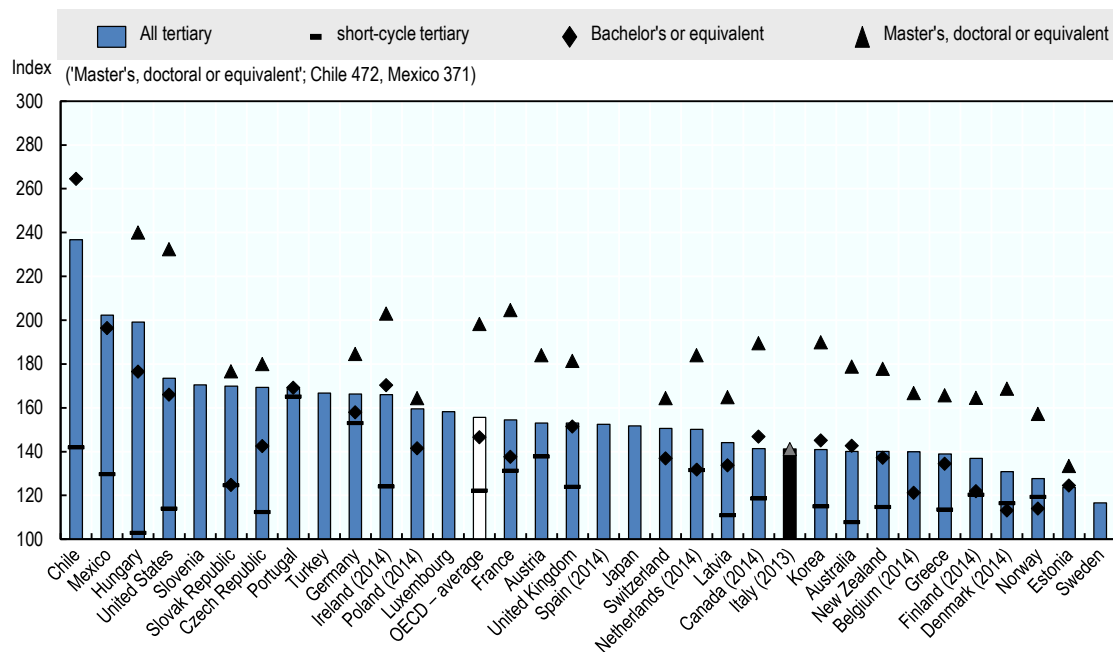
Source: OECD calculations based on OECD Survey of Adult Skills database (PIAAC) (2012, 2015), OECD, Paris, www.oecd.org/skills/piaac/.

Concerns about the relevance of skills acquired in tertiary studies may also be a reflection of a poor alignment between the fields students complete and those that are most in demand in the labour market. Almost 35% of workers in Italy work in a different field from what they have studied (OECD, 2017b). In around 40% of all cases, firms point to the lack of adequate education or training that underlies their inability to fill a position, followed by a lack of adequate experience (Montanari, *et al* 2015). When hiring tertiary educated workers, firms prefer candidates with previous work experience, illustrating that the skill-signalling power of university degrees is relatively weak (Schivardi and Torrini, 2011, OECD, 2017b). As highlighted by Montanari, *et al.* (2015), in 2013, Italian firms reported that around 80% of tertiary graduates hired required further training to perform their duties.

The lack of responsiveness of tertiary studies to the needs of the economy may also be reflected in the comparatively low rewards associated with tertiary completion (OECD, 2017b; Caroleo and Pastore, 2013; 2016). OECD and many other sources estimate the returns to education in Italy (see also challenge 10). While these estimates may differ in magnitude they are consistent in finding that Italian tertiary graduates receive lower returns than do their peers in other OECD countries (Figure 10). Still the premiums on average are positive (Figure 10 and Box 4). In particular, evidence from OECD (2017b) shows that there is heterogeneity in earnings premiums as graduates from university programmes that provide high-quality professional training are well rewarded in the labour market and are likely to quickly transit to high-quality jobs.

Figure 10. Wage premium for tertiary graduates

Relative earnings of 25-64 year-olds working full-time, by educational attainment, upper-secondary education = 100, 2015



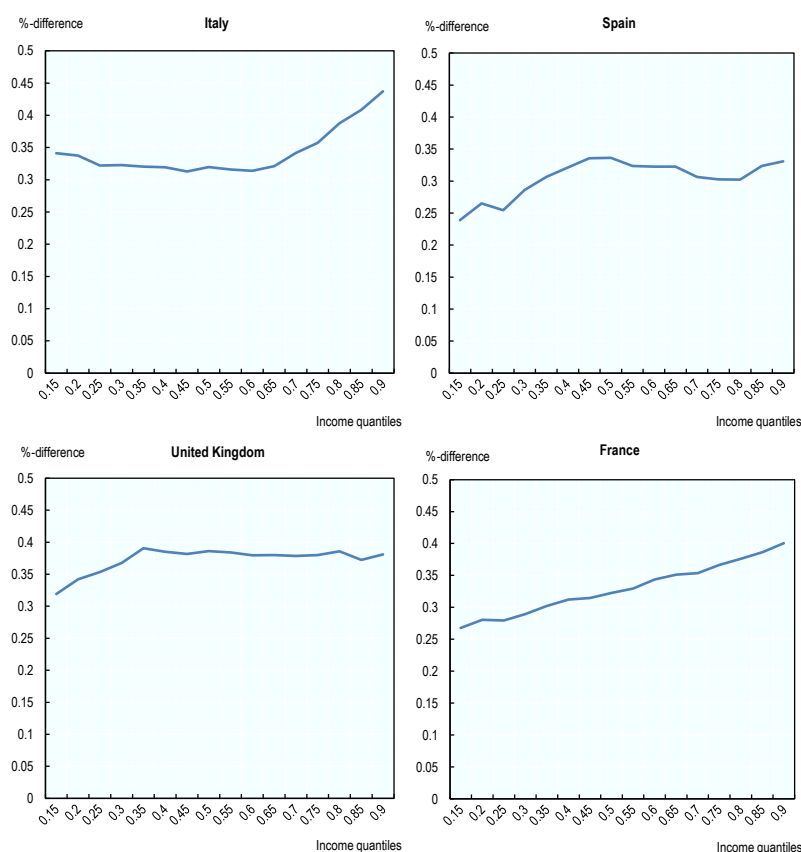
Source: OECD (2017), Education at a Glance 2017: OECD indicators, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933559598>.

Box 4. Higher education earnings premiums in Italy and selected European countries

An analysis (quantile regression) of micro-data provided by the European Union Statistics on Income and Living Conditions (EU-SILC) system indicates that graduates of higher education enjoy, on average, an earnings premium across the earnings distribution (see Figure below). That is to say that holding a tertiary degree gives access to earnings premiums, hence tertiary graduates, on average, earn more than their peers without tertiary education. This underscores the rewards to completing tertiary education.

The pattern of tertiary premiums in Italy differs from other countries such as the United Kingdom, France and Spain. In particular, in Italy higher earning premiums are associated with higher wages, conversely, workers holding a degree but earning lower wages enjoy a lower premium for their education level. This may indicate a relative scarcity of highly-skilled workers.

- **Wage premium for tertiary graduates in different levels of income**



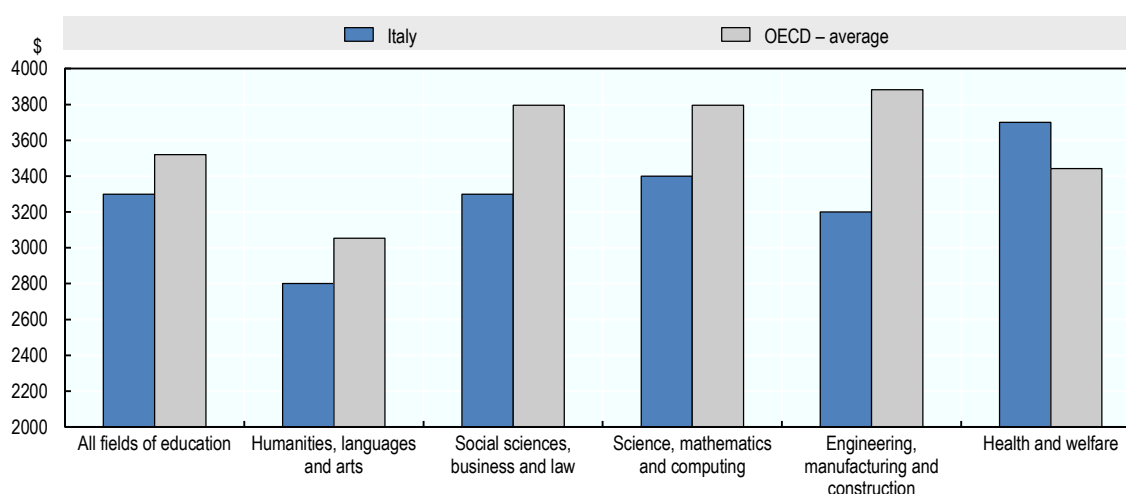
Note: Relative hourly earnings for tertiary graduate males compared to upper-secondary graduates, by income quantiles (excluding the first decile), 25-65 year-olds with full-time jobs (>30 hours per week) for selected European countries.

Source: Own elaboration on EU-SILC; Biagetti, Scicchitano, 2011.

The comparatively lower rewards for tertiary studies in Italy than in other OECD countries are evident across most fields-of-study. Figure 11 shows that the earnings of Italian tertiary graduates are lower than the OECD average in all major fields of education with the exception of health and welfare.

Figure 11. Monthly earnings of tertiary-educated adults

The mean monthly earnings in equivalent 2012 USD (converted using PPPs) of tertiary-educated adults (25-64 year-olds) with income from employment working full-time, by field of education studied, 2012 or 2015

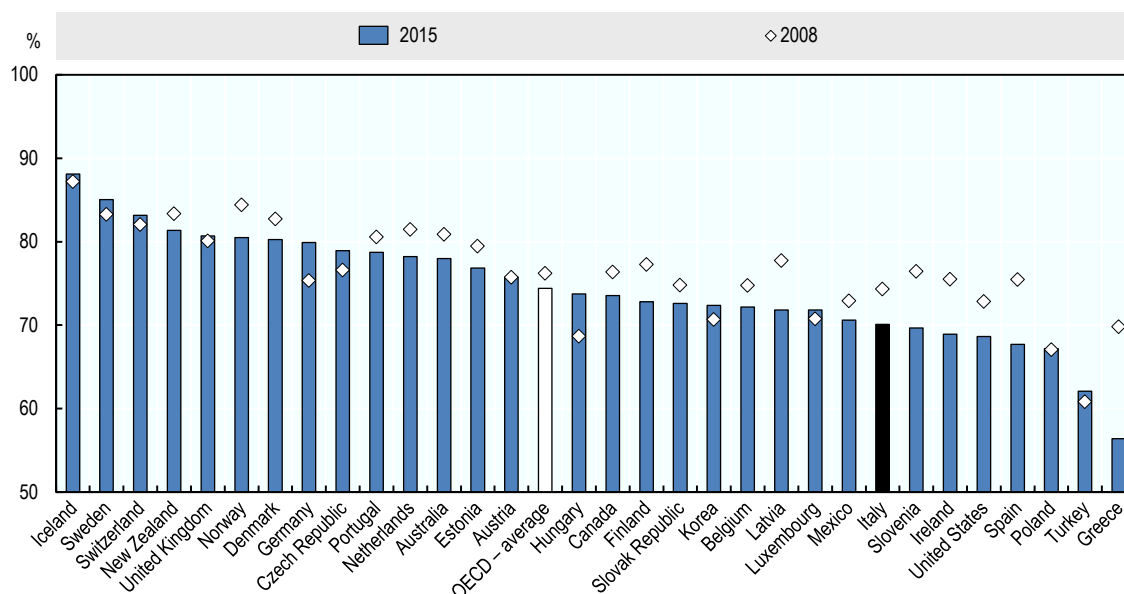


Source: OECD (2016), Education at a Glance 2016: OECD indicators, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933397155>.

In addition, and especially in the south of the country, many tertiary graduates struggle to find a job. Employment rates for tertiary degree holders declined between 2008 and 2015 (Figure 12). The situation is particularly challenging in the south of the country (SVIMEZ, 2016). For instance, three years following graduation only 37% of tertiary graduates were employed in the Italian *Mezzogiorno* in 2015, compared with 69% in the Centre-North of the country and 70% in the European Union (28 countries). The lack of job opportunities in the south of Italy also stimulates net migration of tertiary graduates from the south of the country to the regions in the north and, more recently, abroad, where Italian workers holding an university degree can often obtain higher real returns.

Figure 12. Employment rates for tertiary graduates in Italy

Share of 25-65 year-olds, 2008 and 2015



Source: OECD (2017), Employment by education level (indicator), <https://data.oecd.org/emp/employment-by-education-level.htm#indicator-chart>.

Comparatively lower returns may also create incentives for Italian tertiary graduates to migrate. Between 2000 and 2015, the net migration of Italians holding a tertiary degree has not been offset by inflows of foreign graduates unlike the experience of many other European countries where large outflows of national tertiary graduates such as Germany and France have been offset by inflows of graduates from elsewhere (OECD, 2016).

A number of factors may explain concerns about the quality and relevance of skills

A number of factors contribute to the poor performance of Italy's tertiary education system in providing students with the skills they need to thrive in work. These include: the poor development of skills in the schools that supply students; limited study options in tertiary education that are not always well aligned with the needs of the labour market; uncertainty about the value of credentials; limited collaboration between universities and firms; limited career guidance services; and the scarcity of public funds for research and teaching activities.

The poor quality of compulsory education

For a relatively large share of students in Italy, the skills acquired in schooling may not be sufficient to succeed in tertiary education (see challenge 1 in this report). For instance, PISA shows that, on average, 15 year-old students perform below the OECD

average in terms of foundation skills achievement. This negatively affects their performance in university.

Study options are limited and not always well aligned with the needs of the labour market

After the completion of upper-secondary schooling, Italian students have access to a smaller range of tertiary education options than their peers in other OECD countries – and many of those options that are available are not well aligned with the demands of the labour market for professional skills.

Short-cycle university degrees (ISCED 6) are in lesser demand in Italy than in other OECD countries. The vast majority of students enrolled in 3-year programmes – 71% in the north of the country and above 80% in the south – report that they want to complete a 5-year programme (Almalaurea, 2015). This is not what they were supposed to do in the new system. As mentioned by stakeholders, often 3-year programmes are just a compact version of what was done in 4- or 5-year single cycle programmes, in place before the “3+2” reform. Quality requirements have also been generally lowered to increase the number of 3-year graduates. These combined factors may have negatively affected learning outcomes and, as a consequence, decreased the value of short-term degrees on the labour market. In fact, workers holding a 3-year degree suffer from relatively high unemployment rates. This is especially true in the south of the Italy where around half of the graduates from 3-year programmes are unemployed one year after graduation. In many OECD countries, three-year degrees are sufficient to equip students with high level of skills and employability results are good.

Tertiary professional education is a recent, and still limited, option for students. Italy is an important manufacturing country and needs the technical skills that can be acquired through participation in shorter tertiary professional programmes. However, these programmes were introduced only recently and account for a tiny share of overall students. For instance, ITSs (ISCED 5) were created in 2011-12 and, as mentioned above, account for less than 1% of all students enrolled in tertiary education for the first time. This compares with an OECD average of 18% (OECD, 2017a). Three-year professional programmes – ISCED 6 *Lauree Professionalizzanti* – were introduced in 2016 and are still a pilot (OECD, 2017b). Increasing the share of students enrolled in short-term tertiary programmes would help respond to the trend of rising demand for medium- and higher-level qualifications, which are projected to reach 82.5% of the labour force in 2025, against less than 80% today (CEDEFOP, 2016).

Qualifications provide limited information about graduates' skills

Related with the issue above, in general, employment rates of tertiary graduates in Italy are low vis-à-vis the OECD average (Figure 12). At the same time many firms claim they cannot find the highly-skilled people they need to fill job vacancies (Unioncamere, 2016). This situation also depends on the fact that qualifications in Italy are not robust signals of workers' skills (OECD, 2017b). This makes skill-matching difficult as employers have only weak information to sort candidates into jobs and skill requirements. Evidence shows, however, that graduates from universities that provide better professional and technical skills transit quickly to high-quality and well-paid jobs

and that strengthening the provision of professional and technical skills in universities leads to better labour market outcomes (OECD, 2017b).

Limited collaboration between Universities and firms

Although in Italy universities are formally required to promote development in the areas in which they operate – the so-called “third mission” – according to stakeholders their connection with business is generally limited. Firms, and in particular SMEs, barely collaborate with universities to improve their innovation abilities and more generally, their capabilities in areas such as management and business planning (cf. Bagnasco, 2004).⁷ Despite recent improvements – in particular the possibility that representatives from the business sector join University boards – this disconnect between business and academia is related to several factors including “habit” – neither firms nor universities are used to collaborating together – and resources. With respect to the latter, most universities in Italy lack dedicated services and know-how that could allow them to engage effectively with firms operating in their region, and help them respond to their specific needs.

Limited career guidance services

In Italy, most universities ask students enrolling for the first time to pass a test. Students have to pay an application fee to register for the admission tests. This could deter more disadvantaged students from applying to higher education institutions and certainly from applying to multiple institutions. Several OECD countries have developed an admissions system that processes the applications for undergraduate programmes with some co-ordination at the central level. There usually is not a fee to apply. Italy’s higher education system would benefit from the presence of such co-ordination platforms assisting and guiding students and their families dealing with the transition from upper-secondary to tertiary education. A good example of this policy approach is the Universities and Colleges Admission Centre (UCAS), in the United Kingdom (Box 5).

Box 5. Universities and Colleges Admissions Service (UCAS), United Kingdom

The Universities and Colleges Admissions Service (UCAS) is a UK-based organisation whose main role is to operate the application process for British universities. It operates as an independent charity, funded by fees charged to applicants and to universities, plus advertising income, and was formed in 1992 through the merger of the former university admissions system UCCA and the former polytechnics admissions system PCAS.

Services provided by UCAS include several online application portals, a number of search tools, and free information and advice directed at various audiences, including students considering higher education, students with pending applications to higher education institutes, parents and legal guardians of applicants, school and Further Education college staff involved in helping students apply, and providers of higher education (universities and HE colleges).

While UCAS is best known for its undergraduate application service (the main UCAS scheme), it also operates a number of other admissions services:

- Conservatoires UK Admissions Service (CUKAS) – for performing arts at a UK conservatoire
- UCAS Teacher Training (UTT) – for postgraduate teacher training schemes
- UK Postgraduate Application and Statistical Service (UKPASS) – for some postgraduate courses
- UCAS Progress – for post-16 education and training

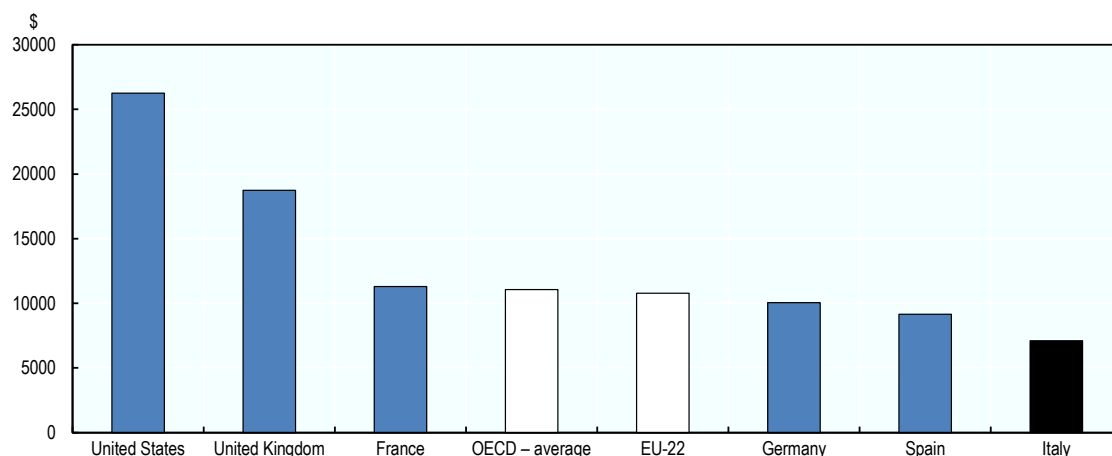
Source : <https://www.ucas.com/> accessed on April 2017.

Scarcity of funding

Despite the recent improvements, universities in Italy are underfunded relative to institutions in other OECD countries. Italy allocates the smallest share of public expenditure to tertiary education of all OECD countries. Education expenditure is low both relative to GDP (1.0% of GDP, compared to the OECD average of 1.6%) and to the number of students (expenditure per-student was 64% of the OECD average) (OECD ECO, 2017) (Figure 13). In 2013, Italy's public investment in tertiary education accounted for about EUR 7 billion; this compares with EUR 28 billion in Germany, EUR 23 billion in France and EUR 10 billion in the UK (Pizzuti, 2017).⁸ Public funds allocated to universities have declined between 2008 and 2013, and this trend has only recently started to reverse.

Figure 13. Annual expenditure per student - tertiary education

Expenditure in USD (Purchasing Power Parity), 2014



Source: OECD (2017), Education at a Glance 2017: OECD indicators, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933560035>.

Italian universities receive funds through the Ordinary Operations Fund or *Fondo Funzionamento Ordinario* (FFO) based on the number of students (standard cost), and on their performance in research as measured by the National Agency for the Evaluation of the University and Research Systems (ANVUR in the Italian acronym) (see chapter 9).⁹ The piloting of ANVUR's performance evaluation system started in 2008. However, evaluation results have only affected the allocation of funds to universities since 2013. In 2015 the part of the budget allocated by the evaluation system represented approximately EUR 1.4 billion, out of a total seven billion in the FFO.¹⁰

The evaluation system takes into account a range of indicators designed to reward the quality of research and teaching, including the employment outcomes of graduates. However, the system has been criticised for not sufficiently taking into account regional variation in unemployment rates as well as differences in student intakes, which has an impact on institutions' ability to meet employment targets (EUA, 2015). In addition, some have argued that the share of funding that allocated based on research performance is crowding out funding needed for teaching and operations (Viesti, 2016). As a consequence, universities are using the funds allocated by the evaluation system to cover administration functions and other basic services rather than research activities (Viesti, 2016). Performance-based funding is important to improve the quality of higher education, however, international evidence shows that evaluation is not easy to design and may also lead to perverse incentives, which might help explain why, in practice, the degree of performance-based funding remains small in most countries (OECD 2017c).

The scarcity of funding has been increasing the financial burden on students and their families over the past decade. Italy belongs to the group of European continental countries in which enrolment in universities is relatively inexpensive. However, over the past decade there has been a constant increase of tuition fees, which now range between EUR 200 and EUR 2 000 (see challenge 10).

Recent legislation, 2017 Stability Law, strengthens the Right to Education (“*Diritto alla Studio*” in Italian) and allocates extra funds (EUR 55 million in 2017 and EUR 105 million in 2018) to reduce student fees and buffer the reduction of revenues faced by universities. In addition, the Law allocates funds to grant more scholarships to eligible students and generate a 10% increase on scholarships (totalling approx. 154 000 in 2017). These efforts go in the right direction and help improve students’ access to tertiary education.

Italy has been reforming its tertiary education system with mixed results

Reforms of the university system

Over the past decades, the Italian government has put in place important reforms of the national university system, but there is not agreement among stakeholders about their effectiveness. In 1999, a reform introduced a bachelor and master structure in university (the so-called 3+2 system). The reform had four main goals: reducing drop-out rates; aligning the Italian system with the other systems, abroad; increasing the share of workers with tertiary education, including by certifying adults’ skills and give them the possibility to get a university degree with limited time and efforts; and tailoring university curricula to the needs of the firms and in particular to SMEs. However, as mentioned above, the stakeholders have criticised the way in which the 3+2 system was implemented in Italy, arguing that the current 3-year programmes, being poorly designed, do not provide students with the skills they need in the labour market.

Other reforms pertaining to the funding system, academic careers, and work-based learning were put in place between 2005 and 2010. For instance, the government put in place the performance-based funding system in 2008, but it was not implemented until 2013 because of major cuts to overall public funding for higher education (OECD, 2017a). Concerning the careers of university professors, a reform put in place a national exam (*abilitazione*) that must pass in order to be hired by universities. The aim of the reform was to increase transparency in the selection of professors and also guarantee a national standard in terms of quality. Finally, reforms also created apprenticeship contracts, including for doctoral studies, to improve the connection between universities and firms.

Some stakeholders flagged the need to further improve the performance-based funding system. In particular, according to them, in the current evaluation system there are three related issues: 1) the methodology used to assess performance over the past years has been changing regularly; 2) too much emphasis is placed on research activities (and not enough on teaching); and 3) a very large share of funds (about 20%) is allocated based on the results of the performance evaluation. These issues are combining to generate uncertainty about the budgets of universities, which can vary considerably from one year to another, based on the evaluation results. Experts have also highlighted the risk that the evaluation system may have the unintended effect of creating a dual university system in which well-endowed research universities are heavily concentrated in the North and poorer teaching universities predominate in the South (Viesti, 2016; OECD 2017c, De Angelis *et al.*, 2017).

Reforms of the vocational tertiary education system

Professional tertiary education (ITS) was introduced in Italy in 2012 and, although involving few students, is showing positive results in terms of student employability. Many stakeholders in Italy pointed to ITS as a good practice that responds well to the need for skills in the labour market, especially in territories densely populated by SMEs. In 2017, there were about 10 000 students enrolled in tertiary ITS in Italy.

There are 93 ITS Foundations scattered across Italy that provide tertiary VET in different sectors including: new technologies related to the so-called “Made in Italy” sectors (*i.e.* manufacturing in the fashion industry, in the construction sector, and in machinery tools among others); logistics and mobility; energy efficiency; new technologies for cultural and tourism activities; ITC; and medical technologies. ITS are more highly concentrated in the north of the country, where there are more firms.

A recent assessment of the ITS system done by *Almalaurea*, a private-public body that specialised in the assessment of tertiary student employability, found that in some ITS sectors more than 80% of students finds a job within one year after graduating. The employability rates of ITS tend to be higher if the field in which the ITS provides training matches the local sectoral specialisation of firms (cf. OECD 2017b).¹¹ To promote the alignment between ITS training and demand for skills on the labour market, Ministry of Education Universities and Research (MIUR) MIUR is providing additional funding to those ITSs that have high employability rates.

Importantly, not only are ITS developing the highly-skilled professional workers employers need but, by operating in proximity with the productive sector, they also demonstrate to firms the potential value of adopting digital technologies. For this reason, *Industria 4.0* – the national policy that funnels EUR 13 billion into the national productive framework to improve Italy’s overall level of digital technologies (see challenge 6 and 7) – supports ITSs and considers them as strategic partners to delivering the policy actions.

The majority of stakeholders consider ITS as a positive innovation within Italy’s skills system. However, there are some stakeholders that argue that the ITS system is too small to generate the skills needed by Italian firms and that it would prove difficult to scale-up IT. As an alternative, they point to the potential value of professional 3-year programmes in universities, which have just started to be piloted. They assume these programmes would be more attractive to students who would graduate with a university degree at the end of the cycle. They also claim that a professional university system could be more evenly rolled out across the country, reducing the current concentration in the north which characterises the ITS system.

In general, tertiary education policy encourages universities to develop more professionally-oriented programmes at the associate degree (ISCED 5), bachelor (ISCED 6), master’s (ISCED 7) and doctoral (ISCED 8) levels. This also requires effective collaboration with firms through university governing bodies and academic boards on curriculum development, work-based learning and apprenticeship, industry placements for academic staff, as well as in other areas. Developing this framework should not entail the creation of a separate strand of “professionally-oriented higher education” or new types of institutions.

Box 6. Learning from well-performing VET Systems in OECD countries

Some OECD countries such as Germany, Austria or Switzerland benefit from a very well-developed vocational education and training (VET) system. In those countries, VET is a common pathway to stable and well-paid jobs and it is well appreciated by students, enterprises and governments. It is a way to have skilled workers and avoiding young people failing out of the education system and the labour market. The study of their systems brings up four major points. In a first place, there is a strong stakeholder involvement; all parties are participating in the establishment of programmes. Secondly, countries help matching students and apprenticeship places by means of specific programmes. Thirdly, they also give incentives to firms for hiring trainees. Finally, they monitor apprenticeship places by providing licences and staff training.

Austria, Germany and Switzerland have set up specific organisations to manage the VET system and to make it responsive to labour market needs. Those organisations regroup social partners and VET teachers in order to build a system working for all parties involved. In Austria and Switzerland, social partners are responsible for introducing and updating 'ordinances'. Ordinances usually defined the profile of the post, competencies that need to be acquired and set out final examinations requirement. In Switzerland, employers are the only one entitled to initiate reforms procedures for VET ordinance. Germany has implemented an "Innovation Circle on VET" where employers, trade unions, academia and regions work together to think about upgrading the VET system.

Career guidance is used to ensure that the VET system is on concordance with labour market needs. It helps students to choose apprenticeship that best suit their interests and which corresponds to employers demand. Switzerland has developed a good career guidance system. It is mandatory for students in compulsory secondary education. Counsellors are trained by the Swiss Federal Institute for Vocational Education and Training about VET courses and the associated labour markets in order to be perfectly informed. Career guidance offices are independent from schools.

In order to help apprentices to find a place where to train, countries have developed different strategies. In Germany, the Federal government have concluded an 'Apprenticeship pact' with the Chamber of Commerce and Industry to increase the number of apprenticeship places. They also started a new program called JOBSTARTER which is supposed, among others things, to help students to find an apprenticeship place. In Switzerland, twice a year, the Link Institute for Market and Social Research conducts a survey for the Federal Office for Professional Education and Technology (OPET), called "apprenticeship barometer", in order to estimate demand and supply for apprenticeship. When there is a mismatch, the OPET takes measures; it finances the setup of a host company network and takes initiative to help weakest students to find an apprenticeship place. In some sectors, when firms are too small or too specialised to train an apprentice, alliances are created. Firms work together in the training program. Moreover, funds are developed to share costs of apprenticeship between all companies of a certain sector. In Switzerland, 13 funds have been made mandatory.

Box 6. (cont'd) Learning from well-performing VET Systems in OECD countries

Besides, in Austria and Germany, governments provide subsidies or tax reliefs for enterprises participating in apprenticeship schemes to incite companies to take apprentices and for students to benefit from more apprenticeship places. In Austria, there is a tax exemption for training relationship and financial incentive for the creation of additional apprenticeship places per companies. Training enterprises receive 1 000 euros per apprentice and apprenticeship year and a lump-sum for every additional apprentice (400€/month during the first apprentice year, 200€/month during the second, 100€/month during the third). In Germany, for students who have not found an apprenticeship place by the end of September, who are socially disadvantaged or have a learning disability, an internship program have been implemented. It covers the intern's wages and social contributions for the company which take the apprentice on probation for 6 to 12 months.

Quality is assured by a strict monitoring system on companies employing apprentices. In Austria and in Switzerland, training firms have to obtain a licence to train apprentices. In Austria, the license is delivered by the Apprenticeship Office. It proceeds, with the help of the Federal Economic Chamber, at an examination of enterprises. In order to obtain the certificate of apprenticeship, enterprises have to fulfil some prerequisites: "firms have to carry out the activity in which the apprentice is to be trained, need to be equipped and managed in a way that it is a position to impart to the apprentice all the knowledge and skills included in the occupation profile and have a sufficient number of professionally and pedagogically qualified trainers must be available in the company". In Germany, Austria and Switzerland, trainers in companies have to complete a formation to be allowed to train apprentices.

Source : OECD (2010), Learning for Jobs, OECD Reviews of Vocational Education and Training for Austria, Germany and Switzerland.

Recommended areas for action:

- Improve access to tertiary education across the country, especially for students from low socioeconomic backgrounds by, for example, expanding access to scholarships under the Stability Pact.
- Strengthen the quality and relevance of skills acquired in tertiary education, while at the same time improving the financial sustainability of the tertiary education system, especially in the south of the country. This could involve creating incentives to improve the quality of teaching and research in tertiary education by improving evaluation and linking funding to such outcomes as well as to completion rates, years taken to finish a degree and employability. Performance evaluation systems should recognise that institutions in some disadvantaged regions may face specific challenges.
- Expand and improve the quality of professional tertiary education institutions (ITS) by encouraging institutions to provide training in areas that match the economic specialisation of the territory and by improving collaboration with firms to ensure work-based training opportunities are well aligned with courses of study.

- Improve pathways from ITS to university by such means as an improved credit transfer system to ensure that graduates have further opportunities for education and professional development..

NOTES

- 4 According to ISCED 5 definition – short-cycle first tertiary education programmes, like those provided by ITSs, are typically practically-based, occupationally-specific and prepare for labour market entry. These programmes may also provide a pathway to other tertiary programmes. Note that in this report the word “professional” is used instead of “vocational”.
- 5 It is difficult to isolate supply from demand for skills as tertiary graduates may have a lower propensity to apply for jobs in small firms.
- 6 Stakeholders’ may not share the same definition of what constitutes “soft skills”. In some cases, they identified soft skills with the capacity of individuals to operate software or to speak a foreign language (English, for instance). In other cases, they referred to “features” such as adaptability, curiosity and learning. In all cases, however, they pointed at the lack of practical experience (opportunities for work-based learning) as a major issue.
- 7 There are some exceptions in areas densely populated by firms. It is the case of the area of Bergamo, in the north of Italy, where the local university operates as a supplier of skills and R&D capacity for local firms (OECD, 2016b).
- 8 Note that the large difference with Germany and France depends on the fact that tertiary VET in these countries is also accounted in this calculation.
- 9 ANVUR was created in 2006, following the French experience of AERES and UK’s Research Excellence Framework, to promote academic research.
- 10 The evaluation system does not focus on quality of teaching and there are not indicators available to assess this dimension, which has to be relevant given the low performance of many tertiary graduate Italians in the PIAAC Survey, as discussed above.
- 11 Empirical evidence (OECD, 2017b) illustrates that employment outcomes of ITS graduates tend to be higher when work-based learning of students is done in firms whose sectorial specialisation (as measured by NACE) is coherent with the fields in which the ITS provides training. This result is also coherent with data from AlmaLaurea (2016).

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CHALLENGE 3: BOOSTING THE SKILLS OF LOW-SKILLED ADULTS

Key messages

- In Italy, over 13 million adults have low basic skills. Low-skilled adults in Italy are more likely to be older individuals and immigrants, and are concentrated in smaller firms and less economically advanced regions and sectors.
- While approximately 39% of 25-65 year-olds have low levels of literacy and/or numeracy proficiency, only about 14% of low-skilled adults in Italy participate in adult learning, a share lower in only two other OECD PIAAC countries. Millions of these adults will be of working age for decades to come and will struggle to adapt to changes in the economy and society.
- The majority of low-skilled adults reported that they neither participated nor wanted to participate in education or training, which may suggest that employers' demand for, and use of, adults' skills may be too weak in certain Italian regions and sectors to motivate low-skilled adults to further develop their skills. Among low-skilled adults who report wanting to participate in adult learning, the most commonly cited barrier was a lack of time due to work and family responsibilities.
- The recent re-organisation of adult education in Italy has sought to make delivery more flexible, recognise prior learning, and better tailor services to individuals' needs. The Jobs Act has introduced important measures to increase access to ALMPs generally and training in particular.

Introduction and stakeholder perspectives

In Italy and across the OECD, adults with low levels of skills generally have poorer economic and social outcomes (OECD 2016). Relative to their more highly-skilled peers, they face lower earnings and employment, have poorer health, are less likely to trust others and more likely to perceive themselves as objects rather than actors in political processes. They also face a growing risk of being left behind as technological change and globalisation transform the economy. More generally, raising the skills of workers and their managers through participation in education, training and informal learning could facilitate the adoption of new innovative products or processes, boost the productivity of Italy's firms, and facilitate the modernisation of Italy's economy in the longer-term.

Stakeholders participating in skills strategy workshops and seminars were fairly unanimous in expressing concerns about the large number of adults with low levels of skills. They acknowledged the different policy tools put in place by the government over

the past years to improve the situation, including sectorial training funds, adult education programmes and tailored employment services such as coaching and profiling (Jobs Act). Yet, stakeholders highlighted the need for more co-ordination in order to stimulate complementarities and provide low-skilled adults with more options. They questioned whether they receive enough guidance about adult learning opportunities. They mentioned the importance to recognise and certify skills acquired on the job. Lastly, stakeholders also mentioned the need to use training to improve the capabilities of managers and small-entrepreneurs.

Stakeholder perspectives

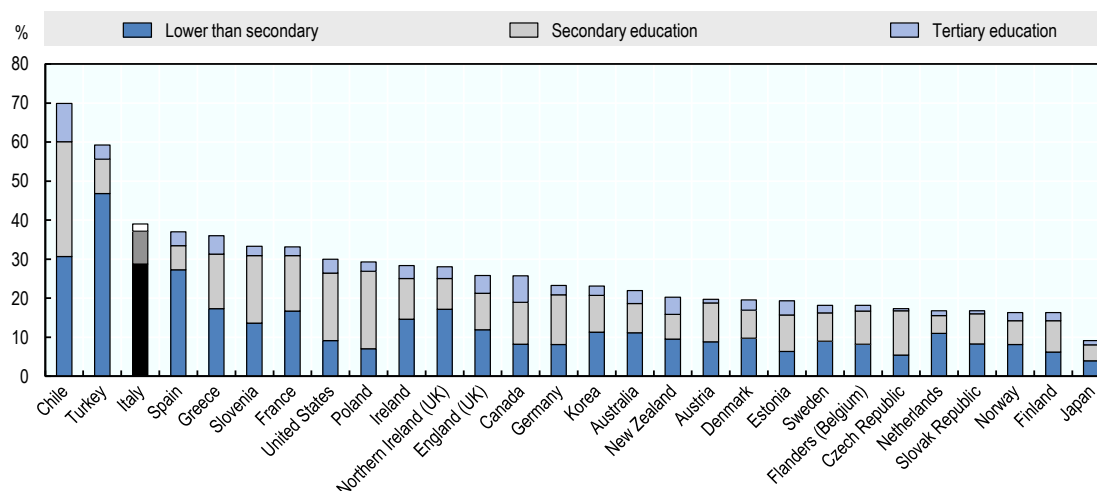
- Stakeholder expressed concerns about the large number of adults with low levels of skills, but also pointed at the need to recognise and certify skills acquired non-formally and informally on the job and in life.
- They acknowledged the different policy tools put in place by the government over the past years to improve the situation, including sectorial training funds, adult education programmes and the current efforts to put in place tailored employment services such as coaching and profiling - drawing upon the positive experience of the Youth Guarantee. In particular, they recognised the potential of the Jobs Act reform to improve this situation by providing tailored services, including profiling and guidance.
- Stakeholders identified poor governance as an issue impinging upon adult learning. Many noted that governance arrangements providing responsibility for key training, certification, and active labour market policies to regional governments have contributed to the fragmentation of training and skills certification systems. More specifically, many stakeholders have noted that issues concerning co-ordination across sectorial ministries, regional governments, and policies such as inter-professional funds represent a barrier to improving the targeting of training services to low-skilled adults and leads to duplication of efforts. They also noted that there is a lack of public-private sector co-operation in the area adult learning.
- Lastly, stakeholders mentioned the need to use training to improve the capabilities of managers and entrepreneurs in small firms.

Italy has a large number of low-skilled adults

Approximately 39% of 25-65 year-olds (13.1 million adults) in Italy have low levels of literacy and/or numeracy proficiency, a share larger than in all but two other OECD PIAAC countries (figure 14). These adults can successfully complete only reading tasks that involve short and simple texts and mathematics tasks involving basic operations (Box 7). Millions of these adults will be of working age for decades to come. Unless they upskill, they will struggle to adapt to changes in the economy and society.

Figure 14. Share of adults with low skills

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



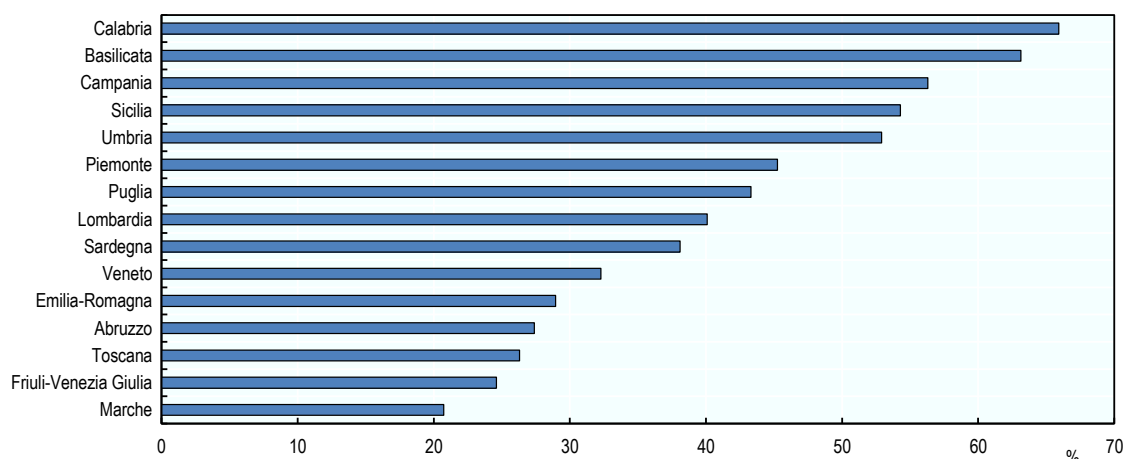
Source: OECD calculations based on OECD Survey of Adult Skills database (PIAAC) (2012, 2015), OECD, Paris, www.oecd.org/skills/piaac/.

PIAAC shows that low-skilled adults in Italy are concentrated in smaller firms, and certain regions and economic sectors. The share of workers employed by micro firms (1-10 people) who have low skill levels (34%) in Italy exceeds that in all but three other OECD countries. About 22% of employed low-skilled adults in Italy are employed in manufacturing, above the share of total employment in manufacturing (19%). Finally, the share of low-skilled adults in Italy's less economically developed regions like *Calabria* (66%) is over 3 times larger than the share of low-skilled adults in Italy's more economically developed regions like *Marche* (21%) (Figure 15). Ensuring that SMEs, less productive sectors, and less developed regions have access to a more highly-skilled workforce will be critical to escaping from Italy's current "low skill equilibrium" (see challenge 6 and 7 for more on this issue). Also stakeholders have mentioned the need to use training to improve the capabilities of managers and small-entrepreneurs.

As in other OECD countries, the share of low-skilled adults increases with age (Figure 16). This partly reflects rising education attainment levels among younger generations (Challenge 1). Noteworthy, the share of low-skilled adults in Italy is significantly greater than the OECD average in all age groups.

Figure 15. Some Italian regions have very high shares of low-skilled adults

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

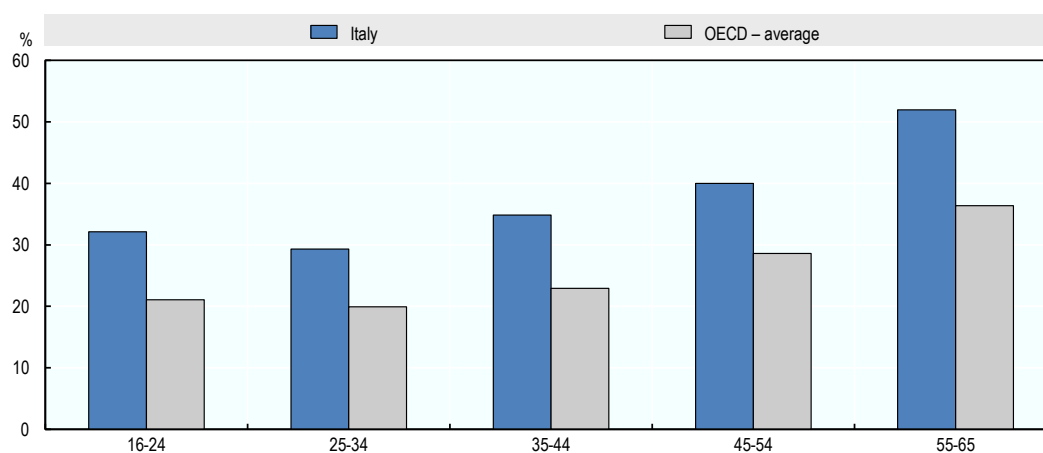


Note: To guarantee statistical robustness in the sample, only regions with enough observation have been taken into account

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

Figure 16. Low-skilled adults in different age groups

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



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

The large share of low-skill adults in Italy is related to the generally low levels of educational attainment in the adult population. Despite improvement, educational attainment in Italy remains well below the OECD average (see Challenges 1 and 2). About 75% (9.7 million) of Italy's low-skilled adults have attained less than an upper-secondary education, compared to 45% across the OECD. Adults (aged 25-65) in Italy with less than an upper-secondary education are 31 percentage points more likely than

adults with a tertiary education to be low-skilled in numeracy and/or literacy, after accounting for differences associated with age, gender, immigration background and parents' educational attainment. Increasing educational attainment over time in Italy will gradually lower the share of adults with low skill levels.

Immigrants and socio-economically disadvantaged adults in Italy are also more likely to have low levels of skill. For example, foreign born people with a first language other than Italian are 20 % more likely than native-born Italians to have low skill levels after adjusting for other differences, which is similar to the average for OECD countries (Table 1).

Italy, like other OECD countries, faces the challenge of ensuring that everyone regardless of birthplace, language, socio-economic status or age has equal chances to develop their skills. These efforts start in schools, with research showing that socio-economic disparities in skills in the schooling years typically exacerbate in later life, particularly among low-achievers (Borgonovi et. al. 2017).

Increasing educational attainment and improving the quality of skills acquired in initial education, especially for disadvantaged groups, is critical to ensure that in the future Italy has fewer low-skilled adults (see challenges 1 and 2 for a more detailed discussion of these issues).

However, given the large number of low-skilled adults in Italy and continuing large flows of low-skilled individuals leaving education, adult education and training plays an important role in helping adults to further develop their skills later in life so that they can adjust to change and continue to make important contributions to the economy and society.

Table 1. Certain adults in Italy are more likely to have low skill levels than others

Adjusted difference in the percentage of adults scoring at or below Level 1 in literacy or numeracy between contrast categories within various socio-demographic groups

	Immigrant background difference (Foreign born/ foreign language minus native born/ native language)	Parents' educational attainment difference (Neither parent attained upper- secondary minus at least one parent attained tertiary)	Age difference 55-65 year-olds minus 25-34 year-olds
Italy	20%	17%	8%
OECD	20%	14%	7%

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

Box 7. What does it mean to have low skills?

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

Sample literacy question: Level 3

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

Preschool Rules

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

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

Sample numeracy question: Level 2

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



Source: OECD (2016)

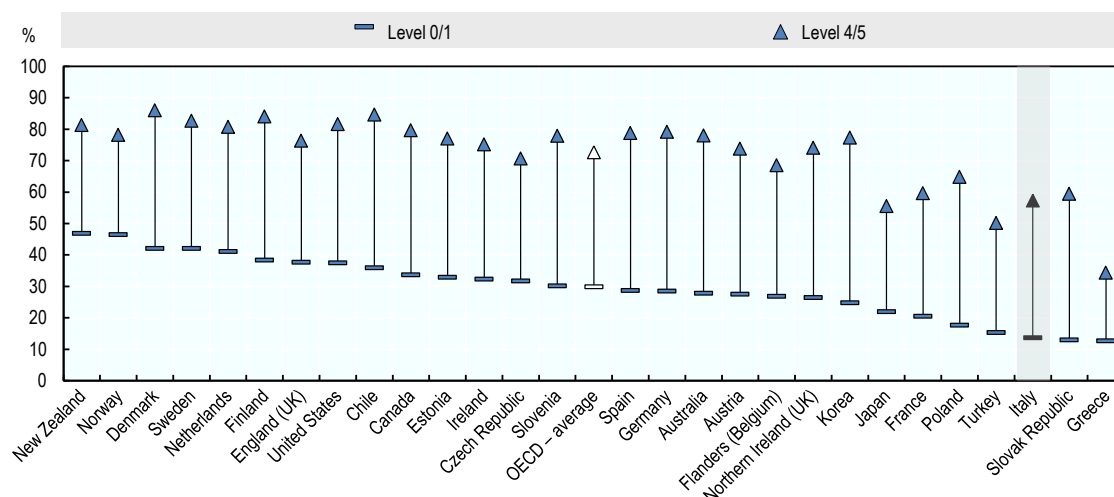
Few low-skilled adults in Italy participate in adult education and training

Adults can maintain and enhance their skills through different forms of adult learning. This can include formal education, non-formal education such as training programmes, and informal learning, which can take place in many different settings, in the workplace or elsewhere (see later sections of this chapter for further information).

In Italy, as elsewhere, a much smaller share of adults with low literacy levels participate in formal or non-formal education than higher skilled adults (Figure 17). However, low-skilled adults in Italy are even less likely to participate in education and training than their counterparts in most other PIAAC countries. There are significant gender differences as well – while 17% of low-skilled males participate in adult education and training, only 11% of low-skilled females participate in adult education and training.

Figure 17. Participation of adults in education and training by skill level

Share of adults (25-65 year-olds) participating in formal and/or non-formal education and training by literacy level, 2012 or 2015



Source: OECD (2016), Education at a Glance 2016: OECD indicators, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933398714>.

A small minority (14%) of adults with low levels of literacy or numeracy reported that they participated in education or training. The majority (77%) of low-skilled adults reported that they neither participated nor wanted to participate in education or training. Employers' demand for, and use of, adults' skills may be too weak in certain Italian regions and sectors to motivate low-skilled adults to further develop their skills.

Table 2. Participation in adult learning by skill level

Share of adults who participated in education and training over previous 12 months in Italy

	Low skilled	Not low skilled (high skilled)
Participated	14%	31%
Wanted to participate but did not because of barriers	9%	20%
Did not participate and did not want to participate ¹⁾	77%	48%

1) derived as a residual of other categories

Note: low-skilled includes individuals with low skills in either numeracy or literacy

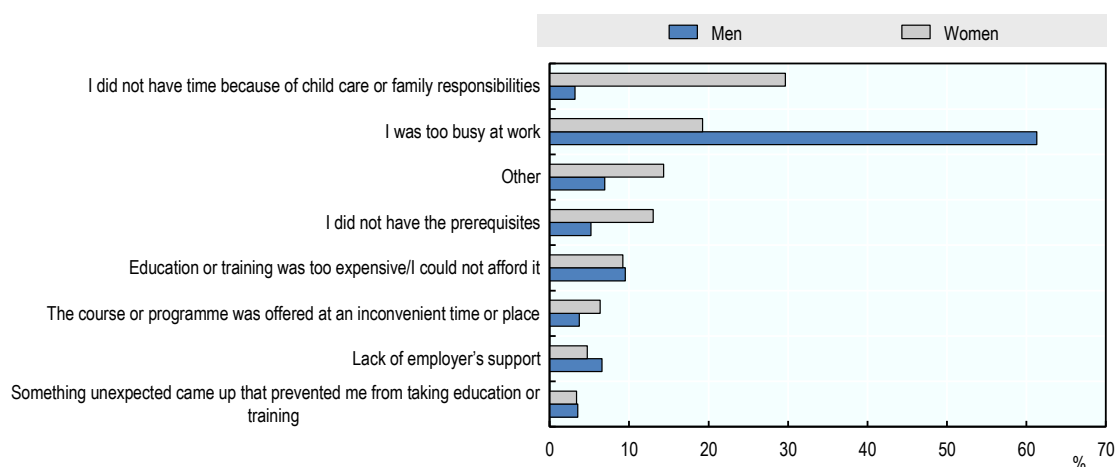
Source: OECD calculations based on OECD Survey of Adult Skills database (PIAAC) (2012, 2015), OECD, Paris, www.oecd.org/skills/piaac/.

Barriers to the participation of low-skilled adults in learning

Only 9% (1.2 million) low-skilled adults reported that they wanted to participate in formal or non-formal education, but barriers prevented them from doing so. Among low-skilled men (who wanted to participate but did not because of barriers), being too busy at work is by far the most frequently cited barrier to learning (Figure 18). A very small share of men in Italy cited lack of time due to childcare or family responsibilities as a barrier to participation. In contrast, low-skilled women in Italy cited a lack of time due to childcare or family responsibilities as the most important reason for not participating in education and training, followed by being too busy at work.

Figure 18. Reasons for the non-participation of low-skilled men and women in education and training

The distribution of reasons for not participating in adult learning for low-skilled individuals who wanted to participate, by gender

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

As mentioned, being too busy at work is an important barrier to adult learning among low-skilled adults. However, in Italy, as in most other EU countries, there are legal provisions for adults to take training leave. For example, adults in Italy can take leave for examinations, for “continuous vocational training” (CVT) established by collective contracts, and for other training (for workers with at least 5 years of service, up to a period of 11 months over their working life) (EC 2017a). It is possible that – although the legal framework may favour adult learning – in practice uptake of training leave is not encouraged in the workplace, or that workers do not have sufficient access to information about existing training opportunities.

Indeed, many stakeholders questioned whether low-skilled adults receive enough guidance about adult learning opportunities. Better skills assessment and anticipation (SAA) information and career guidance may be important for motivating low-skilled adults to learn and improve their skills in adulthood. Despite the wealth of information available (see Challenge 9), however, few adults in Italy (11%) use career guidance providers as a source of information on education and training. This suggests that low-skilled adults in Italy may require more outreach and face-to-face guidance about adult learning benefits and opportunities in order to boost participation.

Women – too – face a number of unique barriers to participating in adult learning in Italy. As discussed in Chapter 5, they are traditionally regarded as the main “family carer” and spend much time in unpaid work (5.2 hours per day versus 1.7 for men). Italy has relatively ungenerous paternity leave and low uptake of parental leave by men – suggesting that the child-related leave system is strongly unbalanced towards women taking leave. Access to and use of childcare is low – less than 25% of children aged 0-2 attend childcare services, below the OECD average of 35% – making adult learning incompatible with family responsibilities for many women. Women in Italy are also often expected to take care of aged relatives in light of the underdeveloped long-term care system (see Chapter 5). Increasing participation in learning among low-skilled adults will require a new attitude to the place of women in the country’s productive fabric, and increased public investment in child and elderly care to provide women more time to participate in learning.

While the cost of training is not frequently cited as a barrier to learning, it could become an issue in the future due to budgetary pressures and the high reliance of Regions on European Social Funds to finance most of their adult learning programmes and activities.

For example, 70% to 90% of adult learning policies dealt with at the regional level are implemented through European funds (SVIMEZ & IDP, 2015). This reliance may expose Italy’s system to funding sustainability risks should structural funds decrease or be differently allocated in the future. To reduce the share of adults in Italy who have low-skill levels, the country will need to find ways of sustainably funding a broader range of adult learning activities targeted to low-skilled adults.

Adults also learn through work tasks, from colleagues and mentors, through trial and error, by solving challenges and changing job positions, as well as through the training provided by employers. However, in Italy, adults with low skill levels in literacy use their reading skills at work less frequently than all other PIAAC countries and economies (OECD 2016, PIAAC Table A4.5). Adults who do not have the opportunity to perform tasks that use their literacy, numeracy or problem-solving skills not only

forego the opportunity to develop their skills further, but risk losing the skills they do have over time. Helping low-skilled adults to break this vicious cycle is critical, and should be a goal of employers as well as education and training systems (OECD 2013, PIAAC) (see Challenge 6).

The adult learning system could be made more flexible to meet the unique learning needs of adults, including through the increased offer of part-time and distance learning programmes, and improved access to childcare (OECD, 2017a). In this regard, Italy could learn from the experience of OECD countries. In Denmark and Spain, for example, low-qualified adults are given priority access to publicly funded education and training leave (EC 2015a). In the Flemish Community of Belgium, jobseekers attending vocational training with the Flemish public employment service or partners may qualify for an allowance in addition to their unemployment benefits, as well as allowances for transport costs and child care (EC 2015a).

Italy could increase incentives for both employers and individuals to invest in skills development, especially in skills that prepare workers to adapt to rapid technological change and globalisation, such as ICT skills and foreign language skills (OECD, 2017b). Available evidence suggest that several countries have increased workers' participation in learning and skill levels by funding employers to contribute to the cost of training and/or training leave. Estonia has done this through paying firms whose employees take up training, France through tax rebates/reductions and Netherlands through subsidised training (ICF 2015). Individual learning accounts and vouchers have been successfully used by countries (for example, Austria and Belgium) to encourage individuals to invest more in training and share the costs with the state. In Italy, vouchers have been used by some regions, such as Lombardy (the so-called *dote formazione*).

Policies and programmes for promoting adult learning

Italy has a range of education opportunities available to low-skilled adults. Adult education in Italy seeks to facilitate requalification, professional mobility and the cultural enrichment of adults. Adult learning activities in Italy may lead to an official study title, or simply aim to enrich adults' "personal culture" (Eurydice 2017). The main forms of education available to adults are adult education (or second chance education), employer-based training (or continuous vocational training – CVT), and training provided through active labour market programmes (ALMPs) for unemployed adults.

Adult education

The government recently took actions to increase the provision of adult education and training by setting up education institutions known as the *Centri Provinciali per l'Istruzione degli Adulti* (CPIA) under the responsibility of the Ministry of Education, University and Research (MIUR). The CPIA are autonomous educational institutions organised in local networks, generally at the provincial level, working in close collaboration with local authorities and labour market partners. CPIA have the same autonomy as mainstream schools, having their own facilities, staff and governing bodies. Funding for CPIA come from national sources.¹²

CPIA centres offer the following educational services: first-level courses for first-cycle qualifications (primary plus lower-secondary education) and certification of the

basic skills competences to be acquired by the end of compulsory education; second-level courses for technical, vocational and artistic qualifications; and literacy courses and Italian language courses directed at non-citizen adults. Centres are designed to be flexible to the needs of adult learners, providing welcoming and guidance activities; assessment of prior learning acquired non-formally or informally resulting in the granting of credits; personalised study programmes formalised in an “Individual Training Pact”, and distance learning courses (EC, 2016; INDIRE, 2014).

CPIA have also established a national network, the ‘*Rete Italiana Istruzione degli Adulti*’ (Italian National Network for Adult Education- RIDAP) that aims to strengthen the existing mechanisms for monitoring prior learning and skills acquired formally, non-formally or informally across the country (OECD, 2017b).

Also Italian higher education institutions are showing increasing interest in providing adult education. Similar to the RIDAP for the CPIA, 33 Italian universities have developed a national network to promote life-long learning at the tertiary level – the *Rete Universitaria Italiana per l'Apprendimento Permanente* (RUIAP) (OECD, 2017b).

However, university education will only be a suitable solution for low-skilled adults if it includes intensive, accessible and high-quality preparatory or bridging courses, to bring adults’ basic skills up to the level required to engage with the standard curriculum. Tertiary vocational education has greater potential to serve the needs of low-skilled adults, but it remains underdeveloped (see chapter 2 for a discussion on higher education).

Employer-based training

Employer-based training (also known as continuous vocational training, CVT) can be a very effective means of upskilling the low-skilled, especially given that the majority of them in Italy are not even seeking education and training opportunities. In addition, employers are well situated to understand what skills workers need to develop to improve their performance at work.

CVT covers training on the job as well as professional development and training. In Italy, CVT can be financed by companies and by public or private funds for individuals. The goals of CVT are established by the MLPS, while CVT activities are managed either by regions and autonomous provinces or social partners. Regions and autonomous provinces support CVT only through European Social Funds, because since 2016 the national funds (236/93 law and 53/00 law) have been suspended. Regions are responsible for selecting target groups at local level and must report to the national government. Social partners, under the supervision of the MLPS and the National Agency for Active Labour Market Policies, ANPAL, manage joint interprofessional funds for continuous training (*Fondi paritetici interprofessionali nazionali per la formazione*). These funds are provided for through agreements between social partners and finance training plans at company, sectoral and territorial levels (CEDEFOP, 2014b).

Government is an important source of financing for employer-based training. However, OECD (2017b) provides evidence that the number of firms requesting financial assistance from local regional governments through a variety of channels (FCI, FSE and Fondi Interprofessionali) has declined since the recession, with the sharpest

reduction in firms operating in the North-East and Centre regions of Italy. It also finds that training provided to workers to perform new tasks – which is especially important for low-skilled adults – steadily decreased between 2009 and 2014. Regional differences are apparent, with greater quantity and higher quality of training provided by firms in the North of the country than in the South and Centre. OECD (2017b) highlights the importance of improving access to training funds especially for small firms.

Inter-professional funds are an important instrument for investing in the skills of workers. These funds finance training plans and educational activities at the sectoral and regional level that firms, either alone or in association, may decide to create for their employees. The funds are financed by training levies, with 0.3% of payroll paid by each firm into a fund of their choosing. Companies that do not elect to join a fund have their 0.3 % contributions divided one third to the Ministry of Labour and two-thirds to the Italian Ministry of Economy and Finance (CEDEFOP, 2014a).

A recent report (ISFOL, 2017) finds that – 930 000 firms joined Inter-professional funds in 2016, with 62 000 of them providing training to workers (2015). However, concerns have been raised about how effectively these funds are being spent. ISFOL (2017), for instance, notes that part of the funds has been diverted from training purposes and only 62% of available funds have been devoted to training, in 2016 (OECD, 2017b).

Furthermore, too little of the funds spent on training are actually used to prepare workers with the skills most needed to respond to the challenges of the future, such as basic ICT skills, knowledge of foreign languages as well as a range of soft and hard skills. For example, information from *Fondimpresa*, the largest inter-professional fund in Italy, shows that a comparatively small share of these funds is targeted at training of this type. Indeed, almost half of the total workers involved in training took courses on ‘safety in the workplace’, which in many cases is compulsory by law. OECD (2017b) calls for these funds to spend more on courses to develop ICT or language skills.

Italy could learn from the experience of OECD countries to improve access to training funds, especially in Southern Italy and for small firms, as well as to reduce administrative burden (OECD, 2017b). For example, in Austria, the scheme 'Training support for workers' pays the costs of tuition fees and daily rates for external trainers in small and medium enterprises (SMEs). Hungary has run an EU-funded project – 'Open Learning Centres'– which provides non-formal learning opportunities for adults living in the country's least developed regions that have low basic skills or low level qualifications (EC 2015a).

Finally, it is worth mentioning that providing on the job training will not be enough. Ensuring that the skills learnt on the job are adequately certified is also crucial to make these skills visible to future employers and for job mobility – a point also raised by stakeholders.

Active labour market programmes

Italy's Public Employment Service offers training opportunities to unemployed low-skilled adults through Active Labour Market Programmes (ALMP). However, as noted in challenge 4 (where ALMPs are discussed in greater detail) Italy is one of the

countries with lowest spending on active labour market policies (ALMPs) across OECD countries both as a share of GDP and as a share of the unemployed. Spending on training under ALMPS is above the OECD average as a share of GDP, on a per unemployed person basis Italy spends more than Spain but less than Greece, two other European countries with very high rates of unemployment (OECD, 2017c).

Italy has already taken important steps to increase access to ALMPs generally and training in particular. For instance, stakeholders recognised the potential of the Jobs Act reform to improve adult learning opportunities by providing tailored services, including profiling and guidance. Indeed, the recently implemented Jobs Act (see Chapter 4) shifts attention from passive to active measures. Under the Jobs Act, unemployment benefits are now conditional on participation in activation measures designed by ANPAL. Individuals receiving unemployment benefit for a duration exceeding four months will be entitled to a voucher (*assegno di ricollocazione*), the amount of which varies depending on the employability profile of the recipient. This voucher can be spent on training or education at public or private employment services, but the voucher can only be cashed once the unemployed individual has found a job. OECD (2017a) note that is a positive measure, since financial incentives, such as training vouchers, have proved to promote training and can improve equity in access to learning, particularly for the low-skilled.

Italy can also use funding from the European Commission's Upskilling Pathways initiative to give low-skilled adults in Italy opportunities to increase their basic skill levels (see Box 8).

Box 8. Upskilling Pathways - New opportunities for adults

The European Commission's new "Upskilling Pathways" initiative aims to help adults acquire a minimum level of literacy, numeracy and digital skills, and/or acquire a broader set of skills by progressing towards an upper-secondary qualification or equivalent.

Upskilling Pathways targets adults with a low level of skills, e.g. those without upper-secondary education and who are not eligible for Youth Guarantee support. They may be in employment, unemployed or economically inactive, with a need to strengthen basic skills. Member States may define priority target groups for this initiative depending on the national circumstances. As part of the program adults with low levels of skills would receive:

- Skills assessment: to enable adults to identify their existing skills and any needs for upskilling. It may take the form of a "skills audit": a statement of the individual's skills that can be the basis for planning a tailored offer of learning.
- Learning offer: an offer of education and training meeting the needs identified by the skills assessment. The offer should aim to boost literacy, numeracy or digital skills or allow progress towards higher qualifications aligned to labour market needs.
- Validation and recognition: adults' skills will be validated and recognised.

Beyond the €27 billion ESF funding to be invested in education, training, skills and life-long learning, from 2014 to 2020, a further € 21.2 billion are available for social inclusion and €30.8 billion for sustainable and quality employment.

Delivery will build on existing structures and vary across Member States. Many countries, like Italy, already offer elements of Upskilling Pathways and can build on this as they implement this new initiative in co-operation with social partners, education and training providers, and local and regional authorities.

Source: EUROPEAN COMMISSION,(2017b).

Improved co-ordination across ministries and levels of government could support enhanced skills development for low-skilled adults

Stakeholders identified poor governance as an issue impinging upon adult learning. Many noted that governance arrangements providing responsibility for key training, certification, and active labour market policies to regional governments have contributed to the fragmentation of training and skills certification systems. More specifically, many stakeholders have noted that a limited co-ordination across ministries and levels of government is a barrier to improving the targeting of training services to low-skilled adults and leads to duplication of efforts. They also noted that there is a lack of public-private sector co-operation in the area adult learning.

Indeed, the Italian system is characterised by a diversity of development of networks and of services for life-long learning in the North and South of the country and overlapping institutional roles and responsibilities (OECD, 2017a; ISFOL, 2016). There is also a limited implementation of the national regulatory framework on life-long learning introduced in the 2012 Reform of the Labour Market, the so-called *Legge Fornero* (OECD, 2017a; SVIMEZ & IDP, 2015). These challenges can lead to great regional variation in access to and the quality of learning opportunities for adults in general and low-skilled adults in particular.

Improved co-ordination among the various ministries, regional authorities and social partners governing inter-professional funds would benefit low-skilled adults. While each ministry collects information on adults' learning needs and participation, they are not currently exchanging and using information to ensure an integrated and tailored learning service to low-skilled adults. For instance, there is no or little co-ordination between PESs and CPIAs, which may result in individuals receiving similar training more than once, or training that does not best meet their needs (MIUR, 2015) (see Chapter 4). Ensuring better linkages and information sharing between CPIAs, CVT and ALMPs will help ensure training more effectively responds to the needs adults generally and low-skilled adults in particular.

Information collected on adults' learning needs and participation in education and training could be shared across Ministries and levels of government to help ensure that low-skilled adults have access to integrated and tailored learning plans and programmes. Italy could learn from the experience of other OECD countries. For example, under France's Plan Formations Prioritaires pour l'Emploi (PFPE), the regional Public Employment Service and adult education provider centres are jointly responsible for co-ordinating the provision of training courses. In the French Community of Belgium, the Consortium for the Validation of Competences (comprising five public institutions of education and continuing vocational training) centralises data on the profile and progress of adults seeking validation of non-formal and informal learning (gender, labour market status, level of education and age) (EC 2015a).

But Italy has already taken some important steps to improve co-ordination. ANPAL, a national agency for Active Labour Market Policies (ALMPs) created under The Jobs Act, has plans to establish a new and unique information system of employment services to collect the personal files of the unemployed and help them to get reemployed and keep a register of private employment agencies. In addition, ANPAL

will work with Italian Chambers of Commerce on the management of the national registry of firms participating in the *Alternanza Scuola Lavoro* (ASL) (see Chapter 1). However, implementation challenges may emerge in the aftermath of the failed constitutional reform (see Chapter 4).

Recommended areas for action:

- Make the education system more responsive to the needs of low-skilled adults by increasing the flexibility of pathways (e.g. through the increased offer of part-time and distance learning programmes) and improving access to childcare.
- Use available funds for training for the development of skills that are truly demanded in the labour market (such as skills that prepare workers to adapt to rapid technological change and globalisation).
- Address the large bias in the provision of training opportunities against low-skilled adults by subsidising training specifically targeting such category.
- Further improve co-ordination and information sharing between ministries, regional authorities and interprofessional funds on adults' learning needs and participation in education and training to help ensure that low-skilled adults have access to integrated and tailored learning programmes.

NOTES

¹² Eligible individuals include Italian and non-citizen adults who have not completed the compulsory education and who intend to obtain the final qualification of the first and second cycle of education (Technical, Professional and Artistic High School); Foreigners who intend to take the literacy and learning pathways of the Italian language to achieve A2, young people who are 16 years of age and who, having the final qualification of the first cycle of education, demonstrate that they cannot attend daily courses. Second level education courses are carried out by educational institutions of technical, vocational and artistic education, with the exception of the first two years of the CPIAs for the acquisition of the basic skills certification related to the education requirement of DM 139 / 2007. (OECD, 2017a; EC, 2016; INDIRE, 2014).

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CHALLENGE 4: REMOVING SUPPLY AND DEMAND-SIDE BARRIERS TO THE ACTIVATION OF SKILLS IN THE LABOUR MARKET

Key messages

- Italy struggles to activate the skills of its population in the labour market. Despite recent improvements in labour market performance, employment rates remain among the lowest in the OECD area. Inactivity and unemployment rates are among the highest in the OECD, and still too many people end up becoming long-term unemployed.
- Large heterogeneity exists in the country among different socio-demographic groups – with women, young people (see Chapter 5), and those living in Southern regions facing the greatest challenges in entering and remaining engaged in the labour market. The Jobs Act, the Budget Law and other legislative decrees have taken positive steps to reduce labour market duality, boost job creation, harmonise public employment services across regions, shift the focus away from passive towards active measures, and developing a national certification system.
- This comprehensive policy package is showing its fruits and improvements are already visible. However, the impact of the reforms should be assessed over the longer-term, and some implementation challenges remain.
- Increase incentives for workers to supply their skills by shifting the tax burden away from labour and towards more skills-friendly taxes such as environmental, consumption, and/or property taxes.

Introduction and stakeholder perspectives

Italy not only needs to step up efforts to develop the skills of its population (Pillar 1), but must also do a better job to activate these skills in the labour market. The recent reform of the labour market (e.g. the Jobs Act) is a step in the right direction and has contributed to boosting job creation and reducing labour market duality. Despite these recent improvements, however, today too many people remain out of employment or of the labour force altogether, often for extended periods of time.

Stakeholders seem to share similar views on what are the key challenges for skills activation going forward. However, stakeholders do not share the same narrative about the Jobs Act. Entrepreneurs tend to praise the Jobs Act, while on the other hand trade unions and subnational representatives are less positive. Surprisingly, there is limited

awareness about the reform among many stakeholders who had limited knowledge of some of the new policy tools put in place by the Jobs Act. For example, some were not aware of the recent developments in the unemployment benefit system. This may illustrate a lack of awareness about the reforms (see Box 1 for a summary of stakeholders' perspective).

Stakeholder perspectives

- According to stakeholders public employment services (PES) are not working well and are fragmented across the national territory. Most Italians find a job through informal channels. Although some national databases with job vacancy information available for the whole country exist, as for instance ClicLavoro, they are not functioning well. Stakeholders also consider that PES staff is often underqualified, and that training is difficult considered that many are older workers and close to retirement age. Stakeholders, including regional representatives, have mentioned the need to improve co-operation between public and private employment agencies.
- Stakeholders discussed extensively about active labour market policies (ALMPs). They mentioned that the design of active labour market policies (ALMP) is rarely based on information on local skills needs. The lack of sophisticated skills profiling tool is a potential challenge for the effectiveness of ALMPs. Finally, stakeholders lament the lack of systematic monitoring and evaluation of the impact of ALMPs on participants. This lack of monitoring is due to a number of issues, including the existence of multiple programmes, fragmented and unconnected information systems, as well as cultural barriers.
- Stakeholders considered skills certification and recognition as key issues. Over the past years, a fragmented certification framework has significantly contributed to limited labour mobility across the Italian territory. Stakeholders considered as a problem impinging on skills activation the fact that a solid system for Recognition of Prior Learning (RPL) at the national level has not been developed yet.
- There was broad consensus about the fact that non-wage costs (and particularly employers' social security contributions) are high and likely represent an obstacle to skills activation.
- Stakeholders do not share the same narrative about the Jobs Act. Entrepreneurs tend to praise the Jobs Act, while on the other hand trade unions and subnational representatives, are less positive. There are some dimensions of the reform, however, in which there is consensus. For example, stakeholders recognise that by creating new permanent contracts, the reform provides incentives to invest in on-the-job training and workers' skills. Surprisingly, there is limited awareness about the reform among many stakeholders. For example, some were not aware of the recent developments in the unemployment benefit system.

Italy struggles to activate its skills in the labour market

The Italian labour market was severely impacted by the recession. During the crisis, almost 1 million people have lost their jobs. Despite a moderate recovery, the current level of growth is still insufficient for a total recovery of previous employment levels. The unemployment rate more than doubled from 6% at the beginning of the crisis in 2007 (Q3) to a peak of 13.1% in 2014 (Q4), and only started to recover slowly thereafter reaching 11.1% in April 2017.

While the Italian labour market performance is slowly starting to recover, today it is still performing below OECD standards. The employment rate is the third lowest among OECD countries after Greece and Turkey. Many people are out of work: inactivity and unemployment rates are the third highest in the OECD area.

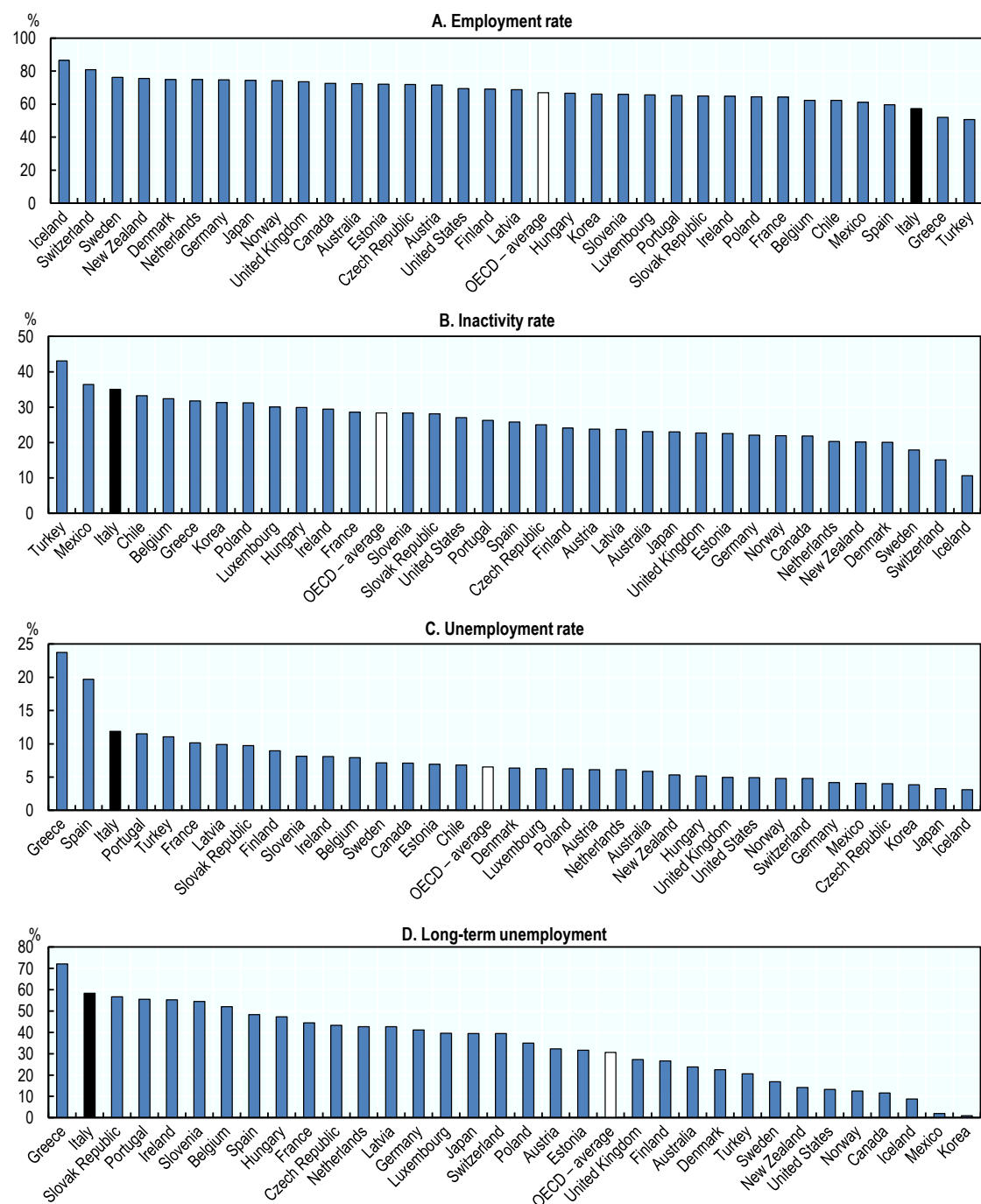
It is very hard for the unemployed to quickly move (back) into employment in Italy. Indeed, almost 60% of unemployed people are long-term unemployed – i.e. for more than one year – which is one of the highest rates within the OECD (see Figure 19). This may lead to a loss in investments in human capital since skills that are not used tend to atrophy over time.

National aggregate figures hide an even more worrisome picture for certain groups. Many stakeholders identify youth and women as the groups that struggle the most to find a place in the labour market (see Chapter 5). The low-skilled are also likely to be left behind – although less so than in other OECD countries (see Pillar 3).

There is also a wide gap between the north and south of the country. Indeed, while the labour market performance of northern regions is comparable to those of the best performing OECD and European countries, southern regions systematically underperform. Adding up to the fragmentation of the Italian labour market, significant differences exist also within, and not only between, regions.

Figure 19. Labour market performance in Italy and OECD countries

Employment, inactivity, unemployment and long-term unemployment rate, 15-64 year-olds, 2016



Source: OECD.Stat (Short-Term Labour Market Statistics and Unemployment by duration).

A comprehensive policy package is being put in place and is already showing positive results

Over the course of the past years the government has developed and put in place a comprehensive reform package which aims to tackle longstanding employment challenges and improve the labour market performance of Italy.

One of the milestones of the reform is the Jobs Act, implemented in 2015. Among the key objectives of the Jobs Act is to tackle labour market duality by introducing a single contract with increasing employment protection with job tenure (*contratto a tutele crescenti*), making firing cost less uncertain¹³ and restricting the grounds for reinstatement in cases of ungrounded dismissal for economic reasons.

Complementing these measures, and with the similar objective to reduce labour market duality, the Budget Law introduced temporary social security cuts for firms hiring permanent workers.¹⁴

Taken together, these reforms have contributed to boost job creation, ease unemployment, and tackle the labour market duality which has characterised the Italian labour market over the past years.¹⁵

Indeed, around 850 thousands jobs were created since the adoption of these reforms. The number of new permanent contracts increased: today permanent jobs represent 36% of the new jobs created, against 26% in 2014 (OECD, 2017a). Moreover, many temporary, atypical, and apprenticeship contracts were transformed into permanent ones.

The reduction of precarious contracts and their replacement by permanent jobs, albeit offering a different regime of protection than before, is a generally positive development especially for those workers who have traditionally been more marginal (e.g. youth, women, see Chapter 5). Indeed, many young people and women – who previously were highly likely to hold precarious jobs – have now had the chance to have access to more permanent positions.

Another advantage of these reforms is that, by creating new permanent contracts, they provide incentives to invest in on-the-job training and workers' skills – a point also often raised by stakeholders.

One additional key milestone of the Jobs Act is the creation of the National Agency for Active Labour Market Policies (*Agenzia Nazionale per le Politiche Attive*, ANPAL), the first national agency for the provision of active labour market policies. ANPAL is fully operational as of December 2016, and it is expected to homogenise standards and practices across the territory (see below).

Lastly, the Jobs Act introduced an important shift from passive towards active measures, by on the one hand, strengthening the welfare system (e.g. unemployment benefits) and, on the other hand, reducing the scope and duration of passive measures such as redundancy schemes and making them conditional on activation measures (see below).

The combination of strengthened welfare system (conditional on activation) and more flexible EPL suggests that Italy is also shifting towards a “flexicurity” model, which protects workers rather than jobs. This model represents a significant positive step in a country like Italy where economic shocks have traditionally been tackled through supporting workers’ income and protecting jobs (e.g. Cassa Integrazione) – rather than helping dismissed workers upskill and/or find a new employment.

But while the reform package implemented by the government is already showing some of its fruits, the potential gains stemming from the reform should be carefully monitored and assessed also over the medium and long-run.

Success of the reform over the longer run will partly depend on how some aspects of the reforms will be implemented in practice. These implementation challenges are discussed in the next sections.

Job matching takes place through informal channels

One key challenge – often acknowledged by stakeholders – in the Italian labour market is that job matching takes place through informal channels. Indeed, two-thirds of all new jobs are not even publicly advertised (Landi et al., 2016). Professional and personal networks represent – therefore – the single most important channel through which jobseekers find a job.

Several reasons may help explain why new job opportunities are often invisible to the public domain. As lamented by several stakeholders, although some national databases with job vacancy information available for the whole country exist (as for instance *ClicLavoro*), they are not functioning well¹⁶.

As highlighted in OECD (2017b), another key explanation is that firms – especially SMEs – often struggle to assess their own skill needs and in many cases prefer to rely on their networks rather than taking the risk of hiring an “unknown” candidate.

Another key reason is that qualifications in Italy are typically poor predictors of a person’s true skills and competences (OECD, 2017c). When the skill-signalling power of qualifications is low and when education titles diverge considerably from the true skills of the workers – as is the case in Italy – the probability of hiring a candidate with an inadequate skills set is high.

A job-matching system mainly based on informal networks – which in turn are linked to families’ socio-economic background and local economic conditions – may severely undermine skills activation.

Specifically, it may undermine access to job offers for the most disadvantaged (who typically have weaker personal networks) (Landi et al., 2016), while also undermine job mobility within the country notably for those living in lagging areas (where job opportunities are scant) (Meliciani, 2014).

Focus is shifting away from passive towards active policies

Through the Jobs Act, Italy is currently undergoing a major shift away from passive and towards active labour market policies. This is a considerable step considered that, in the past, Italy has traditionally been relying on passive measures to tackle the consequences of economic crises and raising unemployment levels.

For instance, during the crisis¹⁷, spending on passive measures (as % of GDP) has increased by 134% (see also OECD, 2017c). For many years, wage-topping mechanisms – e.g. *Cassa Integrazione Guadagni* (CIG) – have been largely used as the main solution to tackle temporary economic slowdown.

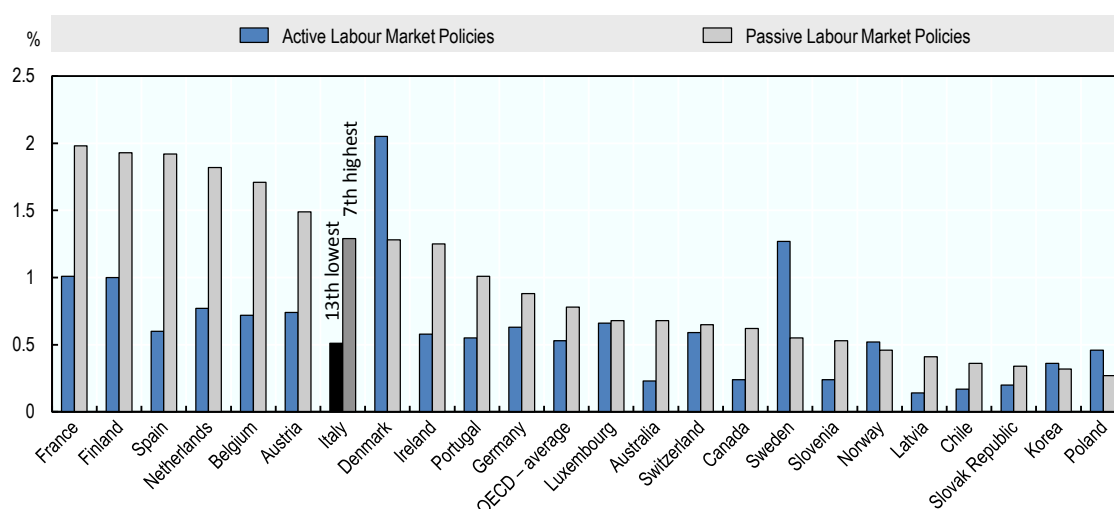
As of 2015, spending on passive measures is equal to 1.29% of GDP, well above the OECD average (0.88%) and the 7th highest value among OECD countries for which data is available (Figure 20).

Relatively high spending on passive measures has gone hand in hand with underfunding on active measures. Indeed, Italy is one of the countries with the lowest spending on active labour market policies (ALMPs) as % of GDP across OECD countries (Figure 20).

Italy spends little on ALMPs not only relative to GDP, but also relative to the number of unemployed people in the country. Indeed, spending per unemployed person reached EUR 1 800 per year – which is very low compared to neighbouring countries such as France for instance (EUR 7 460) (OECD, 2017a).

Figure 20. Spending on Passive and Active Labour Market Policies in selected OECD countries

Spending as share of GDP, 2015



Source: OECD.Stat (OECD Database on Labour Market Programme).

It is important to notice, however, that this data refers to 2015 and therefore it may not reflect well the measures that were recently implemented by the government, and which aimed specifically at shifting the focus away from passive towards active policies.

Indeed, one key innovating features of the Jobs Act is that while it strengthens considerably the unemployment benefits system¹⁸, importantly it also makes unemployment benefits conditional on activation measures.

According to the reform, individuals receiving unemployment benefits for a duration exceeding four months are entitled to a voucher (*assegno di ricollocazione*). The amount – which varies depending on the employability profile – can be spent in training or education institutions. Activation is incentivised by making PESs able to cash the voucher only once the unemployed has found a job (Iudicone, 2016). ANPAL is responsible for assuring an efficient conditionality approach for provision of unemployment benefits.

These are positive steps forward that bring Italy closer to practices already implemented in many OECD countries. However, some challenges of implementation may emerge going forward. For example, it remains to be seen how ANPAL will effectively link and co-ordinate passive measures (which are currently under the responsibility of INPS, i.e. the National Social Insurance Agency) with active ones (which are currently under the responsibility of regions).

Moreover, the decision to shift from passive towards active policies requires a deep cultural change, especially in a country like Italy with a long history of passive policies. Increasing consensus on this specific issue and enhancing the political capital of the reforms – especially in the aftermath of the rejection of the Constitutional reform proposed through a national Referendum in December 2016 – will be crucial for effective implementation.

The Public Employment Service could be more effective in helping jobseekers find a job

Public Employment Services (PESs) can play an important role in assisting jobseekers in their job search and providing them access to existing job vacancies. Ensuring PES's effectiveness is one important step in making sure that people's skills are fully activated in the labour market. However, according to the view of many stakeholders, several factors are currently undermining PES's ability to operate effectively across the Italian territory.

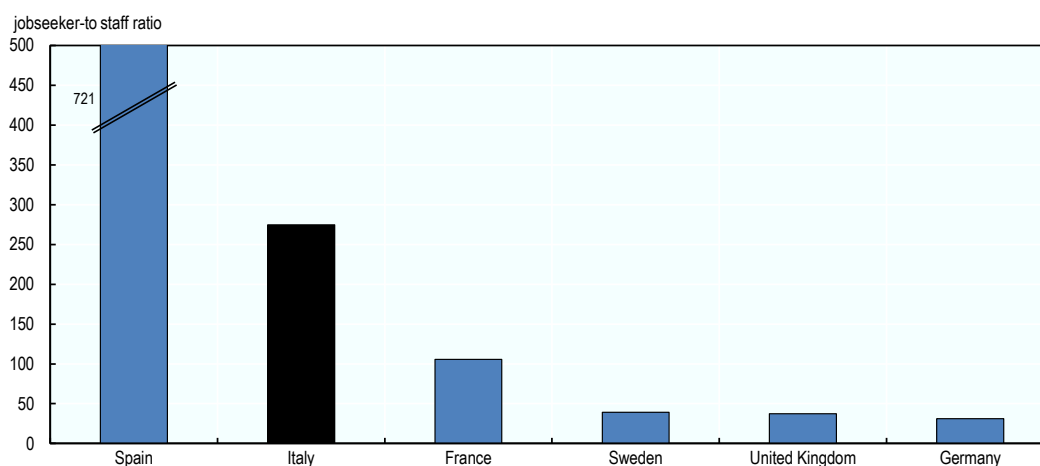
PESs' ability to provide adequate assistance to jobseekers is first of all undermined by the lack of financial resources. In 2015, Italy spent only 0.1% of GDP on PES and administration, below the OECD average of 0.13% and below most OECD countries. It is quite alarming that spending on PES decreased in the period 2007-2015, despite the fact that unemployment rates almost doubled in this period.

On top of that, and partly related to low funding, PES is also understaffed. The jobseeker-to-staff ratio is almost 270, well above countries such as Germany, the United Kingdom, and Sweden, where the ratio is less than 50 (Figure 21).

The few PES human resources that are available are often unmotivated. Because wages are not linked to productivity, and there are no long-term employment progression for them – staff often lack incentives to perform well (Asquer, 2015).

PES staff is often not adequately trained or qualified either. In some regions, only 9% of staff has higher education and almost half has only lower-secondary education (European Commission, 2016a). Some stakeholders have highlighted the difficulty of training PES staff – considering that average age is quite high and many of them are close to retirement.

Figure 21. PES jobseeker-to-staff ratio, 2012



Source: Mandrone and D'Angelo (2014), "Youth Guarantee and the Italian PES: insights from ISFOL PLUS Survey data", CIMR Research Working Paper Series, Working Paper, No. 21.

According to the view of many stakeholders, another key challenge is the fragmentation of employment services across the territory. The organisation of PESs is under the responsibility of regions and provinces, and is regulated by autonomous regional laws. Therefore, there is a considerable regional heterogeneity in the organisational models adopted by the PESs, in the quality of services delivered, and in the design of ALMPs (see below).

There is also large regional variation with respect to the presence of private employment agencies in the market (Mandrone and D'Angelo, 2014). For instance, around 80% of private employment agencies are situated in the North, while they are virtually non-existent in central and southern regions (Mandrone et al., 2016).

There is a disconnection between PESs and other local services, too. Generally, PESs do not communicate effectively with other local actors, such as training institutions, schools, universities.

For instance, there is no or little co-ordination between PESs and *Centri Provinciali per l'Istruzione degli Adulti* (CPIA) (see Chapter 3) – and therefore adult workers looking

for a job or a skill upgrade opportunity may be profiled twice. As another example, stakeholders noted that public and private employment services are not well ed, a situation which leads to further fragmentation.

One key issue regards ALMPs delivered by the PES. ALMPs are often designed without consultation with firms, education or social institutions, and/or – as also pointed out by stakeholders – are rarely based on information on local skills needs (see Chapter 9). This may hinder their effectiveness.

Another point often raised by stakeholders – is that there is no systematic evaluation of the impact of ALMPs on participants' labour market outcomes. In the view of many stakeholders, the lack of regular monitoring and evaluation practices are due to a number of issues, such as the existence of multiple programmes managed at the regional level, the existence of fragmented and unconnected information systems, as well as cultural barriers towards the adoption of monitoring and evaluation practices (see also OECD, 2017a; Pastore, 2015; European Commission, 2016a).

The government has already taken steps to address some of these challenges. The Jobs Act touches upon the delivery of ALMPs through the establishment of the new ANPAL. The creation of the ANPAL represents a major shift in the way Italy approaches ALMPs, which may have significant repercussions on the way Italy activate skills in the labour market.

With the over-arching aim to reduce existing differences across regions and help regions that are lagging behind to catch-up with most performing ones, ANPAL has different tasks.

First of all, it co-ordinates and supervises regional PESs, mainly by setting national minimum standards of services and ensuring that standards are effectively complied to throughout the country, and making sure that the skills acquired during training programmes are recognised across regions. In addition, ANPAL has also identified the national criteria to define the congruity of job offer to candidates, being this essential to fully enforce conditionality of unemployment benefit to activation measures.

It also creates a new and centralised information system of employment services, and manages a web-portal whose aim is to provide information to both jobseekers and employers on vacancies and skills available in the labour market¹⁹.

Lack of ion between PES and local services is currently being addressed by the decree 150/2015, which has promoted the creation of a network for the provision of active labour market policies (*Rete dei servizi e delle misure di politica attiva del lavoro*). This network links ANPAL with the activities of other existing stakeholders such as the INAIL (*Istituto nazionale Assicurazione Infortuni sul Lavoro*), the PESs, inter-professional funds, ISFOL (now INAPP), the chambers of commerce, universities as well as secondary schools (see OECD, 2017c).

More systematic and regular monitoring of programmes has also started. One notable example is the Youth Guarantee, which is being systematically assessed and evaluated since its implementation. It will be important to draw from this experience and extend systematic monitoring practices also to ALMPs that fall outside the Youth Guarantee framework.

These are all steps in the right direction, which may help to address some of the challenges highlighted above. However, some implementation challenges may emerge going forward.

The rejection of the Constitutional reform proposed through a national Referendum in 2016 has significantly reduced ANPAL's role and powers: the delivery of ALMPs remains a shared responsibility between the ANPAL and regions – rather than the sole responsibility of ANPAL as originally featured by the Jobs Act. Some issues between ANPAL and regions may therefore emerge in the future.

In this respect, ANPAL could draw from the successful experience of the Youth Guarantee, which represents a good example of action between state and regions. Going forward, it will be crucial for Italy to capitalise on this experience and replicate the model adopted for the Youth Guarantee in the implementation of ANPAL (see Chapter 5).

Another issue is with regards to the interpretation of minimum standards for the delivery of services to jobseekers and how to hold regions accountable when failing to deliver such services. It will be crucial to set up clear guidelines and evaluation mechanisms of the performance at regional level.

Another key challenge for the success of ANPAL is that human resources and the financial capacity of PESs are currently insufficient to deliver ALMPs throughout the whole national territory and need to be scaled-up – a point also raised by social partners (Iudicone, 2016). In the context of constrained government budgets, however, scaling up resources may be difficult.

Alternative policies can be adopted. For instance, developing a quasi-market by giving a clearer role to private providers could be a policy channel through which certain services can be outsourced to private employment services. As another example, introducing sophisticated skills profiling practices (as has already been done for the Youth Guarantee) would help strengthen the targeting of interventions and rationalise costs.

Finally, it should be noted that context is important too. PESs and ALMPs are most effective in areas with high labour demand, and may face more difficulties in placing jobseekers where job opportunities are scarce. Indeed, evidence suggests that in Southern regions employment is largely driven by social and economic context variables, while in Northern regions employment dynamics are more responsive to policy interventions (Altavilla and Caroleo, 2011a;b; Naticchioni and Loriga, 2011).

This suggests that in lagging areas, the activities of PES and ALMPs need to be well co-ordinated with development programmes and investment in order to deliver a multifaceted strategy that takes into account both the demand and the supply-side of the labour market. In this respect, it would be important to co-ordinate ALMPs with policies that have the potential to boost demand – such as *Industria 4.0* (see Pillar 3) or programmes financed by the EU Structural Funds.

Low incentives to labour market mobility may hinder skills activation further

Fostering labour market mobility can contribute to a dynamic labour market that enables new matches to take place between individuals' skills and jobs. Despite large regional variation in labour market performance, job creation and overall economic development, labour mobility across regions is very low. Less than 1% of people in Italy change province within the same country, which is among the lowest values in the OECD area (OECD, 2016a).

According to many stakeholders, a fragmented certification framework has contributed to limited labour mobility. Until recently, each Italian region used *Regional Qualification Frameworks* (*Quadri Regionali di Standard Professionali*) to certify formal qualifications. These fragmented standards and procedures have led regions to recognise only the skills developed (and certified) regionally, with subsequent negative consequences for cross-regional mobility.

Good efforts are being stepped up to identify a national certification of qualifications. In 2013, there was the first attempt to create a national wide framework for the certification of qualifications²⁰. While the full implementation of these directives has been slow, in 2015 the central government and regional governments agreed to create a common standard (*Quadro Nazionale delle Qualificazioni*). As of today, the national framework identifies about 3 000 professional qualifications and it makes the standardisation of regional qualifications compulsory for all regions.

Along with the recognition of formal qualifications, strengthening Recognition of Prior Learning (RPL) in non-formal and informal contexts can also favour job mobility. However – as recognised by several stakeholders – a solid system for Recognition of Prior Learning (RPL) at the *national level* has not been developed yet. Standards for RPL exist only at the regional level but their fragmentation represents a severe limitation to mobility and skills activation.

On a positive note, the creation of national network, the '*Rete Italiana Istruzione degli Adulti*' (RIDAP) by CPIA is partly addressing this challenge by strengthening the existing tools to monitor prior learning and skills acquisition (including informal) across the whole national territory (see OECD, 2017c for further information).

PES' weak job-matching functions (discussed above) can also negatively impact job mobility. Jobseekers have access only to jobs located in their geographic area with little visibility on job opportunities available elsewhere in the country. This issue was raised in several occasions by stakeholders.

But mobility can also entail important costs for individuals – e.g. psychological and financial. Therefore, supportive policies – namely housing-market policies and relocation subsidies, work flexibility, family support – are an integral policy measure to support labour mobility, and should be enhanced.

Finally, policies to foster labour market mobility should be accompanied by (and co-ordinated with) development policy measures. These policies should aim to create job opportunities and adequate basic services (e.g. education, health facilities) in lagging regions, thus giving citizens equal opportunities, regardless of where they live.

High labour costs may represent a drag on formal employment

Successful activation of people's skills in the labour market will also require the creation of a sufficient number of jobs. High labour costs – which can result from high wage costs (e.g. minimum wages; rigid wage setting mechanisms), and/or from high non-wage costs (e.g. employers' social security contributions) – can be a disincentive to hiring.

In the past years, real wages in Italy have been increasing despite stagnating labour productivity, a situation which could possibly represent a drag on employment. In contrast with what is observed in other financially stressed OECD countries where nominal wage cuts have become frequent in recent years, Italian firms have been reluctant to cut wages. At the same time, productivity has remained flat since the years 2000s (OECD, 2016b) (Figure 22, Panel A).

The combination of real wage growth and stagnating labour productivity has resulted in increasing unit labour costs (OECD, 2015; European Commission, 2016a) – which, in turn, may represent a burden to firms and depress hiring.

Different observers have noticed that these wage rigidities may point to some problems in the wage setting mechanisms (OECD, 2015; Guriev, Speciale, Tuccio, 2016; Monti and Pellizzarini, 2016). At the time of writing, though, wages are agreed upon by social partners and set through collective bargaining, and the government has little control over how wages are adjusted. Good steps are currently being undertaken to make wages more in line with productivity and make the wage setting mechanism more flexible by enhancing firm-level bargaining (see Pillar 3).

Minimum wages, negotiated in sectoral collective agreements, are high in the international comparison, possibly representing an additional burden to firms²¹. They range between 74% and 80% of median wages – which is much higher than any OECD country for which data is available.²²

At least partly reflecting the fact that many employers cannot afford to pay such a high minimum wage – especially to low-skilled, often low-productive, workers – non-compliance is significant. Indeed, around 10% of workers are remunerated one-fifth less than the reference minimum wage (Garnero, 2017).

Adding to wage rigidities and high minimum wages, non-wage costs are also high and increase the cost of labour further – a point that was raised several times by stakeholders.

Indeed, employers' social security contributions (SSCs) represent 24.3% of total labour costs²³, around ten percentage points higher than the OECD average (14.25%), and in fact one of the highest values in the OECD (Figure 22, Panel B). Because they are largely income-invariant, they are comparatively even higher for firms hiring low-income earners²⁴.

As discussed in OECD (2017a), a permanent cut of employers' social security contributions by 10 percentage points is estimated to increase employment rates by 1 and 1.3 percentage points after 5 and 10 years respectively, everything else held equal.

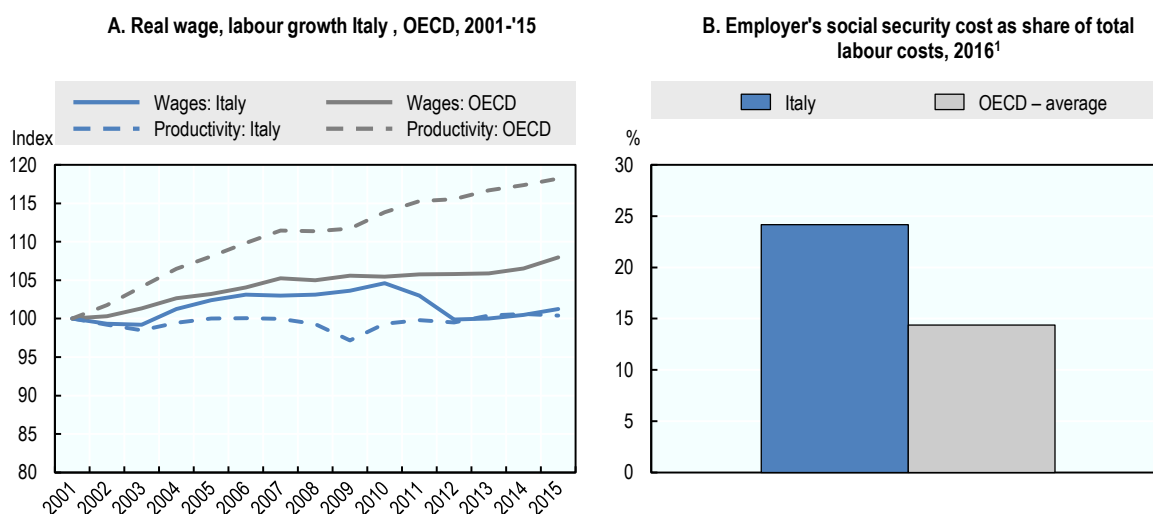
Shifting the tax burden away from labour and towards more skills-friendly taxes – such as environmental, consumption, and/or property taxes – may be one option worth considering for reducing disincentives for hiring while at the same time keeping the government balance sheet unchanged.

Enhancing tax collection would also generate large additional revenues that would pay for the permanent reduction in social security contributions (see also OECD, 2017a).

Recognising that tax burden on firms is currently very high, the government has introduced temporary exemptions of employers' social security contributions for firms recruiting permanent workers (see above) – which reduces the cost of labour. As discussed, this reform has likely contributed to lowering labour costs and boosting job creation.

One criticism of tax reliefs, however, is that they boosted job creation only in the short-term – as highlighted by the fact that the number of new (open ended) contracts dropped as soon as social security contributions exemptions were reduced in 2016 (see also OECD, 2017a). Another key criticism is that they were very costly²⁵, and likely generated large deadweight effects and/or other types of labour market distortions (e.g. displacement or substitutions effects).

Figure 22. The cost of labour in Italy and the OECD



1) average earnings for a single person with no children.

Source: OECD.Stat (Average annual wages, Growth in GDP per capita, productivity and ULC and Tax wedge decomposition).

Recommended areas for action

The success of the reform package put in place by Italy over the last years will depend on how it is implemented in practice. Italy needs to take action in the following areas:

- Continue efforts to create a clearer and more transparent certification system and establish a national system of Recognition of Prior Learning.
- Improve supportive policies such as accommodating housing policies and relocation subsidies, greater work flexibility and family support to promote greater regional mobility. The diffusion of job vacancies through formal channels should be enhanced, considered that vacancies are too often ‘invisible’ from the public domain.
- The collaboration between ANPAL and local actors in the delivery of labour market programmes should be strengthened, drawing from the successful experience of the Youth Guarantee. Ensure that ANPAL has the powers to set national standards, and monitor compliance, will also be crucial.
- Resources for PES and active labour market programmes should be scaled-up, as the number of public employment service staff per jobseeker and investments in ALMPs are low. In the context of limited resources, alternative policy options could be adopted, such as outsourcing certain services to private employment services; and/or strengthen skill profiling tools which can help to use resources more wisely.
- ALMPs need to be designed in consultation with firms, education or social institutions, and based on information on local skills needs. It will also be crucial to carefully and regularly monitor the effectiveness of ALMPs through rigorous impact evaluation analysis, so as to regularly adapt their design and channel resources to the most effective interventions. Co-ordinate ALMP with Industria 4.0 and other economic development initiatives, so as to ensure that demand- and supply policies are well co-ordinated at the local and regional level.
- Stimulate job creation by permanently lowering employers’ social security contributions. Shifting the tax burden towards more skills-friendly taxes – environmental, consumption, and/or property taxes – and/or enhancing tax collection, may be one option worth considering for reducing disincentives for hiring while at the same time keeping the government balance sheet unchanged.

NOTES

- ¹³ In Italy compensation for dismissal is foreseen only under unfair dismissal. Jobs Act has also introduced an out-of-courts settlement procedure to deflate labour disputes.
- ¹⁴ In 2015, new permanent contracts were exempted from social security contributions (capped at EUR 8 000 annually for the first 3 years); and in 2016 exemptions were reduced (to a cap of EUR 3 250 for 2 years) (OECD, 2017a).
- ¹⁵ It would seem that the shift towards permanent employment was driven by tax reliefs rather than modifications in the EPL. For instance, a survey carried out by Confindustria (2015) shows that 62% of firms claim that new hiring decisions were influenced by tax reliefs rather than the new rules in EPL. Recent research conducted by Sestito and Viviano (2016) corroborates that taken together the new EPL and tax reliefs explain about a quarter of net job creation in the first half of 2015 – of which two-thirds are attributed to the tax relief and only one third to modifications of the EPL – and the remaining is due to economic cycle improvements (see also European Commission, 2016a).
- ¹⁶ Regional database exists also as the Italian constitutional setting leaves freedom to regions in the implementation of active labour market policies and activities.
- ¹⁷ In the period 2007-2014.
- ¹⁸ Unemployment benefits were made more inclusive, more generous, and more directly linked to contributions. Unemployment assistance (ASDI) – provided to those people whose eligibility to unemployment benefits has expired and meet certain criteria (European Commission, 2016a) – has now been made a permanent measure.
- ¹⁹ Jobseekers will be able to upload their CV and to search through the available vacancies while employers will be able to upload their information on the ‘*comunicazioni obbligatorie*’ (e.g compulsory information that firms need to provide to the Government on new contracts and cessations). Finally, the portal will have a section called “Europe”, devoted to the promotion and co-ordination of programs financed by the European Social Fund and containing information and links to other portals dedicated to European programmes on employment and mobility (Your First EURES Job, Erasmus plus etc.) and their specific implementations in Italy.
- ²⁰ Decreto legislativo 13/2013.
- ²¹ In Italy there is no national or subnational statutory minimum wage but wage floors are fixed at sectoral level via collective agreements between trade unions and employers organisations.
- ²² While this is partly due to the fact that sectoral minimum wages are typically higher than national minima, minimum wages are high in Italy even when compared to countries

with sectoral minimum wages (e.g Austria; Germany; and Nordic countries) (Garnero, 2013).

- ²³ Data refer to single persons with no children at 100% of the average wage.
- ²⁴ One characteristic of the labour tax system in Italy is that, contrary to what is observed in OECD countries on average, it is income-invariant: employers' SSCs represents the same share of total labour costs regardless of income levels.
- ²⁵ Tax reliefs are expected to cost a total of EUR 3.5 billion from its implementation to 2018 (Antonin, 2016).

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CHALLENGE 5: ENCOURAGING THE PARTICIPATION OF WOMEN AND YOUTH IN THE LABOUR MARKET

Key messages

- Only 48.3% of women are employed, the fourth lowest value in the OECD, and well below the OECD average. Worryingly, many women are not even looking for jobs such that Italy has the third highest inactivity rate among OECD countries.
- Women are often perceived as the main “family carers”. Indeed, they take on the highest burden of unpaid domestic work, they lack access to affordable childcare facilities and flexible work that would help them combine work and family responsibilities, and live in a system that favours mothers – rather than fathers – taking child-related leave.
- Women often choose degrees that are not highly demanded in the labour market, making it difficult for them to find a job after graduation. Moreover, the tax system provides second-earners (often women) with weak financial incentives to work.
- Youth struggle to make the transition from education to the world of work. They rarely have access to effective career orientation services to guide them through the vast array of possible education and career pathways. Many of them take too long to finish their studies and conduct independent lives – for example outside their parents’ houses.
- In many cases, especially before the introduction of mandatory traineeships for all upper-secondary students (the Good School Act), many students left the education system without having gained any previous work experience or a sufficient range of skills needed on the job (e.g. cognitive and/or soft skills). The implementation of the Alternanza Scuola Lavoro has to be carefully monitored and, if anything, reinforced by strengthening the linkages between employers and education providers. Employment services and support exist, but many disadvantaged youth may not be aware of the opportunities available to them.
- Recent policies are going in the right direction but much remains to be done. These efforts may not suffice if not accompanied by good implementation practices and complementary policy interventions that fill existing gaps in the policy package.

Introduction and stakeholder perspectives

Italian women and youth struggle to activate their skills in the labour market and need to receive targeted support. This is important not only for their own well-being, fulfilment, and integration in the society, but it is also crucial to help the country retrieve economic growth and take full advantage of its skills potential.

Stakeholders identified women and youth as those facing the highest barriers in entering and remaining engaged in the labour market. Factors negatively affecting female participation include: the child-related paid leave system is generally unbalanced towards women taking leave, there is also a lack of affordable childcare facilities, flexible work arrangements are not very common, and there are weak financial incentives for second-earners. Stakeholders recognised that enhancing women's participation to the labour market will require tackling gender discrimination in the society and at the workplace for example by raising awareness of gender imbalances taking place at home, and work.

According to stakeholders, youth's low participation in the labour market is partly due to the fact that they do not possess the skills required in the labour market (e.g. soft skills). Many university students take too long to graduate, which delays their entrance to the labour market. Stakeholders also recognise that many youth are not provided adequate career guidance services, rarely combine work and study, and are often not aware of existing employment services provided for example in the context of the Youth Guarantee (see below box for a description of stakeholders' perspective).

Stakeholder perspectives

- According to stakeholders, one key issue of concern in Italy is the structure – and use – of the child-related paid leave system, which is strongly unbalanced towards women taking leave. Long spells out of employment during maternity leave may result in skills depreciation and a gradual detachment of women from firms' ongoing activities.
- While the recent extension of paternity leave from 1 to 2 days is a step in the right direction, fathers' entitlements to paternity leave remain too low. Male employees who are willing to opt for parental leave fear that they may be “punished” when they return to work, for example through denied promotions, reduced visibility, or exclusion from important projects.
- Lack of access to affordable childcare may be challenging for parents willing to combine work and family life. Working time flexibility in Italy also plays a limited role in helping parents to reconcile their work and care commitments.
- Weak financial incentives of second-earners (and particularly wives) can also help explain their poor labour market outcomes.

Stakeholder perspectives (cont'd)

- Firms are often not aware of the gender imbalances within their staff. Therefore, they are not able to identify sectors/positions where there is an underrepresentation of women and adjust recruitment practices accordingly.
- A reason for youth's poor labour market outcomes is that there is a large disconnection between the education system and the world of work. For instance, schools and universities often fail to teach soft skills (e.g. team-working, punctuality, and flexibility), which are very much demanded by firms. Another key challenge for youth's poor labour outcomes is the excessive duration of university studies, which delays entry to the labour market. Moreover, few youth combine work and study, hence very few leave the education system having gained some previous work experience.
- Youth have limited access to career orientation which could guide them through the vast array of possible education and career pathways. While progress is needed, one good step is the implementation of *Alternanza Scuola Lavoro* which could –indirectly – have a very important “career guidance” function for students.
- Many young NEETs are not aware of the opportunities offered by the Youth Guarantee, or through other ALMPs, and private employment agencies. Regional differences persist in the delivery of the Youth Guarantee, and information on the quality and quantity of offers provided at the local level is often lacking.

Women are facing challenges to activate their skills in the labour market

Only 48.3% of women are employed, the fourth lowest value in the OECD, and well below the OECD average. Worryingly, many women are not even looking for jobs such that Italy has the third highest inactivity rate among OECD countries. Part of the explanation comes from the fact that women are often perceived as the main “family carers”. Indeed, they take on the highest burden of unpaid domestic work, they lack access to affordable childcare facilities and flexible work that would help them combine work and family responsibilities, and live in a system that favours mothers – rather than fathers – taking child-related leave. This is only part of the story, though. Fertility rates in Italy are among the lowest in the OECD, the age of first birth for a woman is quite late, and there are many childless women. This suggests that other factors may lie behind the poor labour market participation of women. For instance, women often choose degrees that are not highly demanded in the labour market, making it difficult for them to find a job after graduation. Moreover, the tax system provides second-earners (often women) with weak financial incentives to work.

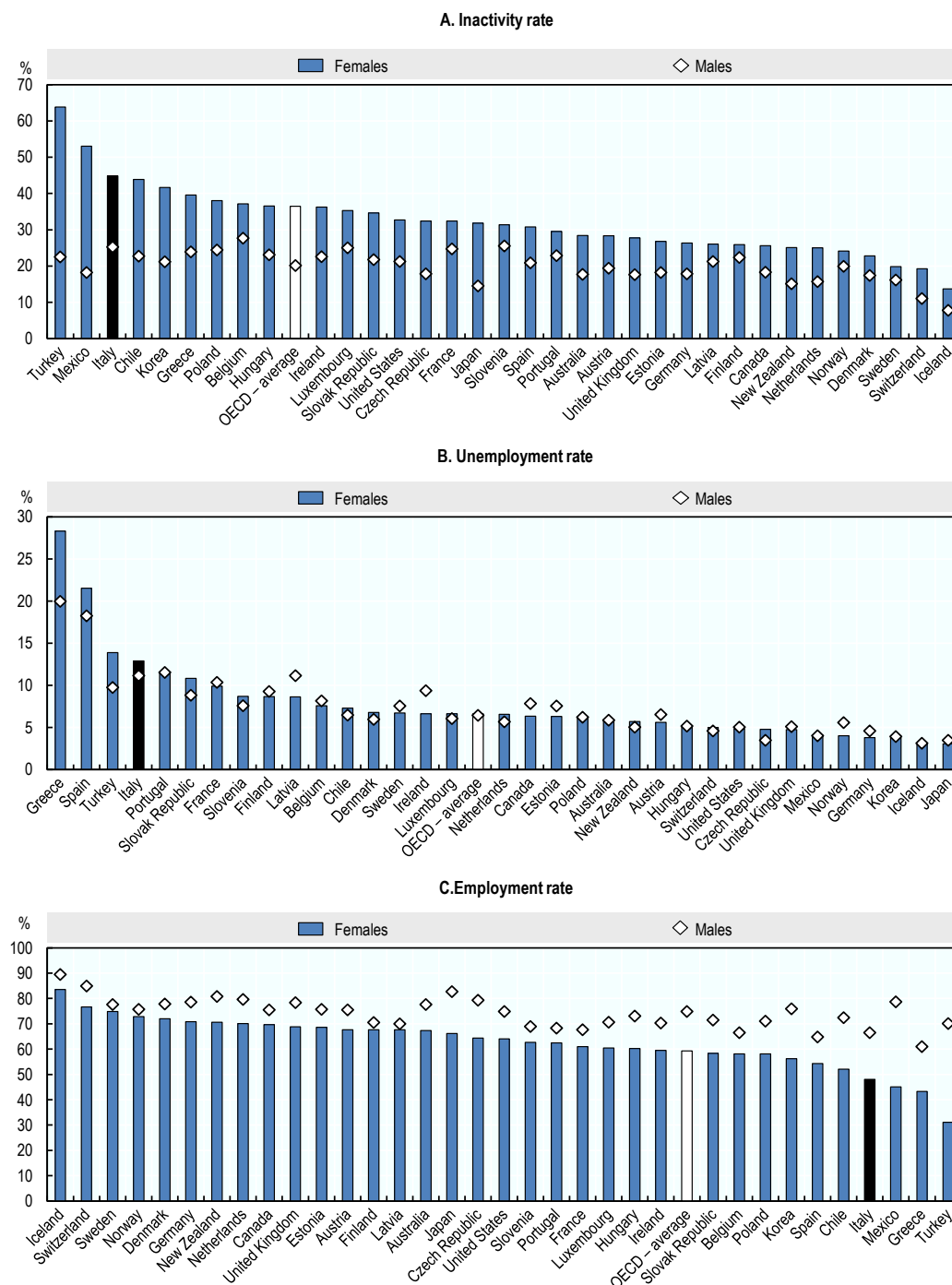
A snapshot of the situation of women in the labour market

Women are often excluded from the Italian labour market. Too many of them are out of employment (*i.e.* they are unemployed, or do not participate in the labour force altogether). Only 47.8% of women are employed, the fourth lowest value in the OECD after Mexico, Greece, and Turkey (and well below the OECD average). Unemployment rates of women are also higher than OECD standards. Worryingly, many women are not even looking for job. After Turkey and Mexico, Italy has the third highest inactivity rate among OECD countries.

Despite the fact that women in Italy perform better than young men in education and are more likely to complete higher education (see Pillar 1) wide gender gaps exist in the labour market (see Figure 23).

Figure 23. Labour market outcomes for women

Inactivity-, unemployment-, and employment rate for 15-64 year-olds by gender, 2016



Source: OECD.Stat (Short-Term Labour Market Statistics).

Given these poor labour market conditions, many women feel they do not have the necessary economic stability to start a family. Because they would first like to gain a foothold in the labour market, younger generations postpone childbirths. The mean age of women at first birth is 30.7 years in Italy, the highest value in the OECD area after Korea (31). Postponement, in turn, decreases the likelihood of having children at all. At 1.4 births per woman, fertility rates are among the lowest in the OECD area. There are many women without children: about 24% of women born in 1965 have remained childless, while this is only 10% in France for example (OECD, 2011).

The Italian economy is missing out because too many women are outside the labour force. Failing to activate women's skills in the labour market represents a large waste of human capital, and may ultimately have long-lasting repercussions on economic growth. OECD projections show that if female participation rates converged to those of men by 2030, the Italian labour force would increase by 7% and GDP per capita by 1% a year – one of the highest gains in the OECD area (Thévenon *et al.*, 2012).

Women are often perceived as main family carer

Women are often regarded as the main “family carer” and often give up on their careers to fulfil this role (Rosselli, 2014; OECD, 2017a). A survey conducted by ISTAT (2015) shows that almost half (44%) of women claim that, in the course of their lives, they had to stop working, turn down a job offer, accept jobs with fewer responsibilities, or miss career advancement opportunities for family reasons.²⁶

As a consequence of their role in the family, women spend much time in unpaid work, which hinders their participation in the labour market. OECD data shows that women devote much more time than men to (unpaid) domestic work (5.2 versus 1.7 hours per day), the 5th highest gap in the OECD area.

They do so even regardless (and despite) of their employment status: for instance, partnered women, between 25-49 year-olds, devote twice as much time as partnered men to unpaid work, regardless of their employment status; and unemployed or inactive partnered men spend less time on unpaid work than their female partners who are in paid employment (OECD, 2017a).

Time spent on unpaid work can negatively affect female labour force participation, as shown by the fact that, across the OECD, fewer hours on chores and child care are associated with higher female employment rates.

Child-related paid leave systems are strongly unbalanced towards women taking leave

Italy – like other OECD countries – has policies that entitle parents to periods of (paid) leave around childbirth: notably maternity, paternity and/or parental leave. The international experience shows that the design of parental leave schemes can significantly influence the likelihood that mothers return to work and/or start work in the first place.

Stakeholders highlight that one key issue of concern in Italy is the structure – and use – of the child-related paid leave system, which is strongly unbalanced towards women taking leave.

Maternity leave is relatively generous in Italy by international standards. Its duration is quite long: it lasts 21.7 weeks against 17.7 in the OECD. It is also relatively well-paid, as it replaces 80% of previous wages against what can be observed in certain OECD countries (e.g. Australia, Canada, Ireland, New Zealand, UK) where the payment is around 50% of wages or below.

Some stakeholders have pointed out that long spells out of employment during maternity leave may result in skills depreciation and a gradual detachment of women from firms' ongoing activities. This may hurt women' employment prospects and opportunities within the firm in the longer run. As highlighted by some stakeholders, continued communication and connection with the world of work during maternity leave may be important.

In the view of many stakeholders, paternity leave is too short. While the recent extension of paternity leave from 1 to 2 days is a step in the right direction, fathers' entitlements to paternity leave remain too low by international standards. Indeed, 2 days is the shortest duration that can be found among OECD countries that have adopted paternity leave, and it lasts two weeks or more in many countries (OECD, 2016a).

The extension of child-related leave entitlements for fathers has been brought about through some company-level agreements. One good practices example in Italy comes from Nestlé Italia, which in 2012 extended paternity leave to two weeks with 100% wage compensation (Eurofound, 2015). However, these remain rather isolated practices.

Fathers are also entitled to take on parental leave, but this is quite ungenerous and in practice only few fathers use it anyways.²⁷ Parental leave lasts only 26 weeks against 36.4 weeks in the OECD on average, and payments compensate only 30% of previous earnings.

Less than one in ten fathers take parental leave despite being entitled (OECD, 2016b; see also Eurofound, 2015; Rosselli, 2014). Stakeholders have highlighted that male employees who would like to opt for parental leave fear that they may be “punished” when they return to work, for example through denied promotions, reduced visibility, or exclusion from important projects.

Enhancing fathers' entitlements to and use of child-related leave can have several positive implications for women's participation in the labour market. Indeed, if men and women are equally likely to take child-related leave, firms are less likely to discriminate against (young) women at the time of hiring (see below). On top of helping women in the workforce, it could also help changing gender stereotypes and fostering gender equality between men and women at home (see above).

Access to affordable childcare and financial help to raise a child are limited

The international experience suggests that access to affordable childcare facilities is crucial to help women reconcile work and family life (see for example OECD, 2016c). Affordable childcare is a key requirement for greater labour market participation among young mothers as it can free up mothers' time to work.

It is particularly important in Italy at a time where the recent extension of retirement age is expected to reduce informal childcare provided by grandparents.

Stakeholders claim that lack of access to affordable childcare may be challenging. Indeed, less than 25% of children aged 0-2 attend childcare services, well below the OECD average of 35% and below good performing countries such as Denmark or France for example (Figure 24). While among children aged 3-5 enrolment is high and reaches 95% - above the OECD average of 83.8% - full-time care remains an issue with limited public support for out-of-school hours care (Rosselli, 2014; OECD, 2011).

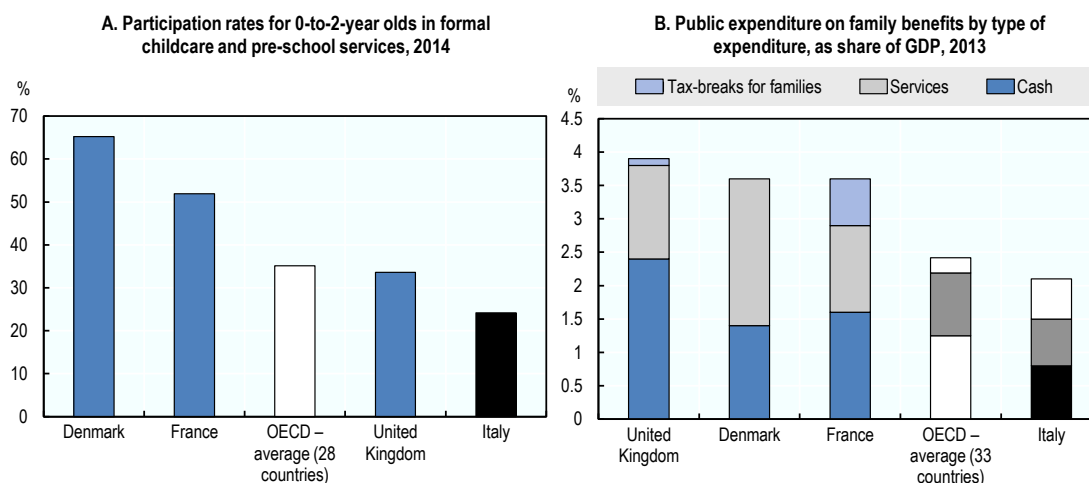
Indeed, affordable childcare facilities are often missing in Italy, making paid work at odds with having children. There are not enough childcare facilities to satisfy the demand, as testified by the high share of children who are not given a slot after application.²⁸

The situation is particularly problematic in some southern regions where childcare services are nearly non-existent. Private provision does not help to compensate the lack of public institutions because it tends to be larger where there is already higher public provision (Brilli, Del Boca, and Pronzato, 2016; Rosselli, 2014; Figari and Narazani, 2015).

Those who are lucky enough to get an available slot in childcare facilities are still confronted with high costs. Out-of-pocket fees for a *public* childcare slot can be as high as EUR 400 per month in certain Northern regions – which may be unaffordable for many families (Figari and Narazani, 2015; European Commission, 2013).

Efforts to provide benefits – *i.e.* cash, benefits, or tax breaks for families – to help families towards the cost of raising children, are comparatively limited in Italy. Italy spends only around 2% of GDP on family benefits. This is well below the 2.4% invested on average across the OECD and around half of what is spent in countries such as Denmark, France, and the UK (Figure 24).

Figure 24. Enrolment in childcare and spending on family benefits, Italy and a selection of OECD countries



Source: OECD.Stat (OECD Family Database).

Recognising these challenges, the government is stepping up efforts to increase the availability of childcare facilities and help families meet the cost of childcare. The March 2015 Decree provides local authorities with the support to develop new childcare facilities, and to increase places and/or hours of service (OECD, 2017a).

The April 2017 Decree, implementing the Good School Act, has initiated the integration of 0-6 services for children and their families into a single framework to streamline governance and improve the quantity and quality of childcare. Regions have recently been provided with the means to access a 150 million EUR resource package (July 2017) to set up “Poli per l’infanzia” especially in those areas of the country with higher demand and an insufficient supply of ECEC infrastructure.

This is a step in the right direction, also in light of the key findings of recent studies which suggest that, in Italy, increasing the availability of childcare facilities and reducing their costs may bring positive effects on female labour force participation (Figari and Narazani, 2015; Carta and Rizzica, 2015; Bratti and Staffolani, 2012).

Several measures have also been implemented by the Italian government to help families meet the cost of childcare. The 2016 Stability Law provides a EUR 600 monthly subsidy available to female workers at the end of maternity leave that can be used for baby-sitting service or for paying the cost of infant day-care. The 2017 Budget Law refines baby-sitting vouchers – which amount to EUR 600 per month for a maximum period of six months, in alternative to the utilisation of parental leave – and extend them to self-employed women. In addition, according to the July 2017 Decree, implementing the Budget Law, all parents (regardless of incomes) are entitled to a nursery voucher of a maximum of EUR 1 000 per year for children born after January 2016 and until the age of three.

Family cash benefits are being scaled-up too, especially for disadvantaged families. The 2015 Budget Law sets up a “baby bonus”, a cash benefit provided to low-income families with new-born children. It can amount from EUR 80 to 160 per month (depending on family incomes) and is paid for a period of three years.

Women are often expected to take care of aged relatives

Observers have argued that long-term care system is generally underdeveloped in Italy, particularly in some regions (Tediosi and Gabriele, 2010), suggesting that most of the burden of care for older people is carried out by families, and particularly women. Lack of adequate services is accompanied by a legal framework which, by allowing workers who are taking care of a relative with disabilities to take three days off work per month – or two hours per day (Rosselli, 2014; Naldini, Pavolini and Solera, 2016) in a way assigns to the family the role of main care ‘agency’. Already high old-age dependency ratios and increasing life expectancy mean that, if no action is taken, the burden of long-term care on families is likely to amplify in the future.

Flexible work arrangements are not sufficiently available

When faced with limited access to childcare, out-of-school care services, and/or underdeveloped long-term care services, holding a full-time job can prove difficult for women. One alternative is having access to flexible work arrangements, such as part-time, or work from home.

Unlike what is observed in other OECD countries, however, stakeholders often claim that working time flexibility in Italy plays a limited role in helping parents to reconcile their work and care commitments.

A survey conducted by ISTAT (2015) shows that over 42% of working women claim that some aspects of their jobs make it difficult to reconcile work and family responsibilities, and among the main reasons mentioned are inflexible work arrangements, long working hours, as well as work during week-ends, afternoons, or evenings (ISTAT, 2015).

While part-time work is used in many OECD countries as a mean to reconcile work and family life, this does not seem to be the case in Italy. More than half – 61.6% in 2015 – of the part-time work among women is involuntary, around three times the OECD average of 22.2%. This suggests that part-time work – rather than a mean to reconcile work and family obligations – rather reflects labour market conditions (ISTAT, 2015).

Moreover, in a non-negligible number of cases, part-time work takes place during week-ends, afternoons, or evenings, which may hinder (rather than facilitate) work-life balance (ISTAT, 2015). Indeed, according to data from Eurostat, Italy has among the highest shares of employed women working on Sunday or Saturdays (see also Plantenga and Remery, 2009).

Other flexible work arrangements are also less commonly observed than in other countries. Indeed, only 77% of companies report providing flexible working time²⁹

arrangements to at least some employees (OECD 87%); over 70% of employee's working hours are set entirely by the company/organisation with no possibility for change (OECD 63.5%); and around 90% of employees report that they never work from home (OECD 77%).

Indeed, while in principle the law allows for flexible work arrangements, there are weak incentives for employer to adopt them. Lack of financial incentives for firms mean that actual use is often limited, especially in the private sector.

Other types of (e.g. non-financial) incentives – e.g. reputation vis-à-vis potential candidates – can encourage firms to adopt family-friendly practices – but are rarely used. One good practice in Italy is the *Welfare Index PMI* (2017), a survey conducted among SMEs in Italy which ranks firms according to the welfare practices (including flexible work arrangements) adopted at the workplace. The aim of the survey is to allow firms to communicate publicly their internal policies, and use the ratings as competitive advantage to attract candidates.

The tax system provides little incentives to spouses to work

As many stakeholders have pointed out, weak financial incentives of women (and particularly wives) can also help explain their poor labour market outcomes. The average tax wedge on second-earners is among the highest in the OECD, and it is particularly high for those second-earners with lower incomes and children. This can potentially create strong work disincentives for wives (see also Colonna and Marcassa, 2013; 2015; Rastrigina and Verashchagina, 2015; see OECD, 2016d; Thomas and O'Reilly, 2016).

Many authors have explored possible policy options to adjust the tax system in order to keep work incentives high for married women. For example, recent studies show that increasing the returns of hours worked (e.g. by lowering SSCs or introducing a small refundable tax credit) (see Marina, Romanelli, and Tasso, 2016) or introducing in-work benefits (Figari, 2011; De Luca, Rossetti, Vuri, 2012) can increase labour supply of women in Italy.

There are few job opportunities for women

Successful activation of women in the labour market will also depend on whether there are a sufficient numbers of attractive jobs in the economy, which are able to absorb the supply.

The public sector (e.g. the Public Administration and the education system) has traditionally offered women higher work flexibility and has been functioning as a sort of surrogate measure for work-family reconciliation policies (Solera and Bettio, 2013).

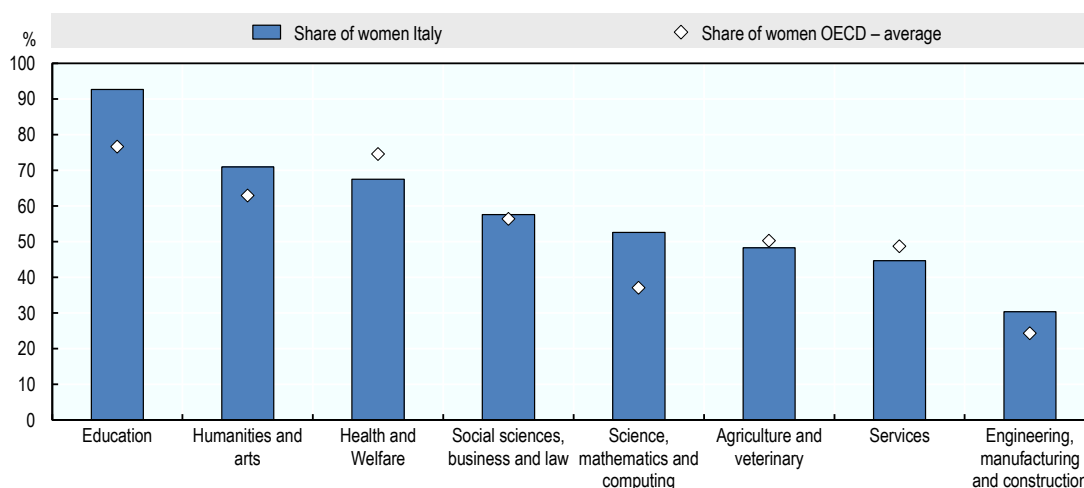
However, the recent freeze in public sector employment growth – mandated by tight government budgets – is likely hampering women's job opportunities. While it is true that recently many new teachers/staff were hired in schools within the context of the *Buona Scuola* reform (see Chapter 1), generally the share of jobs offered in the public sector is falling (it went from about 29.5% in the mid-1990s to about 8.6% in the late 2000s) (Pastore, 2015).

Another key factor related to poor female labour market performance is that women often acquire qualifications in fields-of-studies that are not demanded in the labour market. This makes it difficult for them to find a job (that matches their qualifications) after graduation (Pastore, 2012).

For example, young women are underrepresented in Vocational Education and Training tracks (e.g. ITS), which are known to lead to good labour market outcomes (see Pillar 1). Similarly, in university, women are overrepresented in degrees that are not highly demanded, such as education, humanities and art, health and welfare, or social sciences, business and law, while they are underrepresented in highly demanded degrees, e.g. STEM-related fields (Figure 25).

This tendency to choose fields-of-study that are not in high demand in the labour market may be due to misinformation as well as gender stereotypes that exist around choosing certain education tracks and jobs. Improving career guidance may help (see Chapter 9).

Figure 25. Share of women in tertiary education (new entrants), by field of study for Italy and OECD average, 2014



Source: OECD.stat (Distribution of graduates and entrants by Field).

Recognising these challenges, the government has implemented measures to boost the demand for women in the labour market. Social security contributions exemptions exist for firms hiring long-term unemployed women. In order to benefit from the subsidy, firms need to hire women who have been unemployed for more than 24 months, or 6 months if they live in disadvantaged areas or if employed in an economic sector characterised by large gender occupational gaps.

Since 2010 already, firms providing a permanent contract to parents (aged 35 of younger) of minor children are allowed to receive a lump-sum of EUR 5 000 for a maximum of 5 hiring per firm (Italian Ministry of Labour and Social Policies, 2017). These are steps in the right direction but these measures need to be carefully monitored and evaluated.

Firms can take steps too. According to the view of stakeholders, employers need to become more aware of the gender imbalances within their workforce, and identify sectors/positions where there is an underrepresentation of women. Some firms are already taking steps by collecting data on this matter and developing a set of indicators to guide the recruitment process.

Gender stereotypes in society and discrimination at workplaces are strong

Policies can only go so far in promoting gender equality in the labour market if stereotypes persist. Worryingly, men and women alike do not seem to be preoccupied about gender imbalances taking place at work and in the society at large, suggesting that a strong cultural shift is needed.

According to a survey conducted by ISTAT (2015), roughly half of the population believe that men should be providing for their family; around half think that men are less adapt to engage in domestic work than women; around one in four agree that in absence of jobs, firms should give priority to men rather than women; and – despite evidence showing women are overly involved in domestic work (see above) – division of domestic work is considered as fair by around three-quarters of people in couples.

Discrimination against women in the workplace exists, too. Until very recently, many firms sometimes resorted to the unlawful practice of asking women to sign an undated letter of resignation (“Blank resignation letters”, in Italian “*Dimissioni in Bianco*”), to be used in case of pregnancy to justify their dismissal (Rosselli, 2014; Rastrigina and Verashchagina, 2015). This practice may not only have pushed many women out of the labour force around childbirth, but also discouraged them to work (or have a child) in the first place.

A new decree was implemented in March 2016 to tackle this longstanding issue. The measure imposes online procedures for voluntary quits. The replacement of paper-based with online procedures means that the date in which the voluntary quit takes place is automatically tracked, making falsification by employers difficult.

Since the implementation of the reform, the number of voluntary quits around childbirth has decreased, while there has been a slight increase in the number of dismissals – possibly suggesting that the reform is being successful in achieving its original objectives.

Youth face significant challenges to activating their skills in the labour market

Youth struggle to make the transition from education to the world of work. They rarely have access to effective career orientation services to guide them through the vast array of possible education and career pathways. A number of them take too long to finish their studies. In many cases, especially before the introduction of mandatory traineeships for all upper-secondary students (the Good School Act), they left the education system without having gained any previous work experience or a sufficient range of skills needed on the job (e.g. cognitive and/or soft skills). The

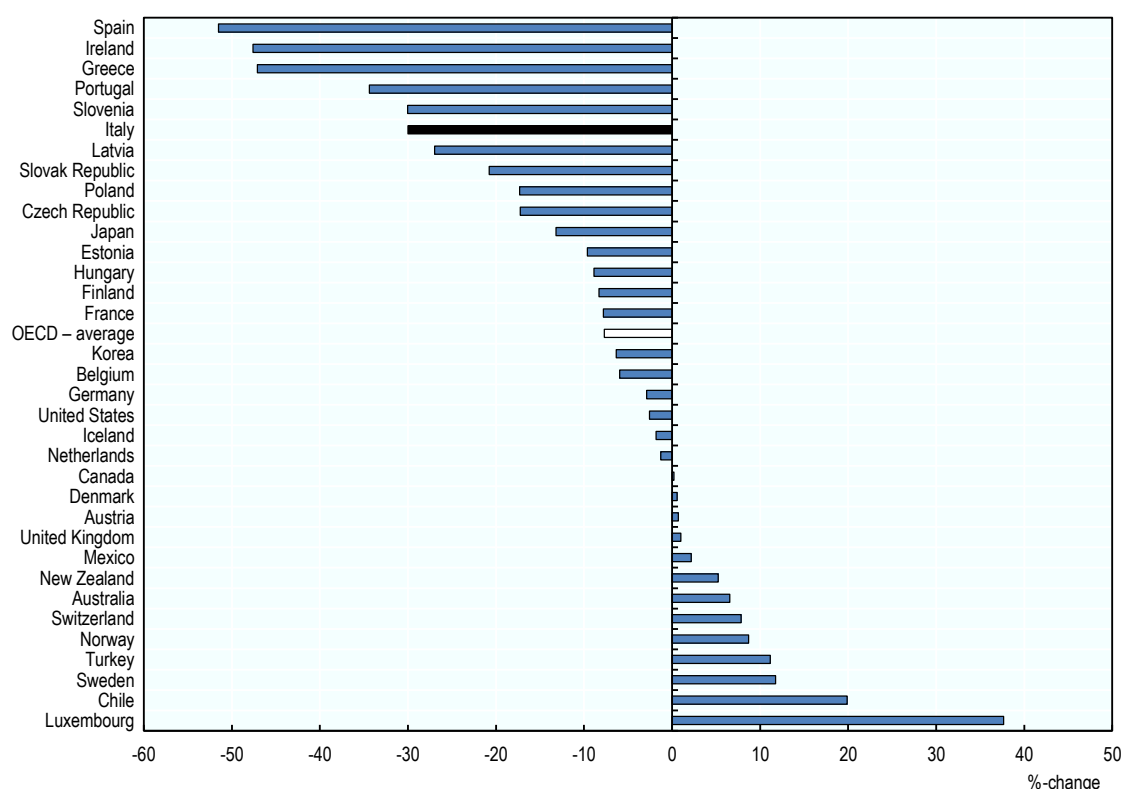
implementation of the *Alternanza Scuola Lavoro* has to be carefully monitored and, if anything, reinforced by strengthening the linkages between employers and education providers. Employment services and support exist, but many disadvantaged youth may not be aware of the opportunities available to them.

A snapshot of the situation of youth in the labour market

Young people in Italy suffered the most from job losses during the recession. Similarly to OECD countries worst hit by the crisis – such as Spain, Ireland, Greece, and Portugal – Italy saw youth employment decrease dramatically and nearly one third of all jobs held by young people were destroyed over the period 2007-2015 (Figure 26; OECD, 2016c).

Figure 26. Changes in number of jobs held by young people

Percentage change in jobs held by young people (15-29 year-olds) between 2007 and 2015



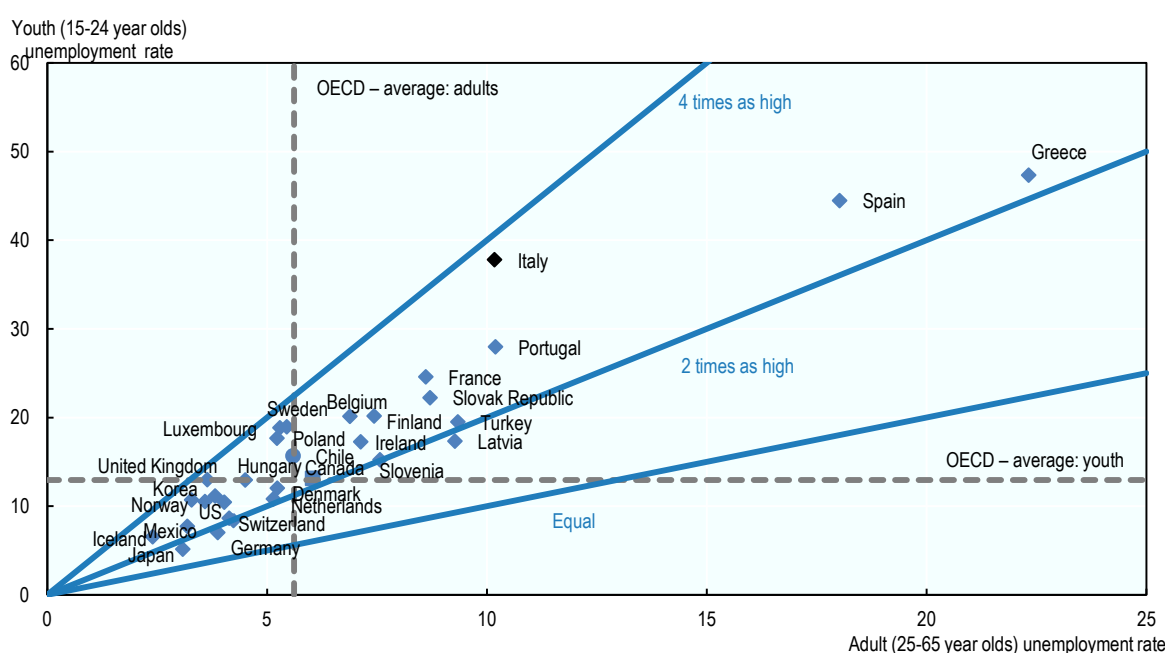
Source: OECD (2016), *Society at a Glance 2016*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933404800>.

The reason why youth were hit the most by the recession is that they were more likely to hold temporary jobs that were easy to terminate, and/or entered the labour market when firms were not hiring (see also Pastore, 2012). While this was the case in other OECD countries too, this phenomenon was particularly marked in Italy, a

country for many years characterised by a labour market model based on “flexibility at the margins”.

Today, youth face particular challenges in finding their place in the labour market compared to the rest of the population. The disadvantage of the youth compared to adults is very severe: the unemployment rate of youth (aged 15-24) is nearly 4 times as high as adult unemployment (25 years or older), while it is only twice as high in most OECD countries (Figure 27; OECD, 2016c). This suggests that youth in Italy face specific labour market barriers which need to be removed.

Figure 27. Youth unemployment compared to adult unemployment, 2016



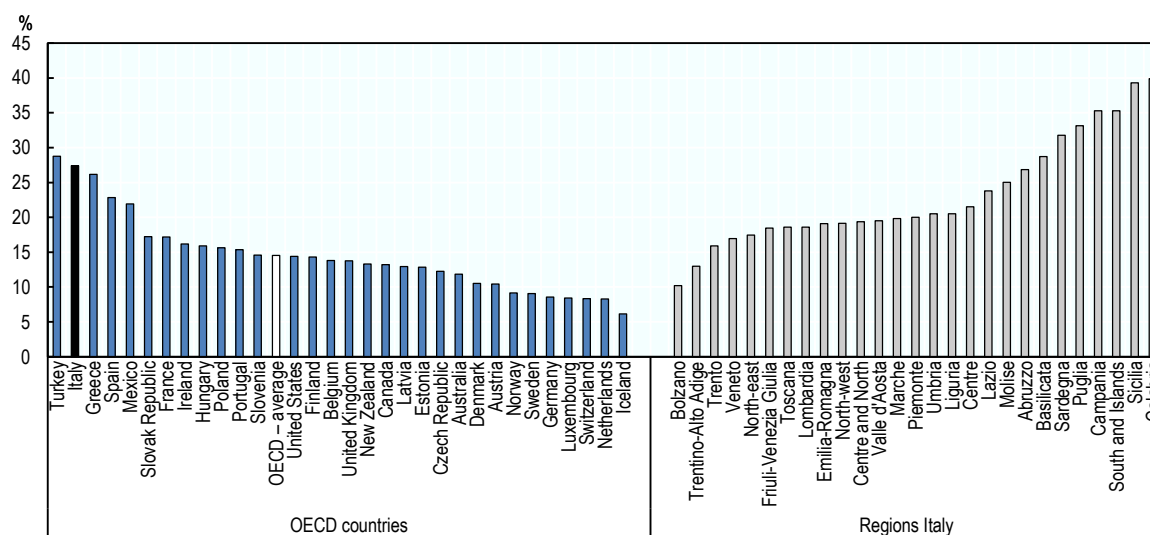
Source: OECD.Stat (Short-Term Labour Market Statistics).

Nearly one in four youth (ages 15-29) in Italy are neither in employment, education, or training – the co-called NEETs – the highest value in the OECD area preceded only by Turkey (Figure 28). National figures hide an even more worrisome picture when looking at variations among regions. For instance, NEET rates are as high as 40% in certain southern regions (e.g. Calabria; Sicilia).

Most of young NEETs in Italy have stopped actively looking for jobs, as more than half (58%) are inactive. These youth are particularly hard to reach, because they rarely register with the public employment services, and many of them are discouraged (e.g. see Eurofund, 2012).

Figure 28. Italian youth neither in employment nor in education or training (NEET)

Share of NEETs in age group 15-29 (for OECD countries) and age group 15-24 (for Italian regions), 2015

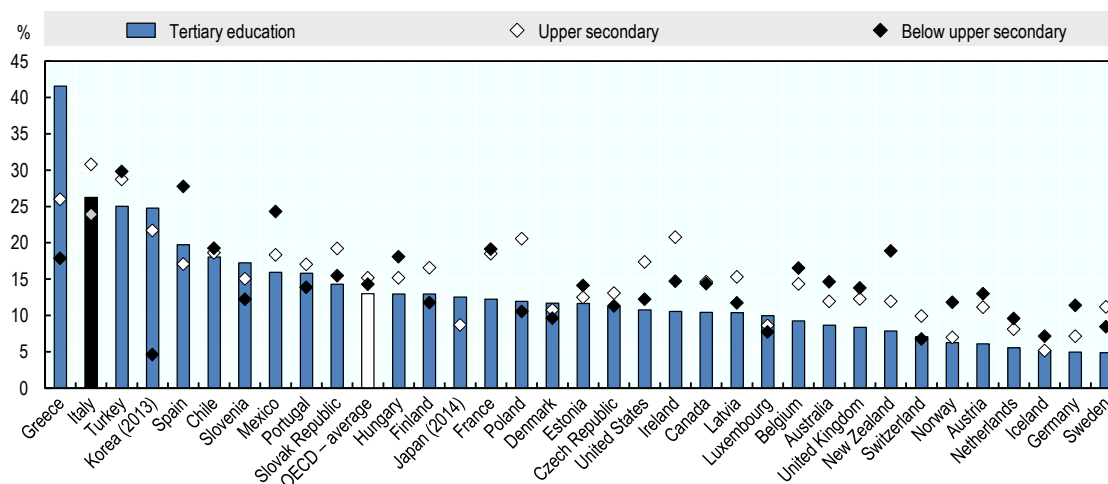


Source: OECD (2017), Youth not in employment, education or training (NEET) (indicator), <https://data.oecd.org/youthinac/youth-not-in-employment-education-or-training-neet.htm>, and Italian National Statistical Agency (ISTAT) (2017), <http://noi-italia.istat.it>.

Being highly educated in Italy does not protect – as well as it does in other countries – from the risk of becoming NEET. While, similarly to what can be observed in other OECD countries, most of the NEETs have low or medium levels of education, among those youth with high educational attainment the rate of NEETs is more than double the OECD average (Figure 29).

Figure 29. NEETs by education level

Share of NEETs in age group 15-29 for different education levels, 2015



Source: OECD (2017), Education at a Glance database: "Transition from school to work", OECD Publishing, Paris.

In Italy, unlike many other OECD countries, being NEET seems to be a rather persistent phenomenon. In fact, while being NEET for a short period of time is not necessarily negative *per se* (as it may reflect time taken to care for children, travel, or look for a well-matched job), longer stretches out of employment or education may have long-lasting effects on employment prospects.

Among those who have been NEETs in the past 4 years in Italy, over 64% remain NEET for a year or more, the highest value for OECD countries for which data is available and above the levels observed in the OECD area where on average “only” nearly half (47%) remain out of education or work for such a long period (OECD, 2016c; see also Eurofund, 2012).

School-to-work transitions are among the longest in the world. There are several ways to measure the school-to-work transition, and Italy underperforms in all of them. The time needed to get 50% of the youth population into work after school leaving is equal to 5.9 years in Italy – longer than any OECD countries and most developing countries for which data is available. Similarly, the average duration of completed transitions – another measure of school-to-work transition – is 1.7 years and higher levels are found only in Spain (1.8) across the OECD, and South Africa (2.7) across non-OECD countries for which data is available (Quintini and Martin, 2014).³⁰

Faced with lack of jobs, and weak returns to education (see Pillar 3), some (often high-skilled) youth decide to leave the country in search of better employment opportunities. What distinguishes Italy from many other OECD countries is that it has a “net brain drain” – the number of (high-skilled) young Italians leaving the country exceeds the number of (equally high-skilled) foreigners entering it –, a situation which is more typical of a developing economy (The Economist, 2011; Miguelez and Fink 2013; European Commission, 2016a).

Given this situation, it is not surprising that in 2017, the Global Talent Competitiveness Index (GTCI) - which provides an in-depth analysis of how countries are competing globally to grow, attract and retain talents –, places Italy in the 40th position worldwide, after Poland and Costa Rica and just before Hungary and Saudi Arabia.

Failing to activate youth's skills in the labour market may have consequences for youth's well-being, long-term career prospects, and fulfilment in life. Poor engagement of youth in the labour market often means hardship and difficult future prospects. It also means postponing vital steps into adulthood, such as leaving home, building relationships, or starting a family (see above). Young people in Italy risk becoming a "lost generation", as the negative effects of youth's poor initial employment prospects can persist for years.

Failing to activate youth's skills in the labour market might also translate into a waste of human capital, and may represent large losses to the economy. For instance, recent OECD estimates show that the "NEET cost", *i.e.* the gross labour income NEETs could command if they were employed, measured as the gross labour cost (including social security contributions), represents 1.4% of GDP in Italy, above most OECD countries (only preceded by Belgium, Turkey and Greece) and higher than the OECD average of 0.9% (OECD, 2016c).

Youth underrepresentation in the labour market depends on several key factors

Similarly to other population groups, youth also suffer from the demand- and supply-side labour market barriers discussed in Chapter 4. On top of these concerns, however, young people in Italy face specific challenges that further undermine their situation in the labour market vis-à-vis that of adults.

A reason for youth's poor labour market outcomes is that there is a large disconnection between the education system and the world of work. This is a point that was systematically raised by stakeholders. The separation between education providers and firms is rooted in the traditional belief that the first should be independent from the latter. The scarce development of the VET system (see Pillar 1) – which typically has closer connections to the world of work – further amplifies this disconnection.

Schools and universities have generally favoured traditional teaching over innovation (see also OECD, 2014). To contrast these traditional and theoretical teaching methods, with very little attention paid to the development of skills that are truly demanded in the labour market the good School Act made provision for the National Plan for Digital Education targeting all teachers and students and is in the process of implementation (see Challenge 1)

To name just one example – often reported by stakeholders –, schools and universities often fail to teach soft skills (e.g. team-working, punctuality, and flexibility), which are very much demanded by firms.

For example, elaborations of PIAAC data show that Italian employees have poor organisation skills. Firms find it hard to find youth with soft skills that are needed to

promote firms' growth and innovation. *Fondazione Agnelli* conducted a survey which shows that employers and heads of human resources look for soft skills in their candidates, skills that Italian graduates largely lack (see Villosio, 2011; Mangano, 2014).

Poor linkages between education and work also mean that youth rarely receive adequate career orientation services. Elaborations of PISA data show that only 35.8% of 15-year-olds in Italy access career advisor inside school, which is low compared to OECD countries such as Denmark or Finland where 80-90% of youth do so (OECD, 2016c) (see Chapter 9) and even those students who are lucky enough to receive career guidance and counselling do not seem to be systematically satisfied with the services received (Almadiploma, 2016).

Lacking solid career advice from teachers/counsellors, students seek out for advice from families. But while family's advice is certainly important, it can be misleading if not accompanied by guidance from more informed and objective observers. Under the current situation, youth's skills decisions are very much dependent on family's background and networks, rather than being based on students' real skills, merit (OECD, 2017b), preferences, or real labour market needs – a situation which may lead youth to make poor decisions and affect youth's labour market performance in the longer-term (see Chapter 9).

Most students leave the education system and only then start looking for a job. In Italy, only one in twenty students combine work and study, compared to more than one in two in countries such as Iceland, Switzerland and the Netherlands (OECD, 2016c). As a result, many youth leave the education system and enter the labour market without any previous work experience – which in turn may increase school-to-work transition periods and result in poor youth's labour market performance.

Providing pathways to combine work and study at all levels of education (*i.e.* upper- and post-secondary/tertiary) will be crucial, especially in light of research pointing out that (i) in Italy work experience is, according to hiring managers, among the most valued attributes of candidate profiles (Villosio, 2011), and (ii) graduates who work besides studies need much less time to find a job (Almalaurea, 2016).

Another key challenge for youth's poor labour outcomes is the excessive duration of university studies (see Pillar 1), which can translate into a delayed entrance in the labour market. This point was systematically underlined by stakeholders. Way too many students (around half of all undergraduate students) drop-out of university. Of those university students who eventually manage to obtain a degree, many fail to finish their degree courses in the prescribed time – the so-called *fuoricorso*. Indeed, around 40% of graduates get their degree with a delay of between 1 and 10 years (Pastore, 2015); and on average the time needed to complete tertiary programmes is almost twice as long as the theoretical time required (ANVUR, 2016).

Another aspect related to youth's poor labour market performance is that young people often live with their parents (Figure 30). While this may help relieve youth of possible financial constraints, it may also have the drawback of relieving them from the need to work.

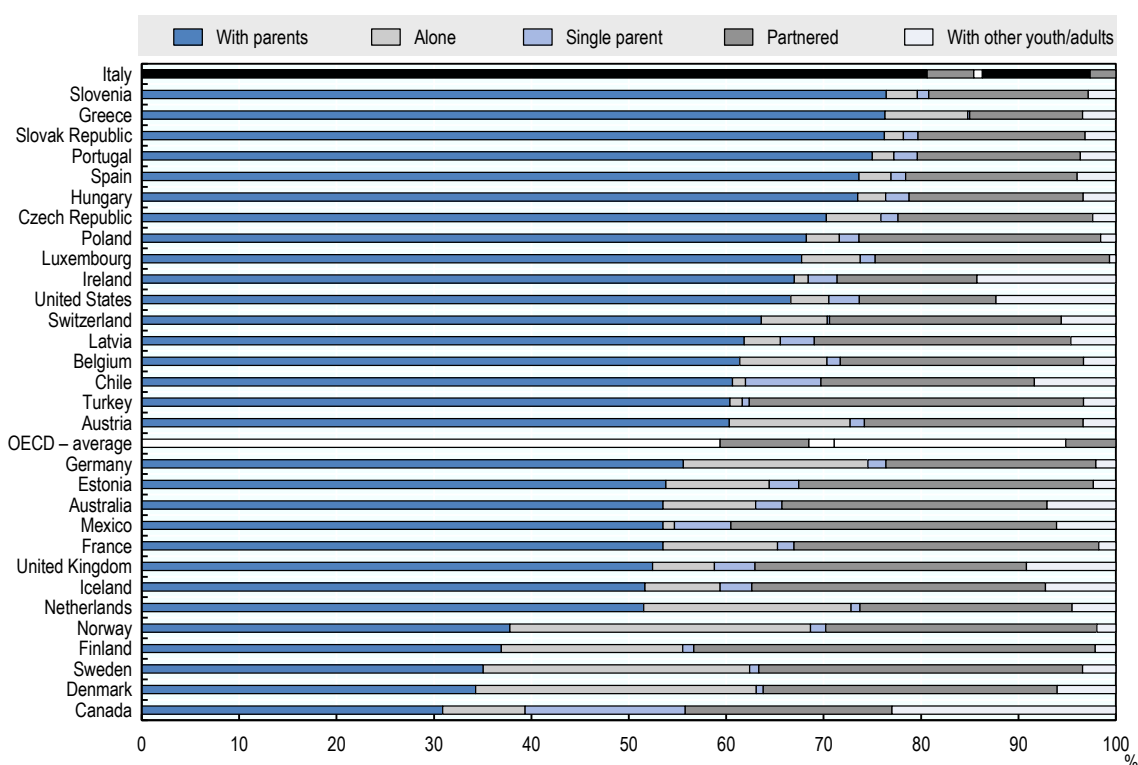
OECD (2016c) shows that in Italy over 80% of young Italians (ages 15-29) live with their parents, by far the highest share in the OECD area and well above countries

such as Canada, Denmark and Sweden where most (i.e. three-quarters of) youth live independently (e.g. alone; with partners and/or children; or with other youth/adults).

Most youth in Italy live with their parents arguably because job mobility across the territory is low (see Chapter 4) and youth often do not have the financial means to live independently. This is not surprising after all, considered that (as discussed above): (i) many youth are NEETs (often for long periods of time); (ii) those youth who enrol in university take long time to complete their studies; (iii) young people often do not qualify for unemployment benefits because they have no previous, or patchy, employment histories (see OECD, 2016c); (iv) even those youth who do work, generally earn low (entry-)wages (see Pillar 3).

Figure 30. Composition of household types among youth

Share for 15-29 year-olds, 2014



Source: OECD (2016), Society at a Glance 2016, OECD Publishing, Paris,
<http://dx.doi.org/10.1787/888933405203>.

Another key challenge is that young people who are most disengaged from the labour market may be particularly hard to be reached out to. Many disadvantaged youth (e.g. NEETs) are not aware of the opportunities offered by the Youth Guarantee (see below), or through other ALMPs, and private employment agencies – a point which was also raised by stakeholders.

But successful activation of youth's skills in the labour market will also partly depend upon the creation of a sufficient number of jobs. Fostering a favourable business environment will be crucial to promote employment opportunities, including for younger generations (see Chapter 4 and 6).

This will be particularly important considered that the public sector, which has for many years represented a valuable career path for medium- and high-skilled youth, has ceased to serve this function. Indeed, to contain public debt, the public sector has blocked new hires over the past two decades (see above). According to many observers, this has and still is limiting young peoples' job opportunities – especially when compared to previous generations (see also ISTAT, 2016).³¹

Reforms to improve youth activation are going in the right direction

One of the main policies implemented in Italy to help youth gain a foothold in the labour market is the EU Youth Guarantee (YG). It aims to offer youth (ages 15-29) - within four months after leaving school or being laid off - a range of activities that facilitate school-to-work transitions.

The impact of the YG on tackling youth unemployment has been positively evaluated. For instance, nearly two-thirds of those leaving the scheme in 2015 were known to be in employment, education or training 6 months afterwards, which is a positive achievement even compared to other European countries (European Commission, 2016b).

Apart from its positive implications on the labour market outcomes of participants, the YG has also the merit to have improved co-operation among regions, thanks to the establishment of an *ad hoc* Committee whereby regions meet on a regular basis, discuss, and agree on common ALMPs. The successful example of inter-regional ion provided by the YG could be extended to other areas of work, such as the implementation of the ANPAL (see Chapter 4), or the progressive integration of Regional Qualification Frameworks (*Quadri Regionali di Standard Professionali*) (see Chapter 4).

While the YG has been appraised to be successful overall – including by stakeholders, its full implementation remains a challenge. While the number of young people registered has increased, the number of offers remains limited: (slightly more than) one third of youth registered actually receive an offer. This suggests that engagement on the part of firms needs to be strengthened.

Another key challenge is that regional differences persist in the delivery, and information on the quality and quantity of offers provided at the local level is often lacking – a view also supported by several stakeholders.

Lack of (financial and human) resources in PESs may also hamper a homogeneous and successful delivery (see Chapter 4). Non-registered young NEET still lack sufficient information to participate to the programme, which calls for the need for a proactive outreach strategy. In this context, the work of Youth Workers (*animatori giovanili*) who can reach out to marginalised youth and involve them in the training and employment pathways proposed by the Youth Guarantee, is crucial.

Finally, some observers call for aggregate demand policy as an important pre-condition for the YG to be successful. Without necessary demand-side policies to boost job opportunities for youth, the YG alone may be ineffective to contrast youth unemployment as it does not – per se – create new jobs (see Pastore 2015; European Commission, 2016b).

Measures to boost the demand for youth in the labour market are currently being implemented. Starting from 2017, capped exonerations to employers' social security contributions are granted to firms hiring youth: (i) participating in the YG programme; (ii) living in Southern regions³²; (iii) apprentices; or (iv) who conducted ASL in the same firm, within 6 months after graduation. The generosity of the subsidy depends on the programme as well as the type and length of contract provided (Italian Ministry of Labour and Social Policies, 2017). These measures are expected to provide incentives to firms to hire youth.

On top of these measures, other – sometimes less systematic – initiatives have also been undertaken to give young people better chances in the labour market. One good practice example, highlighted by stakeholders, is the initiative undertaken by *Formatemp* in partnership with public employment services and employment agencies in Piemonte and Lombardia regions.

The initiative has targeted 500 disadvantaged youth, and has seen different actors working together: (i) public employment services, which provided career orientation and guidance services, (ii) *Formatemp*, which supplied training opportunities; and (iii) employment agencies, which ensured placement in the job market. However, the programme was interrupted after funds were terminated. This suggests that, although successful, these programmes often remain too dependent upon the initiative of local actors and availability of resources.

Funding is being allocated to innovative projects which aim to assist youth to transit to the world of work. The *Presidenza del Consiglio dei Ministri* (PCM), for example, has recently promoted an initiative “Sostegno ai Giovani Talenti” which aims to finance projects that support talent and creativity of young people (ages 18-35), with a view to value their experiences and expertise in the field of technological innovation.³³ Similarly, another initiative “Avviso e Placement Giovani Talenti” – also promoted by the PCM – aims to finance projects that provide career guidance and orientation services to youth (see Chapter 9). However, it will take time to fully implement these initiatives and the outcomes of such measures need to be carefully evaluated to ensure that funding is being allocated wisely.

Another step in the right direction is the compulsory work-based learning (*Alternanza Scuola Lavoro*, hereafter ASL) (see Chapter 1) which is expected to bring skills taught in schools closer to labour market' needs. Moreover, according to some stakeholders, by exposing students to workplaces, the reform could also have a very important “career guidance” function for students. At the same time, much of the success of the ASL reform will depend on its implementation, which according to many stakeholders is proving challenging (see Chapter 1).

Efforts are being stepped up to enhance the offer of tertiary Vocational Education and Training pathways. The recent development of *Istituti Tecnici Superiori* (ITS) – is a good step towards increasing links between the education system and the

world of work and a good start to fill the gap in provision of tertiary VET tracks. While successful – however – at the time of writing ITSs remain too small and need to be scaled-up (see Pillar 1 for a discussion).

Finally, measures have also been implemented to encourage (skilled) emigrants to return in Italy. In 2010 the legislative decree 78/2010 stipulated a two year reduction of 90% on income tax for Italian researchers living and working abroad and returning to work in Italy – for a maximum period of 5 years. Discussions are ongoing on whether the fiscal incentive should be extended indefinitely to all researchers wishing to move back to Italy (see Pillar 3; OECD, 2017b). This policy is a good step but needs to be accompanied by measures that boost demand and reward skills adequately (see Pillar 4).

Recommended areas for action

Women:

- Encourage fathers take more child-related leave. Possible measures include increasing the generosity of paternity leave days.
- Encourage the use of flexible work arrangements at the workplace to help parents balance work and family life. Strengthen both financial and non-financial incentives to firms to provide flexible work options to their employees.
- Secure availability of and access to affordable early childhood education and care as well as affordable long-term care for elderly relatives. Continue developing additional facilities so as to release families – and particularly women – from the burden of care.
- Adjust the tax system on second-earners to enhance spouses' financial incentives to work. This would ensure that both parents have broadly similar financial incentives to work.
- Raise awareness of gender stereotypes, and promote a cultural shift whereby men and women are provided equal employment opportunities and share unpaid domestic work more equally.

Youth:

- Provide better and more systematic career guidance services for youth at all levels of education. This would reduce the role played by family background on youth's education and career choices. It would also ensure that students take informed decisions which are aligned with their interests, preferences, merit, and real labour market needs.
- Ensure that skills taught in the education system are aligned with skills demanded in the labour market. Design a comprehensive policy intervention to boost the demand for high-skilled workers so as to fully exploit the existing skill supply and to generate incentives to increase it further.

- Provide pathways to combine work and study at all levels of education – not only at upper-secondary (as is being done with the *Alternanza Scuola Lavoro*) – but also at post-secondary/tertiary levels.
- Scale-up the implementation of the Youth Guarantee. In particular, special attention should be paid to engage firms more systematically in the process, reach out to NEETs more proactively, align the quality of offers across regions, and allocate more (financial and human) resources to ensure an adequate service delivery.

NOTES

²⁶ Ages 18-74.

²⁷ Parental leave is defined as employment-protected leave of absence for employed parents, which is supplementary to specific maternity and paternity leave periods (see OECD, 2016a).

²⁸ This ranges from than 12% in Lombardia to more than 40% in Sicilia (Figari and Narazani, 2015).

²⁹ e.g Possibility to accumulate hours for days off (full or half days) and to vary the start and end of daily work; Possibility to accumulate hours for days off (full or half days) but not to vary the start and end of daily work; Possibility to vary the start and end of daily work, but no accumulation of hours for days off.

³⁰ This is a measure of the length of school-to-work transitions which takes into account only completed transitions – i.e. it excludes those young people who do not successful transition to work before they turn 29.

³¹ Some observers claim that the recent reform of the pension system – which has increased the pensionable age by six years – may also further undermine employment opportunities for youth. The logic behind this argument is that there is a fixed number of jobs to go around and older workers are taking jobs from younger workers. As a consequence, if older workers' withdrawal from the labour market is delayed (e.g through increases in retirement age), by extension so is youth's labour market entrance. However, this is a mistaken belief which is generally referred to as "lump of labour fallacy" (OECD, 2013). In Italy, as in other countries, older workers are not automatically replaceable by young workers, and therefore the labour market exit of the first does not necessarily translate into more employment opportunities for the latter (ISTAT, 2016; Brugiavini and Peracchi, 2010).

³² Basilicata, Campania, Puglia, Sicilia. Calabria, Abruzzo, Molise, Sardegna.

33 <http://www.gioventuserviziocivilenazionale.gov.it/sx/avvisi-e-bandi/avvisi-e-bandi-dipartimentali/politiche-giovanili/avvisogiovanitalenti.aspx>.

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CHALLENGE 6: MAKING BETTER USE OF SKILLS IN THE WORKPLACE

Key messages

- Higher levels of skills will only bring about growth and prosperity if firms demand and make effective use of these skills. Italy is the only G7 country with a higher share of tertiary-educated workers in routine occupations (tasks that can be accomplished following a set of specific and well-defined rules) than in non-routine ones (tasks that entail performing more complicated activities, such as creative problem solving and decision making). This is a reflection of the low demand for higher levels of skills in Italy.
- Family-owned businesses account for more than 85% of the total number of firms and about 70% of employment. However, managers of family-owned firms often lack the key skills needed to manage and operate firms to succeed in the context of increasing globalisation and technological change.
- Low levels of participation in training and low adoption rates of High-Performance Workplace Practices (HPWP) are problems found across firms of all sizes in Italy that limit the capacity of firms to innovate and grow.
- In most jobs wage progression is determined mainly by seniority rather than by each worker's performance on the job or productivity. This may be a disincentive for workers to fully use their skills and to upskill.
- The government has recently introduced a set of ambitious structural measures aimed at igniting a radical shift in the Italian economy towards the generation and use of new and high value-added technologies. This set of reforms, known as the Industry 4.0 National Plan (Industria 4.0), can play a pivotal role in boosting sluggish Italian skill demand by helping (especially) smaller firms to become more innovative, move closer to the world technology frontier and to become more active on international markets. The successful implementation of Industry 4.0 will depend on the capacity of these technological hubs to engage firms as well as the capacity to generate complementarities with other public and private investment programmes that support skills.

Introduction and stakeholder perspectives

Italy is trapped in a low skill equilibrium – a situation in which a majority of firms have low-skilled managers and workers generating low levels of productivity and producing less complex and lower quality goods and services. The low levels of skills of manager and workers depends on both the low demand for skills expand on the low investment to promote skills in their jobs. This may be exacerbated by the way work is designed and organised, and firms are managed. In Italy, family-owned business account for more than 85% of all firms and about 70% of employment. But managers of family-owned businesses often lack the skills needed to face the challenges of globalisation and technology. Italy is the only G7 country with a higher share of tertiary-educated workers in routine occupations than in non-routine ones. Furthermore, in most jobs wage progression is determined mainly by seniority rather than by each worker's performance or productivity, which may be a disincentive for workers to use their skills more fully and intensively at work.

Stakeholder perspective about skills use was broad and sometimes encompassed different positions. For instance, while everyone agreed about the presence of a low-productivity trap, it was not easy to find a shared narrative about the causes of this situation. Also when recognising that managerial skills are scarce and family-owned small firms are a drag on national productivity and skills matching, stakeholders considered that SMEs are flexible and potentially efficient when embedded in networks. In general, stakeholders agreed on the fact that there is need for a new managerial paradigm to be adopted by firms of all size to improve skills use in Italy. All stakeholders see *Industry 4.0* as a good opportunity to improve the demand for highly-skilled workers by firms. This common vision should be considered as a positive factor which is likely to positively affect the ongoing implementation of the policy.

Stakeholder perspectives

- Stakeholders often mentioned the low-skills equilibrium as a key over-arching challenge for Italy. They saw the need for a holistic national strategy to promote skills made of targeted policy actions aimed to boost both demand and supply.
- According to many stakeholders, Italian firms invest very little in the upskilling of their workforce and there are few opportunities for low-skilled workers – those who need upskilling the most – to benefit from formal and on-the job training. Also, most firms lack formal systems to reward training undertaken by their employees.
- Stakeholders agree that managerial skills are low in many Italian firms. The productive sector is home to an army of family-owned small businesses which often do not demand, or use, skills effectively.
- Limited use of training and of human capital-enhancing practices is not a problem only in small businesses, but also in large firms: Italy ranks very low in terms of share of jobs with High-Performance Workplace Practices (HPWP) across all firm sizes. In this context, the Government's Industry 4.0 initiative is generally considered as a good opportunity to boost firms' demand for skills.

Trapped in a low-skill equilibrium?

In Italy, the overall capacity to use skills in the workplace is negatively shaped by both supply and demand factors. Italy is trapped in a “low skill equilibrium” – an impasse generally characterised by a majority of firms featuring poorly trained managers and workers and exhibiting low productivity and/or producing low specification (or quality) goods and services. This vicious circle involves, on the one hand, poor productivity being determined by, among other factors, the low skills of the workforce. On the other hand, the skills of managers and workers are generally poor because existing product specifications and market strategies do not require high levels of skills, and because of the way in which work is organised, jobs are designed and companies are managed. Low wages may further reinforce these mechanisms, as they may contribute to lower consumer demand for more highly specified (final) products and services and reduce incentives of workers to train and improve their skills.

Italian workers have generally low levels of skills but they can learn fast

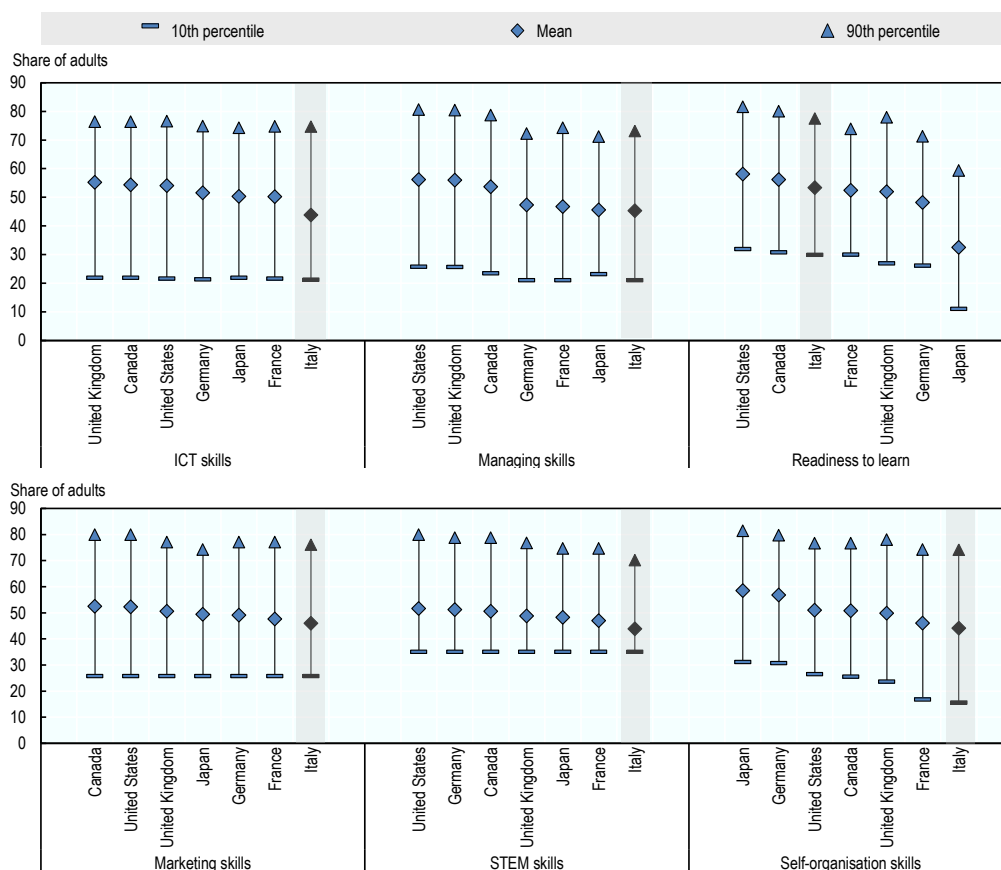
Indicators based on PIAAC data suggest that Italian workers display generally low levels of cognitive skills and are deficient in the cognitive and non-cognitive skills that matter for performance on the job and for firm performance (Grundke et al., forthcoming). Among G7 countries, Italy displays the lowest average levels of *ICT*, *Managing and Communication*, *Self-Organisation*, *Marketing and Accounting*, and *STEM-quantitative* skills (see Figure 31).

A comparison between average skills values, and the values observed at the bottom of the skills distribution (at the 10th percentile, i.e. the least skilled workers) and at the top of it (at the 90th percentile, i.e. the most skilled workers) nevertheless suggests heterogeneity to drive results. While Italian workers at the top of the distribution actually display task-based skill endowments at par with the most skilled workers of the other G7 countries, especially in terms of *ICT* and *Marketing and Accounting* skills, this is not true for *Self-Organisation* and *STEM-quantitative* skills. Looking at the lower end of the skills endowment distribution further shows that while in terms of *ICT*, *Marketing and Accounting* and *STEM-quantitative* skills all G7 countries exhibit almost identical endowments, *Self-Organisation* and *Managing and Communication* skills constitute the “Achilles’ heel” of the Italian workforce.

Italian workers nevertheless display relatively very good *Readiness to Learn and Creative Problem Solving*, across all points of the distribution. This widespread endowment of such a personality trait suggests that important payoffs, in terms of skills that matter for performance on the job and for firm performance, may be obtained by means of more co-ordinated and targeted workforce training.

Figure 31. Task-based skills and personality traits

Mean, 10th and 90th percentile, share of adults, G7-countries, average 2011-2012



Source: OECD elaboration based on Grundke et al. (forthcoming).

Investment in knowledge-based capital (KBC) is low, at both micro and macro levels

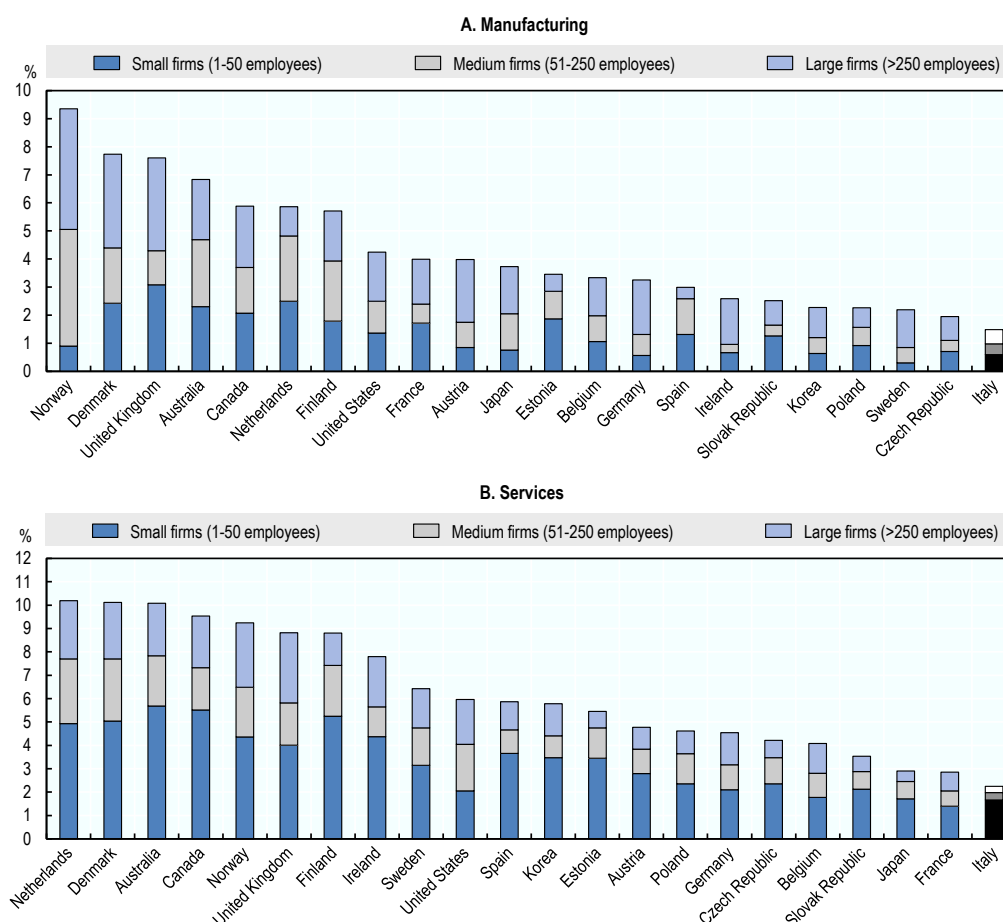
Invest in training to make better use of human potential

Italy displays a low level of investment in training which coupled with the small size, low productivity and limited diversification of many Italian firms, represents a major challenge for the Italian skill system. This situation is also likely contributing to a weak demand for skills in most sectors while creating shortages in others. Evidence shows that, in Italy, firms in both manufacturing and services industries invest very little in the upskilling of their workforce. In addition, workers in small firms have very different chances of being trained, depending on whether their firm is in manufacturing or services industries. This is especially true in manufacturing, in which only workers in medium or big firms will receive some training (see figure 32). This is to some extent explained by the fact that the opportunity cost of training is higher the smaller the firm. For example, one week of training of a worker employed in a 5

person firm entails that the firm will have to run at around 80% of its capacity for a week, while the worker gets trained (instead of working). This proportion gets much lower in the case of medium or big firms.

Figure 32. Investment in firm-based training, by industry and firm size

Investment as a share of value added in manufacturing and services, by firm size, 2011-2012

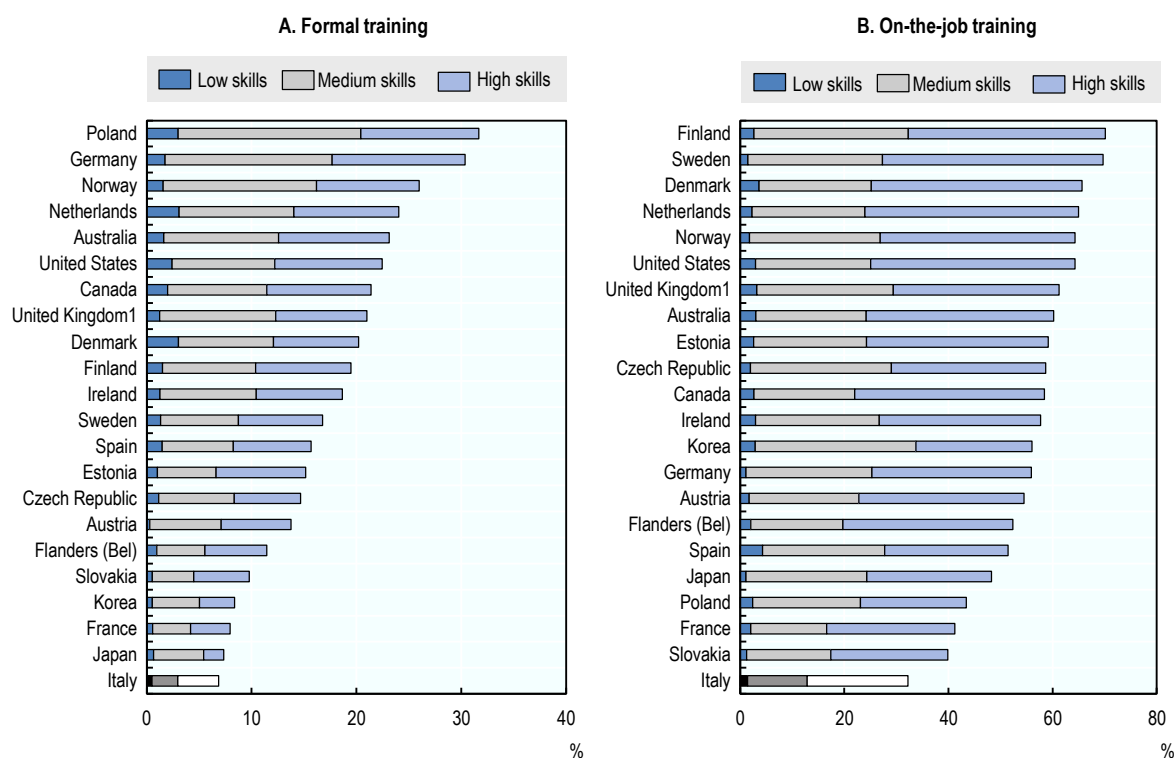


Source: OECD (2015), OECD Science, Technology and Industry Scoreboard 2015, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933273724>.

In addition to the overall low incidence of training, in Italy it is mainly high skilled workers, and to a lesser extent medium skilled employees, who benefit from both formal and on-the job training (see Figure 33).³⁴ This contributes to reinforce inequalities, not only in terms of skills endowment but also of job quality, (re)employability and career paths. This in turn may contribute to lock the country in a low skills equilibrium, as discussed above.

Figure 33. Incidence of training by type of training and skill level

As a share of total employment, PIAAC 1st wave countries, average 2011-2012



1) Only covers England and Northern Ireland.

Source: OECD elaboration based on Squicciarini et al. (2015).

Stakeholders participating in Skills Strategy workshops and meetings flagged also organisational issues in the training system. For instance, workers find it difficult to access training as information about training possibilities and options is scattered, and there is no “one stop shop” offering prospective suppliers and users an entry point into the many training possibilities that nevertheless exist (see challenge 8 and 9).

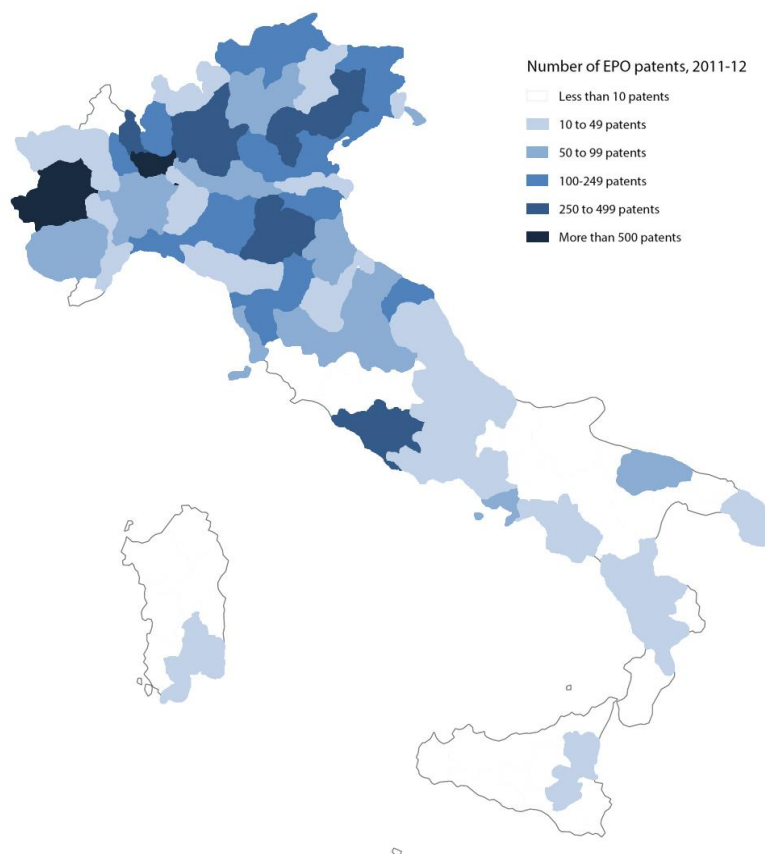
The absence of a strong system for the recognition and validation of skills (with the exception of the CPIA makes it difficult for firms to assess and use effectively the skills of their workers. Low recognition of skills endowment (especially of skills not inferable from the education certificates that workers may possess) hinders the possibility for firms to choose the candidate(s) that best suit their needs; and makes it difficult for workers to signal their actual skills endowment to current and/or prospect employers. In addition, it contributes to increase mismatch on the labour market and reduces incentives on both sides, i.e. both demand and supply, to invest in training and, more generally, in raising their skills endowment.

Improve co-ordination to gain allocative efficiency, including in the South of the country

All these efforts on the “supply-side” of skills systems should be linked to a policy affecting the “demand-side”. Policy reforms in Italy should focus on improving the efficiency of its reallocation mechanisms, to help small firms overcome their “Peter Pan syndrome” (Serio, 2017³⁵). As already noted, not only is the share of small firms very high in Italy, and much higher than in the United States and other OECD countries (Criscuolo et al., 2014), but Italy has not been very successful at channelling scarce resources, including skills, to the most productive firms (Andrews and Cingano, 2014; Andrews et al., 2014). Within this context, the effective implementation of *Industry 4.0* will be of a paramount importance. In particular, this will require improved co-ordination among different policies and public investment to generate a cumulative effect of that shifts the Italian productive system towards the use of new and high value-added knowledge and technologies and, as a consequence, positively affects their demand for skills and their capacity to use skills more effectively.

Co-ordinated efforts among all levels of government and stakeholders involved, from both supply and demand-side, appear much needed in a country that is aiming to achieve greater labour market flexibility. This flexibility is aimed at facilitating greater allocative efficiency in areas where there are important economic opportunities, including high-skilled activities such as those leading to innovation (see Figure 34). Better co-ordination is also necessary to avoid a situation in which those territories that represent a sort of reservoir of skills, and which are characterised by a constant out-flow of their human capital, start “drifting away” from the national economy and become unable to generate skills that can match the needs of employers located in economically more developed regions. Over the long term, this dynamic may negatively affect the overall amount of human capital and skills available in the country.

Figure 34. Number of patent applications filed at the European Patent Office (EPO)
Territorial Level 3 (Province), 2011-2012



Source: OECD (2017), STI Micro-data Lab: Intellectual Property Database, <http://oe.cd/ipstats>.

The need for co-ordinated policies leveraging on both skill demand and supply, i.e. on both firms and workers, is supported not only by economic theory but also by empirical evidence. Burdett and Smith (2002³⁶) show that a low skills trap, whereby workers having poor skills, few job opportunities and low returns on training, happens when rent sharing diminishes workers' incentive to acquire skills. However, since firms also benefit from training, and rent sharing induces job creation, the subsequent improved matching prospects may offset the initial disincentive to invest. The authors however underline that, for such a mechanism to be effective, firms and workers must co-ordinate their actions, as otherwise the trap occurs.

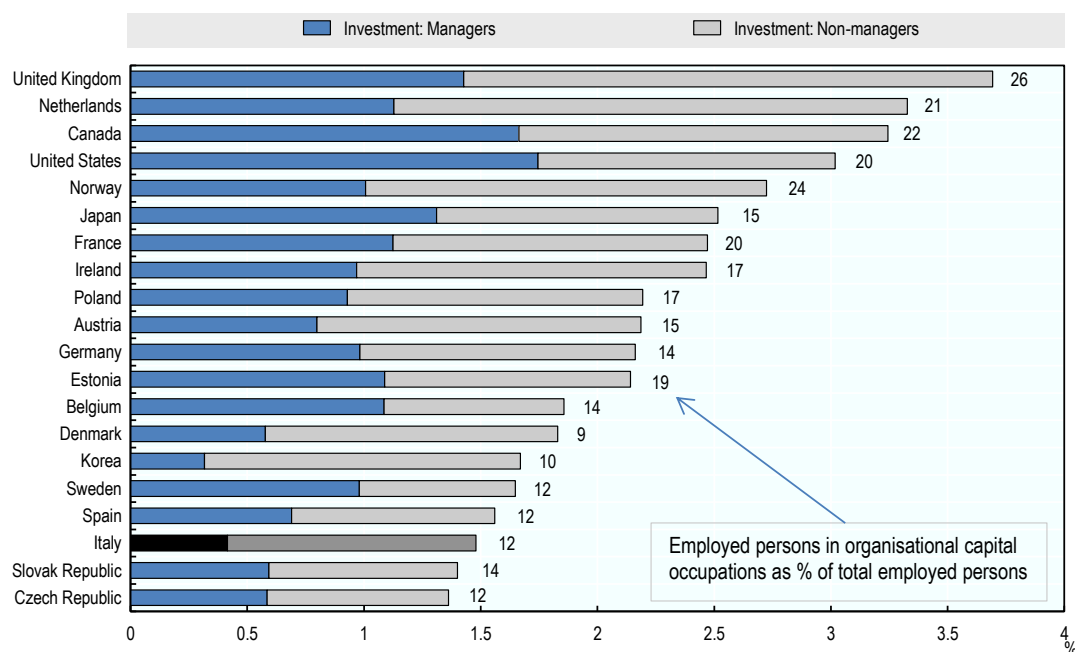
Increase organisational capital and improve management practices

Italian companies do not invest enough in their organisational capital, i.e. workers performing tasks that shape the long-term functioning of firms, such as developing objectives and strategies; organising, planning and supervising production; and managing human resources (see Figure 35). This limits their capacity to develop a repository of higher quality managerial and organisational skills, which allow

companies to better leverage the potential of their human resource and achieve better results.

Figure 35. Employment and investment in organisational capital

As a share of total value added, by investment in management or non-management, 2011-2012

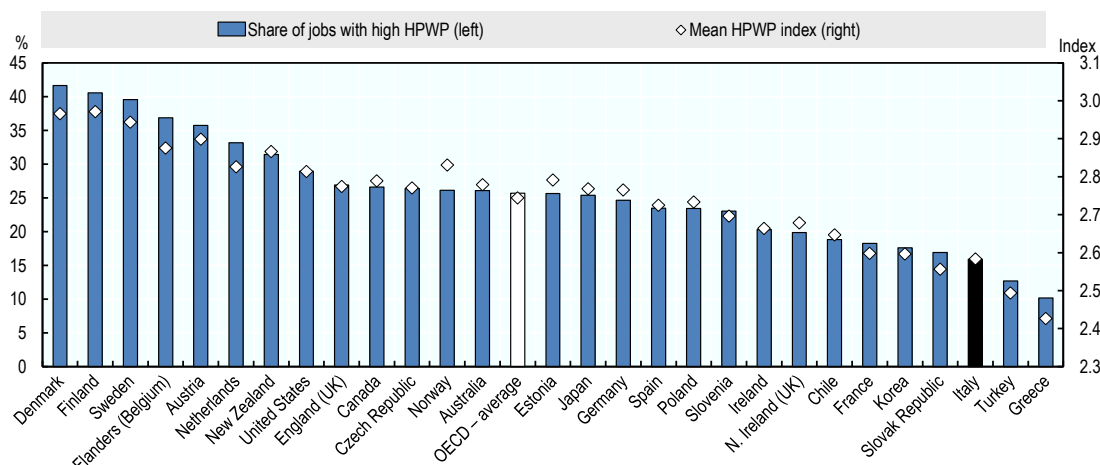


Source: OECD (2015), OECD Science, Technology and Industry Scoreboard 2015, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933273688>.

Low investment in managerial capabilities and weak management practices are a longstanding issue in Italy. Recent OECD analysis (Figure 36) shows that Italy ranks very low in the share of jobs benefitting from (HPWP).³⁷ The use of flexible hours or of training in Italian firms is especially low by international standards and many workers end up in jobs where their skills are not used or developed effectively. While larger firms are more likely to adopt HPWP than smaller ones, the adoption of high-performance work organisation practices remains low in international comparison across firms of all sizes. Likewise, management practices are – on average – related to the size of the firm and tend to be lower in small firms.³⁸

Figure 36. High-Performance Work Practices (HPWP) across countries

Share of jobs with high HPWP (summary HPWP is above the top 25th percentile of the pooled distribution) and mean HPWP score (average value, across jobs, of the HPWP index), all factors, 2012, 2015



Source: OECD (2016), OECD Employment Outlook 2016, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933384612>.

Investing more in organisational capital and relying to a greater extent on HPWP is important for a country like Italy where there are almost 800 000 family-run businesses. These account for more than 85% of the total number of business and for about 70% of employment. While these numbers are seemingly in line with other European countries, differently from their European counterparts, Italian family-owned businesses are also run in a family-based manner. Data from AIDAF³⁹, the Family Business Network, show that 66% of Italian family-owned businesses are fully managed by family members, while this applies to only 26% of French family businesses and just 10% in the UK.

This feature of many Italian firms may contribute to weakening the performance of the skills system. Empirical evidence (see, e.g. Bandiera, Prat and Sadun, 2013) shows that firms' management structure affects the performance of firms and that family CEOs are detrimental to performance. Often, Italian family managers lack the key skills needed to face the challenges prompted by globalisation and internationalisation. This may contribute to explaining why many Italian firms remain small and concentrated in traditional sectors, and eventually make use of low skills and produce (with notable exceptions) low value-added goods. In fact globalisation, along with the pace of technical innovation, have been a source of increasing complexity which may have contributed to reduce the effectiveness and efficiency of traditional industrial models – such as the industrial districts – which have characterised the Italian economy over the past 40 years.

Box 9. Ways to identify skill needs and support managerial activity

Identifying the skill needs of a firm and the training programmes that may address such needs is one of the main challenges that Italian managers face. Managers, especially those in small firms, often struggle to identify their firms' specific skill needs. Also, while some tools exist to re-train and upskill managers (e.g. Formazienda), their use is still limited.

Against this backdrop, Assolombarda (the employers' organisation in the Lombardia region) in collaboration with ECOLE (Enti Confindustriali per l'Education) recently implemented the pilot programme T.I.M.E (Training Innovation Management Experience). This programme, targeted to SMEs, provided personalised counselling services to SMEs' managers to guide them through the steps that are needed to effectively identify their skill needs and to plan adequate 'skill development programmes'. The approach is based on the construction of a 'skills needs grid' where different types of skills and qualifications are inputted based on the observation of the average skill needs of similar firms, sectors and industries. SMEs participating to T.I.M.E use this generic grid/list to identify their specific needs (and discard others that do not apply to their specific case). Once skill needs are identified, tailored training and upskilling programmes for their workforce are developed.

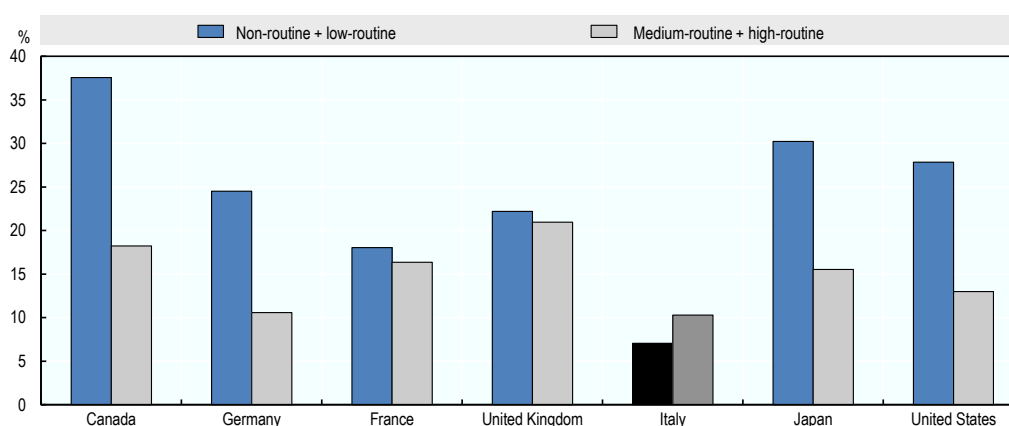
Advocates of this approach see the possibility to scale it up at the national and international level to design a more comprehensive skills needs grid that may help firms to express their skill needs. Also, it is argued that this tool could be of use to policy makers, to monitor skill demands and thus support the design and implementation of targeted policy interventions. To this end, though, a clear separation between training providers and bodies assessing skill needs should be devised, to avoid potential conflicts of interest.

Source: OECD (2017)

Low levels of organisational capital, management characteristics and low reliance on HPWP may all contribute to explaining why in Italy a comparatively large proportion of tertiary-educated employees is employed in routine-type of jobs, i.e. workers performing tasks which can be codified (and hence to some extent automatable) and repetitive.⁴⁰ Estimations based on a novel OECD methodology (Marcolin et al., 2016) shows Italy to be the only G7 country featuring a relatively higher share of tertiary-educated workers in routine occupations than in non-routine ones. Moreover, and compared to its G7 counterparts, the proportion of tertiary-educated in all occupations, especially in non-routine jobs, is very low.

Figure 37. Tertiary-educated workers in routine and non-routine occupations

Share of tertiary-educated workers in non/low- and medium/high routine occupations, G7-countries, average 2011-2012



Source: OECD elaboration based on Marcolin et al. (2016).

Labour market institutions and firm characteristics contribute to skills mismatch

Labour market institutions impinge upon skills (re)allocation

Facilitating better skills allocations – both the selection of the best candidate for the job and the reallocation of human capital to enhance the match between job requirements and skills – calls for framework conditions allowing for such dynamics to take place.

Obstacles such as limited wage negotiation possibilities and lack of flexibility in jobs/tasks descriptions should be addressed for more efficient job matches to occur. One way to do so might be to improve the link between wages and productivity, so that workers have incentives to develop their skills further, deploy them in jobs that make full use of their skills, and to use their skills intensively at work. Similarly, by anchoring wages to productivity, more productive firms might have more room to attract the right type of skills for their vacancies, and thus be able to further grow and scale-up, and ultimately contribute to boosting overall productivity.

At present, the existing collective bargaining system features rigidities that may hinder an optimal allocation of skills and the ability of firms to maximise the returns from investment in their human capital. Among them, the *Contratti Collettivi Nazionali di Lavoro* (CCNL- National Collective Labour Contracts), which regulate the tasks, responsibilities and duties associated to each ‘*inquadramento professionale*’ (occupational status or job). The (too) detailed tasks associated to each job in the CCNL may end up hindering the possibility of workers to move across tasks if (and as) required by employers. In the context of rapidly evolving labour market needs, changing production requirements, and of an industrial structure essentially made of small- and medium-sized firms (for which flexibility is a must), such rigidity may undermine the possibility to leverage existing human capital, create disincentives to invest in skills

(from both the demand and supply-side), and ultimately contribute to eroding productivity.

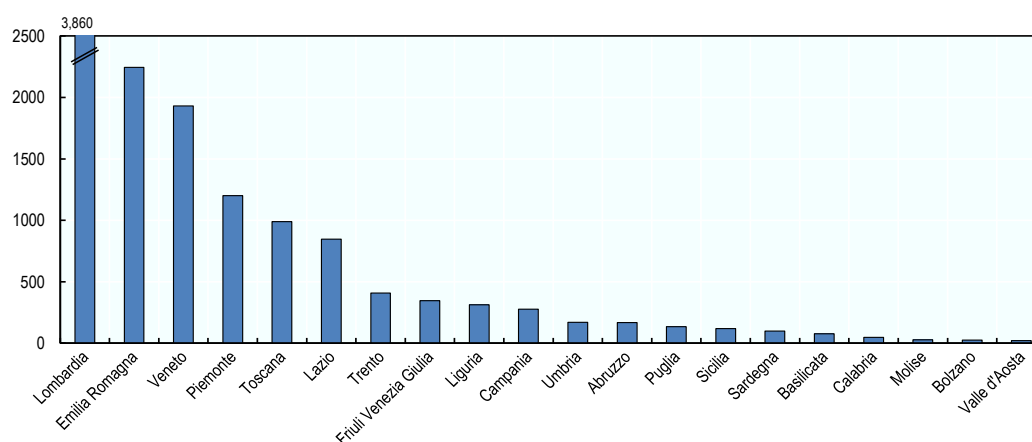
In addition to having rigid CCNL, wage progression in most Italian jobs is mainly related to seniority in the firm rather than on the observed performance or productivity of each worker.⁴¹ Also, in the (relatively few) cases in which performance bonuses are explicitly envisaged in contracts, these generally feature a low degree of variation and often take the form of redistributive tools that apply to all workers, rather than to the most productive ones.

This wage progression rigidity (the so-called ‘*scatti salariali*’) nevertheless does not stem from particular legislative/normative constraints, but is rather the consequence of procedures that have crystallised over the years. Possibly, in the past, wage progression based on merit was put aside by Italian employers to reduce (excessive) fluctuations of labour costs; and trade unions have tended to support wage progression based on seniority to avoid decentralised wage bargaining systems (whereby wages would be set at the individual level), as this would imply weaker unionisation and loss of consensus.

As wage progression based on performance can represent a tool for firms to leverage on the potential of their human capital and to attract and retain the skilled resources they need to be (more) productive, recent budget bills, including the new Budget Bill for 2017 (*‘Legge di Stabilità’*) allows firms to benefit from a substantial tax reduction on the ‘productivity bonuses’ (*‘premi di produttività’*) paid to their most productive workers. Compared to the year 2016, the Budget Bill 2017 has raised the income levels to which tax reductions can be applied, thus allowing a wider group of workers to benefit from such reductions.

The diffusion of *contratti di produttività* i.e. of contracts that explicitly foresee the use of productivity bonuses, however appears to be very much heterogeneous across regions (see Figure 38). A more widespread use of such contracts, especially in those regions where uptake has been low, could foster better skill matches and performance.

Figure 38. Number of “contratti di produttività” established in 2015, by region

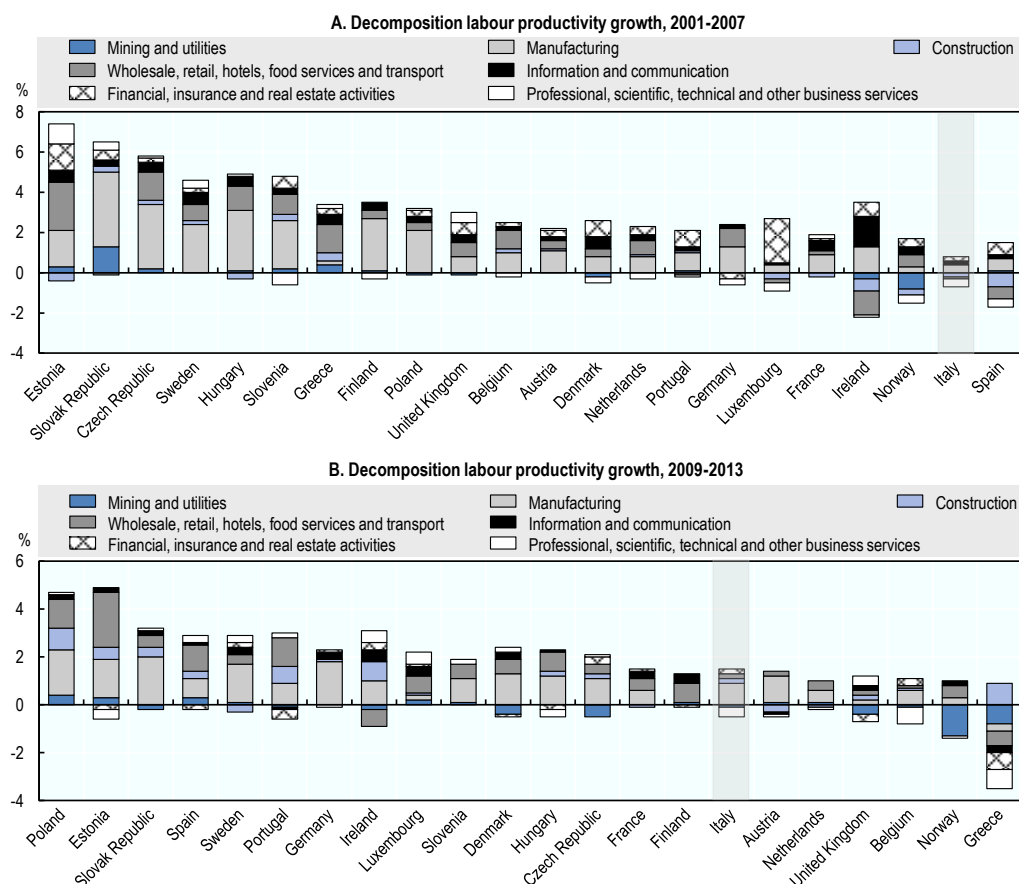


Source: Ministero del Lavoro e delle Politiche Sociali.

The Italian industrial structure contributes to skills misallocation and low productivity

There are some structural characteristics of the national productive sector that may impinge upon the capacity to use skills in the country. Italy has been experiencing low productivity for many years, both before and after the crisis of the 2008. The overall performance observed nevertheless hides differences that emerge when decomposing labour productivity growth by sectors. Manufacturing, Financial, insurance and real estate activities, and Information and communication industries all positively contributed, although to a different extent, to labour productivity growth in both periods considered. Conversely, Professional, scientific, technical and other business services showed a negative contribution (and actually the greatest of all industries) to labour productivity throughout the years considered (-0.4% each period). This could to some extent be expected given the low investment in Research and Development (R&D), organisational capital and, more generally, Knowledge-Based Capital documented by many (e.g. OECD STI Scoreboard, 2015), and calls for the need to foster more investment KBC, as this ultimately means investing in the human capital of the country.

Figure 39. Decomposition of labour productivity growth by sector
All sectors excluding the agricultural business sector, for 2001-2007 and 2009-2013



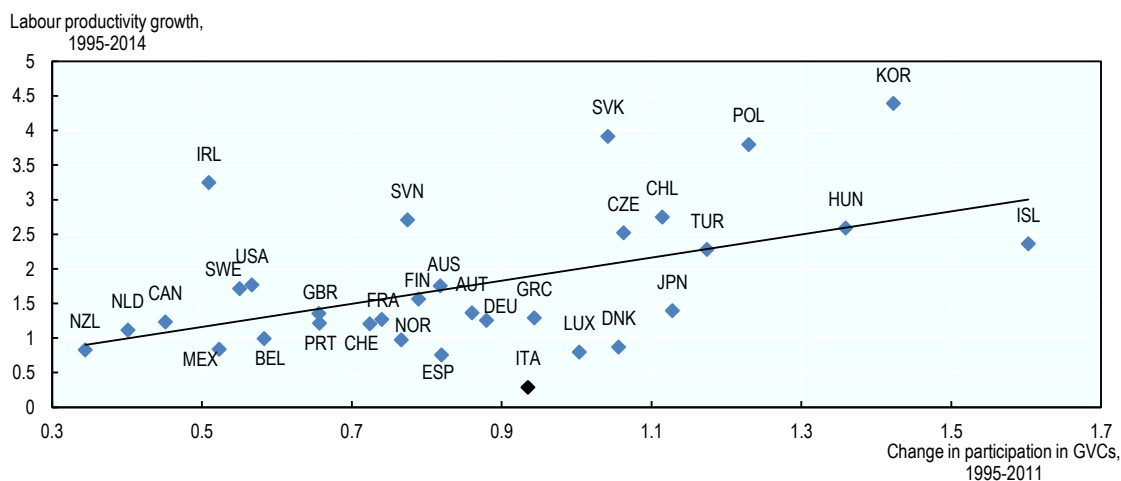
Source: OECD (2015), OECD Science, Technology and Industry Scoreboard 2015, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933272986>.

Productivity goes hand in hand with companies' ability to participate in global value chains (GVCs) and to thrive in international markets. Countries that have been able to increase their participation in global value chains are also those whose productivity has increased over the same period (see figure 40). Increasing productivity and participation in global value chains nevertheless requires a country's workforce to be endowed with bundles of skills which are well aligned with those needed by the industries or the segments of production in which the country is specialised or wants to specialise (OECD, 2017).⁴²

Also, since countries' performance at the aggregate level depends on the performance of its firms, their productivity, their ability to compete on international markets, and the context in which they operate, i.e. the framework conditions of the country, understanding the roots of low productivity requires identifying and characterising performance gaps at the firm level.

Figure 40. Labour productivity and participation in global value chains (GVCs)

Change in participation in GVCs (1995-2011) and change in labour productivity (1995-2014)

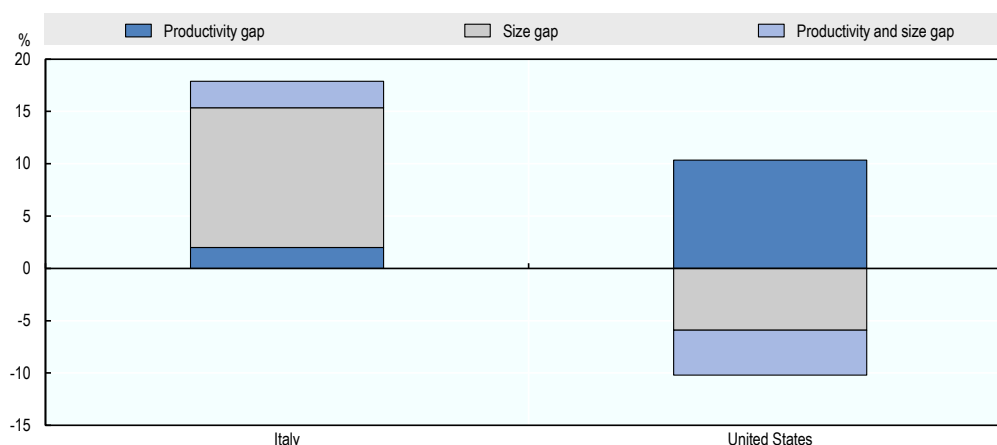


Source: OECD (2017), OECD Skills Outlook 2017: Skills and Global Value Chains, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933474093>.

Andrews *et al.*⁴³ (2016) analyse differences in performance between global frontier and national frontier firms – *i.e.* the most productive firms in a given country but not globally – and isolate two sources of industry-level productivity gaps across countries: *i)* the gap originating from differences in within-firm productivity levels between national frontier firms and global frontier firms; and *ii)* the gap originating from differences in the size of national frontier firms and global frontier firms. This second term is particularly important because, all else equal, aggregate productivity would be higher if the most productive firms had a larger weight in the economy. They estimate that overall manufacturing sector labour productivity would be around 20% higher in Italy (but little changed *e.g.* in the United States) if national frontier firms were as productive and large as the global frontier benchmark. More specifically, in Italy, approximately three-quarters of this productivity gap can be explained by the fact that national frontier firms – while actually very productive in global terms – are relatively small compared to those at the global frontier (see figure 41).

Figure 41. Performance gaps between the national and global frontier: Italy and United States

Estimated percentage increase in overall manufacturing sector productivity deriving from firms at the national frontier becoming as productive and large as firms at the global frontier



Notes: The productivity (size) gap shows how much higher manufacturing productivity would be relative to baseline if the national frontier firms (NF) were as productive (large) as the global frontier (GF) benchmark. The cross term shows the impact on aggregate productivity of simultaneously closing the productivity and size gaps. The estimates are constructed by taking the difference between counterfactual labour productivity and actual labour productivity. The counterfactual gaps are estimated by replacing the labour productivity (employment) of the top 10 national frontier (NF) firms with the labour productivity (employment) of the 10th most globally productive firm in each two-digit sector. The industry estimates are aggregated using US employment weights.

Source: Andrews *et al*, 2016.

For firms to be able to develop and/or absorb technology advances and innovation workforce skill endowment is key, as it constitutes the absorptive capacity needed to learn and improve. Recent evidence from *Confindustria* (2016) finds that low aggregate productivity in Italy reflects the high variability in the performance that characterises large and small firm: some (few and relatively large) firms are highly productive while others (many and relatively small firms) show extremely low-productivity levels.⁴⁴ If anything, evidence suggests that the productivity gap between large and small Italian firms has increased in between 2007 and 2014 and that fewer larger firms are now converging towards the world ‘technology frontier’ (e.g. the highest productivity levels experienced in other countries). An increasing number of smaller Italian firms, instead, are not able to either develop or absorb innovation developed elsewhere and show extremely low-productivity levels. The analysis of the data provided in *Confindustria* (2016) further suggests the existence of a threefold relationship between i) productive diversification (e.g. the number of different products produced by each firm), ii) firm size and iii) the extent and quality of skills demand in Italy.

In 2013, 65.4% of Italian firms was specialised in the production of one single good, 15.4% in that of two and only 7.6% in three different products. The number of firms showing a much diversified production pattern (e.g. producing 10 or more different goods) was only 0.8%. Product diversification is strongly correlated to firm size (and to productivity - Estimates from *Confindustria* point to a potential increase in GDP per capita of 7.3% if Italian firms were able to increase the variety of their

production by 10 percentage points) and being small is means less diversified and innovative production. This, in turn, leads to a weaker labour and skill demand. Data from Excelsior (2016) suggest that, on average, around 30% of firms developing new products or services intend to recruit new workers, whereas the share of firms recruiting new workers decreases substantially (14.4%) among those firms that stick to their traditional productive patterns.

Also, recruitment of new workers (which is, attracting new human capital and skills) seemingly happens for different reasons in large and small firms. Large and more productive/innovative firms tend to recruit new (highly-skilled) human capital mostly due to the expansion of the enterprise and to develop new products and services to compete in international markets. Conversely, expansion, internationalisation and development of new goods and services are only seldom the reason to hire new workers for the many small Italian firms.

The elements mentioned above contribute to explain the Italian reality, whereby a large supply of low-skilled workers can coexist with large shares of over-skilled workers and, at the same time, with large shares of under-skilled workers and shortages in certain sectors. On the one hand, the large share of under-skilled workers⁴⁵ and the emergence of skill shortages reflect the skill needs of large and productive firms that the Italian workforce (being generally low-skilled) is not able to fill. On the other hand, the large shares of over-qualified workers emerge as the result of the weak demand for skills coming from the many small and traditional firms operating in the country.

Moving in the right direction: implementation of recent reforms

The national policy to promote the adoption of digital technologies – Industria 4.0

Italy has recently introduced a set of ambitious structural measures aimed at igniting a radical shift of the Italian productive system towards the generation and use of new and high value-added technologies. This set of reforms, known as *Industry 4.0*, can play a pivotal role in boosting the sluggish Italian skill demand by e.g. helping smaller firms to become more innovative, connected to the world technology frontier and open to international markets. Achieving this result, however, requires strengthening the organisational capital of Italian companies and encouraging firms to become more proactive actors in the digital revolution.

The incentive structure put in place by *Industry 4.0* relies on a combination of strategic and complementary measures. The former are centred on R&D and innovative investment, coupled with investment in the skills of the workforce (especially high-skills and digital-related skills), also through the setup of national competence centres. Complementary measures instead focus on building the necessary digital and financial infrastructures and on fostering networking among firms, to enable the transition to a digital economy.

A hyper and super-depreciation tax benefit scheme has been designed for firms investing in new tangible assets, devices and technologies to enable them to align with *Industry 4.0* standards. Similarly, a tax credit of up to 50% on R&D investments has

been designed to encourage private investment in R&D. In the plans of the government, the tax credit is going to be comprehensive and it applies to all expenditure on basic research, industrial research and experimental development: hiring of highly qualified and technically specialised employees, research agreements with universities, research institutes, enterprises, innovative start-ups and SMEs, depreciation on laboratory equipment and instrumentation, technical know-how and industrial property rights. This financial measure is meant to support innovative enterprises at all stages of their life cycle and to spur the creation of Italy's start-up ecosystem by enhancing firms' business culture, innovation and openness towards international markets.

The Italian government, through the activity of the Ministry for Industry and Economic Development (MISE), also designed an

“Awareness” plan aiming at informing employers (especially SMEs) about the use and potential of new ICT technologies applied to production. Tailored demonstrations, informative sessions and discussions on the productive-enhancing potential of new technologies are at the core of this plan. The Awareness plan provides tailored support not only to small firms but also to top managers of larger enterprises.⁴⁶ Other training and awareness activities have been recently launched by several other stakeholders (See Box 10 below).

Box 10. Check-up Industry 4.0 and Vanguard- Leading by Example initiative.

The Associazione per le Piccole e Medie Imprese (Association for SMEs- API) and SIAM 1838, a well-established VET provider, recently launched the “*check-up Industry 4.0*” initiative. This involves building up a team of technology experts and engineers with the aim of contacting firms all over the Italian territory to show the potential uses and the returns of new technologies applied to their local context. The one-day training is targeted to firms that are potentially interested in digitalising part of their production. The training ends with a survey of the firm's skill needs that will help them identify the best way to tackle future skill imbalances and challenges.

In Emilia Romagna, the ASTER consortium for technology transfer and innovation launched the Vanguard Initiative to promote the I4.0 measures through the creation of demonstration plants where employers can easily gauge on the real effectiveness of new technologies applied to production. It has been argued, in fact, that part of the technological gap experienced by small firms is due to the hesitations of small firms to invest in technologies whose economic returns and usability is not clear to the manager.

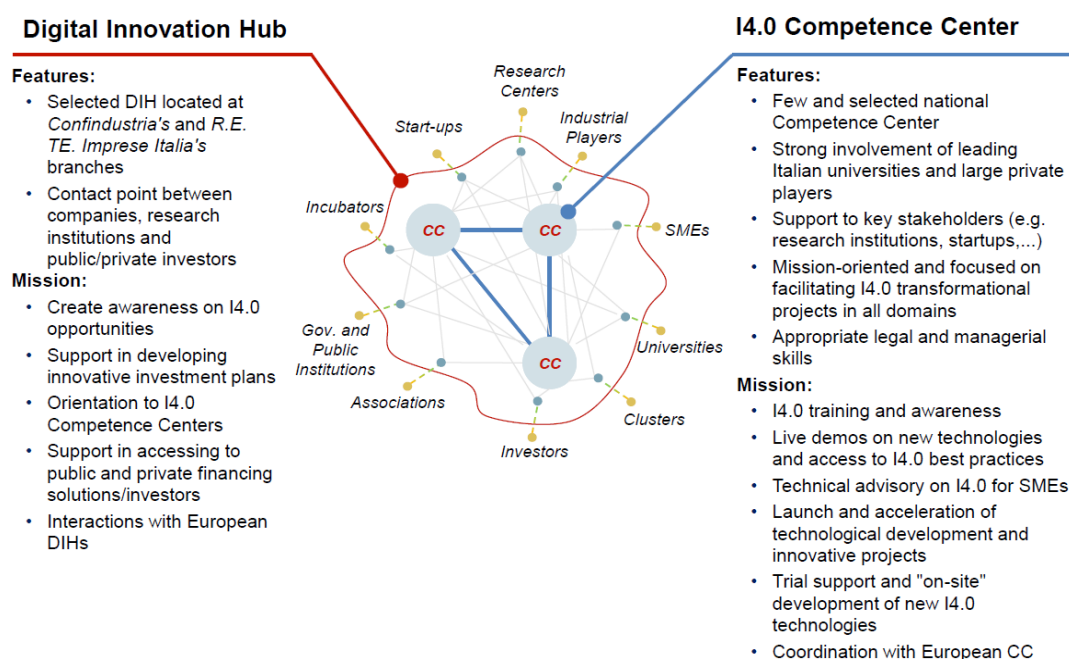
While demonstration plants can be fundamental in increasing awareness of the returns of different technologies, these plants are relatively expensive, especially when these are designed to satisfy the needs of different types of firms. More funds should be made available to experience similar to Vanguard as they prove to be useful information channels for SMEs to familiarise with I4.0 technologies.

Measures related to *Industry 4.0* foresee the allocation of substantial public investments in technology infrastructures and in the creation of Digital Innovation Hubs and Competence Centres (Figure 42). These infrastructures and technology platforms are expected to create a bridge between Italian firms demanding skills for

the digital era and the stakeholders (universities, research centres but also schools) that are in charge of creating the supply of workers endowed with these skills.

Many of the skills that will be key for the successful adoption of the policy measures are expected to materialise as a result of the Good School Act. Among the measures adopted in order to better link school with the labour market and technological innovation, there are the plans to strengthening the implementation of “*Alternanza Scuola Lavoro*” or the further establishment of ITS foundations in key technological areas (see chapter 1).

Figure 42. Skills: Digital Innovation Hub and I4.0 Competence centre



Source: MISE, MIUR.

As an example, around EUR 355 million are being invested between 2017 and 2020 in the implementation of a National Plan for the Digital School to promote Italian youth's digital skills also through work-based learning activities. Many of these activities will be financed through funds allocated to work-based learning (*Alternanza Scuola Lavoro*) and are eventually expected to create the supply of skills needed for the digital transformation.

Technology laboratories, innovative learning environments and tailored education programmes will also be financed through funds channelled through the Good School Act and EU Structural Funds (EUR 140 million NOP funds). Around 70 million Euros will be, also, invested to endow ITS institutes offering programmes that are well aligned with the skills required by the measures in Industry 4.0. A similar boost to investments in research doctorates in I4.0 areas is foreseen, as well as investments to strengthen technological clusters.

While this shows a (very much welcome) high degree of policy coherence between the different sets of interventions pursued by the Italian government, it also poses the fundamental question of successfully addressing the implementation challenges posed by the Good School Act (see above) in order to avoid the risk of hindering the implementation of Industry 4.0. Stakeholders argued that, while boosting youth's digital skills is fundamental in the long-run, the Good School Act has a limited impact on the *current* skill deficiencies of the Italian workforce. For this reason it is important to keep on strengthening the integration among different policies, including *Industry 4.0*.

Skills at work: bringing schools and companies closer together

Work-based learning is probably one of the most remarkable traits of the Good School Act as it introduces, for the first time, compulsory traineeship periods and work-based learning not only in technical and vocational secondary schools, but also in general-education upper-secondary schools, where the linkages between education providers and employers have conventionally been extremely thin and sporadic.

The establishment of 400 hours of compulsory work-based learning for students in vocational education tracks and of 200 hours for students in general education gymnasium – *licei* – represents the core of the envisaged work-based learning system. The traineeships periods can take place either in the private sector or in the public administration and should be, at least in principle, well linked to the education programme pursued.

While introducing a strong work-based learning element into Italy's curriculum design has the potential to contribute to reduce skills imbalances, implementation challenges may stand in the way of a full realisation. Given the breadth and the novelty of the Good School reform, its implementation phase becomes particularly important as the risk of finding the key stakeholders unprepared can be substantial. In Italy, schools and employers are slowly adapting to the introduction of compulsory ASL and much still needs to be done. At the moment, schools (especially the *licei*) may find it difficult at times to integrate work-based learning in their curricula and to create the necessary synergies between academic programmes and the vocational content of the traineeships periods.

Unlike the experience of other countries where the planning of the academic and vocational programmes is shared between education providers, firms and employers, in Italy there is currently little indication on the specific role of employers in identifying learning goals. Much of the burden related to the implementation of work-based learning is, instead, left to schools (see challenge 1).

The implementation guidelines of work-based learning provided by the reform anticipated this situation and contemplated the possibility, whenever linkages with firms cannot be established directly, to use simulated enterprises at school. These should be laboratories that mimic the work done in a real firm and the tasks of workers. While the simulated enterprise is an experience from which students can potentially learn several hard and soft skills, they remain a second-best option as students would not be directly confronted with the challenges of real production (see Box 12).

Box 11. The SimuCentre: giving more reality to a simulated experience

Simulated Enterprises are useful tools in contexts where the productive fabric is not well-developed and the establishment of co-operation between education providers and employers may be more difficult. They are, however, a second-best option as the skills and work experience that can be acquired through them is more limited when compared with the 360 degrees experience in a real firm. Trying to overcome this barrier, the ASL reform foresees that the set of simulated training enterprises can be linked together by a computer platform and network through a National or Local Central Office (SimuCenter). This system allows the virtual companies that are part of the network to simulate all the actions related to their specific areas and entrepreneurial activities in a more 'real' and sophisticated manner. Similarly, the SimuCenter allows the simulated enterprises to connect to the real world through the Chambers of Commerce, the national Tax agencies and the national company register.

For the correct functioning of this part of the reform, resources should be allocated for training an internal tutor with the necessary skills within the school personnel, as defined by Law 107/2015, article 1, paragraph 63.

Source: MIUR, <http://www.istruzione.it/alternanza/allegati/L'Impresa%20Simulata.pdf>

Strengthening governance will be important for improving skills use

Improving skills use requires improved multilevel governance (see challenge 8). Co-ordinated policies, horizontally across different ministries, vertically, across the different governmental layers (e.g. country, regions) having training and its financing and/or supply in their mandate, and diagonally, across any relevant territorial and competence dimension (for instance, neighbour provinces belonging to two or more different regions over which industrial districts are spread, like in the case of the “Distretto del mobile imbottito” located between Basilicata and Puglia, or the “Distretto orafa di Valenza”, spread between Piemonte and Lombardia) are needed to maximise the effectiveness of the measures put in place. Also, transparency and communication are key to raising awareness and helping workers and firms self-select into the training that would most benefit them.

Recommended areas for action:

- Encourage companies to invest in high-quality training targeted to the development of labour market relevant skills. Similarly, reward workers who participate in education and training. This could entail, for example, collecting and distributing information on good practices for developing and using the skills of workers.
- Improve the entrepreneurial and managerial skills and capabilities of Italian employers, especially those in family-owned enterprises and in SMEs. This could take the form of increased incentives for the adoption of High-Performance Workplace Practices (HPWP) such as job-rotation, training, mentoring and task discretion.

- Foster a better match between the supply and demand for skills by establishing a digital information hub connecting Italian firms demanding skills for the digital era with the universities, research centres and schools that create the supply of workers endowed with these skills.
- Strengthen the dissemination of information about Industry 4.0 technologies and related initiatives to all firms, especially smaller ones, to further enhance the take-up of Industry 4.0.
- Encourage the use of wage incentives and bonuses and link them to workers' productivity so that these have incentives to develop their skills further and to apply them in jobs that make full use of available skills.

NOTES

³⁴ Formal training refers to training taking place in an organised, outside-work environment, and aiming at the attainment of a degree at an education institution (e.g university degrees as MSc or BA). On-the-job training refers to a structured type of training that may take place both inside and outside a company (e.g computer programming at a vocational education-type of institution).

³⁵ Serio L. (2017), *Medie Eccellenti – Le imprese Italiane nella competizione internazionale*, Guerini e Associati, Milano.

³⁶ Burdett, K and E. Smith (2002), The low skill trap, *European Economic Review*, Volume 46, Issue 8, Pages 1439-1451, ISSN 0014-2921, [https://doi.org/10.1016/S0014-2921\(02\)00184-8](https://doi.org/10.1016/S0014-2921(02)00184-8)

³⁷ HPWP include both aspects of work organisation – such as team work, autonomy, task discretion, mentoring, job rotation, applying new learning – and management practices – such as employee participation, incentive pay, training practices and flexibility in working hours (Bloom and Van Reenen, 2010; Johnston and Hawke, 2002). The Survey of Adult Skills collects information on a number of job aspects that are often associated with HPWP, including: whether workers have any flexibility in deciding on the sequence of tasks they perform, how they do the work, the speed of the work, and working time; how often they organise their own time and plan their own activities; how often they co-operate or share information with others; how often they instruct, teach or train other people; whether they participated in education/training in the previous 12 months; and whether they received a bonus payment.

³⁸ This does not imply that the quality of small entrepreneurs is low, overall. For instance, as noted by Manfredi (*L'economia del su misura*, 2016) there are some micro and small firms in Italy which have specialised in luxury goods and dominate global niches.

³⁹ <http://www.aidaf.it/en/aidaf-3/1650-2/>

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- ⁴⁰ Marcolin, L., S. Miroudot and M. Squicciarini (2016), “The Routine Content of Occupations: New Cross-country Measures Based on PIAAC”, OECD Science, Technology and Industry Working Papers, 2016/02, OECD Publishing, Paris. <http://dx.doi.org/10.1787/5jm0q1dhszjg-en>
- ⁴¹ See, e.g Mosca and Tomassetti (2016)
- ⁴² OECD (2017), OECD Skills Outlook 2017: Skills and Global Value Chains, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264273351-en>
- ⁴³ Andrews, D., Criscuolo C., and Gal P. N., “The Best versus the Rest: The Global Productivity Slowdown, Divergence across Firms and the Role of Public Policy”, OECD Productivity Working Papers, 2016-05, OECD Publishing, Paris
- ⁴⁴ While similar results can be found in other countries too, the relatively larger share of small firms in Italy makes the problem more prominent than in other countries and so, also, the productive gap more evident.
- ⁴⁵ The percentage of under-skilled workers in Italy is the highest across OECD countries participating to the OECD Survey of Adults Skills
- ⁴⁶ The immediate returns from the use of digital technologies may be greater for larger firms, at least in the early phases of the implementation of the I4.0 measures. This, in turn, may stimulate the interest of other, smaller, firms and contribute to the buy-in of the reform

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CHALLENGE 7: LEVERAGING SKILLS TO PROMOTE INNOVATION

Key messages

- Productivity has been sluggish in Italy for many years. This is related in part to Italy's low levels of investment in innovation and low innovative output. A number of structural features are likely to constrain the country's ability to leverage on the skills of its workforce to innovate and perform, including:
 - The low level of public spending in R&D (only 1.2% of Italy's GDP, which is half the OECD average);
 - The low endowment of organisational and managerial capabilities;
 - The high proportion of small and/or old firms; and
 - The low proportion of both SMEs and large firms collaborating with higher education or research institutions.
- Italy has put in place a set of policy initiatives to improve skills use, promote innovation, and facilitate the transition to digital technologies. These include the country's new approaches to industrial policy (Industry 4.0), its support to innovative start-ups (the Startup Act), and its efforts to attract FDI and link firms to the international market (Italtrade). Industry 4.0 recognises the large heterogeneity of firms in the country and provides incentives and guidance to all firms, including SMEs and micro firms, to adopt digital technologies. New firms are those most likely to generate the most radical innovations and successfully bring them to market, while also creating spillover effects for others. Targeted public support may help those firms that managed to weather the crisis and raise their productivity to now focus on the need to acquire new skills and knowledge assets

Introduction and stakeholder perspectives

Productivity has been sluggish in Italy for many years. This is related in part to Italy's low levels of investment in innovation and low innovative output. A number of structural features are likely to constrain the country's ability to leverage on the skills of its workforce to innovate and perform. Among them: the low level of public spending in R&D (only 1.2% of Italy's GDP, which is half the OECD average); the low endowment of organisational and managerial capabilities; the high proportion of small and/or old firms; and the low proportion of both SMEs and large firms collaborating with higher education or research institutions.

According to stakeholders, Italy's capacity to leverage on skills to generate innovation capacity is hampered by some features of the productive sector. For example, some stakeholders considered that the vast presence of small firms – most of which operating as suppliers (*terzisti*) of larger firms – is a condition reducing innovation capabilities in the system. Some other stakeholders, however, considered that the few large companies active in Italy should invest more to capitalise on skills and spur innovation. In general, stakeholders agreed about the need for more public investment to support innovation and to make better use of skills, including in traditional low-innovation manufacturing. Based on this, there is the general perception that Industry 4.0 (*Industria 4.0*) represents a good opportunity for the country to fill the technological gap in the Italian productive sector. As already stated in the previous challenge, this common vision may represent a positive factor and contribute to the successful implementation of the policy.

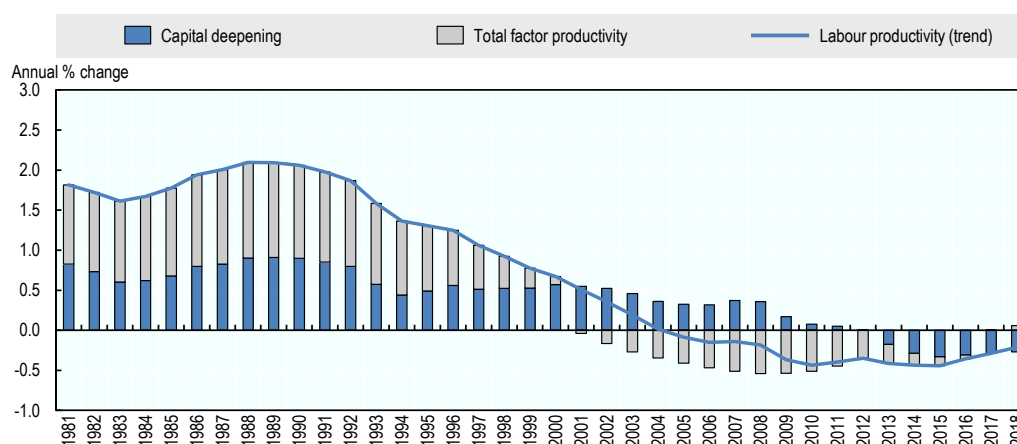
.Stakeholder perspectives

- Stakeholders highlighted the need to promote innovation through skills. The country is less innovative than it used to be.
- Stakeholders mentioned the need to generate more linkages between firms and research institutions, including universities. The presence of many SMEs as well as the lack of flexibility on the side of universities are considered as the problems that need to be addressed to improve the capacity of research and business to co-operate more effectively.
- Representatives from the government discussed the need to create synergies by improving the alignment and coherence of different policy investments. Innovation policy should capitalise on Italy's traditional know how as well as the many excellences active in the national framework.
- The recent policy initiatives, and in particular Industry 4.0, were considered as a good opportunity to fill the technological gap the country has accumulated over the past decades vis-à-vis international competitors and partners.

Skills could be better used to innovate and boost economic performance

Italian productivity has been declining

Italy has been characterised by low productivity over the past decades. Sluggish productivity growth in the business sector has been a defining feature of many OECD economies (e.g. OECD, 2015a). Italy is no exception in this respect (Figure 43), as it has displayed negative productivity growth since the mid-00s. If in the early years of the decade, the slowdown was driven by low total factor productivity growth in particular, in more recent years this has been compounded by a reduction in capital deepening.

Figure 43. Growth in labour productivity in Italy, 1981-2018

Source: Source: OECD (2017), OECD Economic Surveys: Italy 2017, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933454012>.

Most of the poor performance in productivity growth is attributable to sluggish productivity growth of firms within industries, both in absolute terms and in comparison to other countries in the Euro Area (OECD, 2017). Evidence further suggests that resource misallocation among firms within industries has played an increasingly important role during the 1993-2013 period (Calligaris, 2015; Calligaris *et al.*, 2016). Calligaris and co-authors (2016) estimated that maintaining the misallocation of inputs in production in 2013 at the same level it was in 1995 would have increased productivity in the Italian manufacturing sector by 18% and in services by 67%.

Among the characteristics of the Italian production structure that contribute to explain such extensive misallocation of resources, firm size and firm age emerge as being more important than geographical location and sector of operation (Calligaris, 2015). In particular, the misallocation observed in the smallest firms appears to be twice as large as the one observed in the largest firms. This increase in misallocation mostly happened among firms within sectors, regions or class sizes, rather than because of bad allocation of resources across these categories (Calligaris *et al.*, 2016).

Raising aggregate productivity in Italy thus calls for improving the allocation of inputs, so that inputs can benefit the most productive producers within sectors, regions or class sizes. This is also true for human capital, in the form of skilled labour force. Leveraging firms' and industries' capabilities such as the propensity to innovate, the diffusion and adoption of new technologies, investment in human capital, and the interplay between the two thus become key.

Investment in R&D and innovation is low

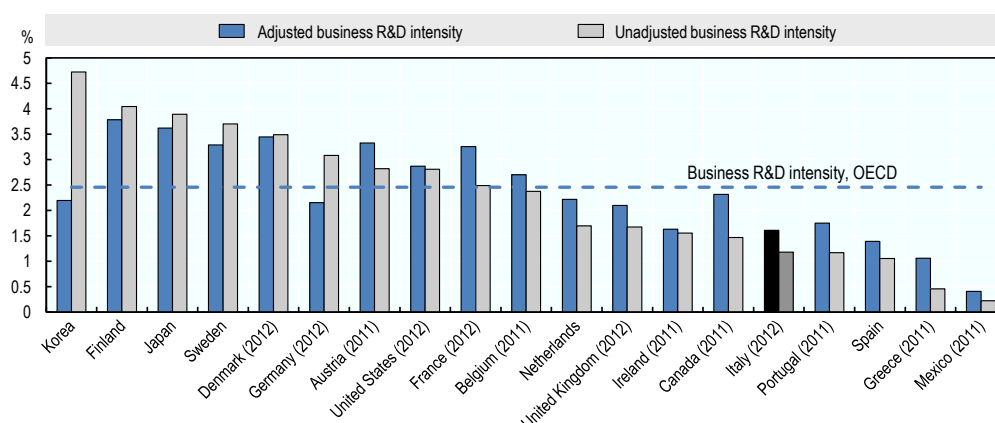
Investing in research and development is important as R&D not only generates new information and innovation, but it also enhances firms' ability to absorb and exploit available information and the knowledge created elsewhere⁴⁷. In many industries, a substantial part of investment in R&D is accounted for by the personnel

involved in the research and innovation activities performed. Hence, low investment in R&D ultimately entails low investment in human capital and, in particular, in the most skilled part of the population, i.e. its researchers.

In 2015 public spending in R&D represented only 1.2% of Italy's GDP, corresponding to half the OECD average (2.4%), and far behind Korea (4%). While this may be in partly due to the country's specialisation in low-innovation sectors (e.g. Bugamelli *et al.*, 2012)⁴⁸, Italy's business sector production appears less R&D intensive than that found in most other OECD countries, even taking specialisation into account. This is shown in Figure 44, which displays R&D intensities, defined as R&D expenditures divided by value added in the business sector. The "adjusted" intensity highlights what the R&D intensity in a country would be, were the country's production structure equal the one of the average OECD country. In most Southern and Eastern European countries, which are specialised in relatively-low R&D intensive sectors, the adjustment would shift the countries' intensity upwards, towards the OECD average. A similar picture is conveyed by looking at the number of employed researchers: 5 per thousand workers in Italy, against an OECD average of approximately 8 employed researchers per thousand (OECD, 2015b).

Figure 44. Business R&D intensity adjusted for industrial structure

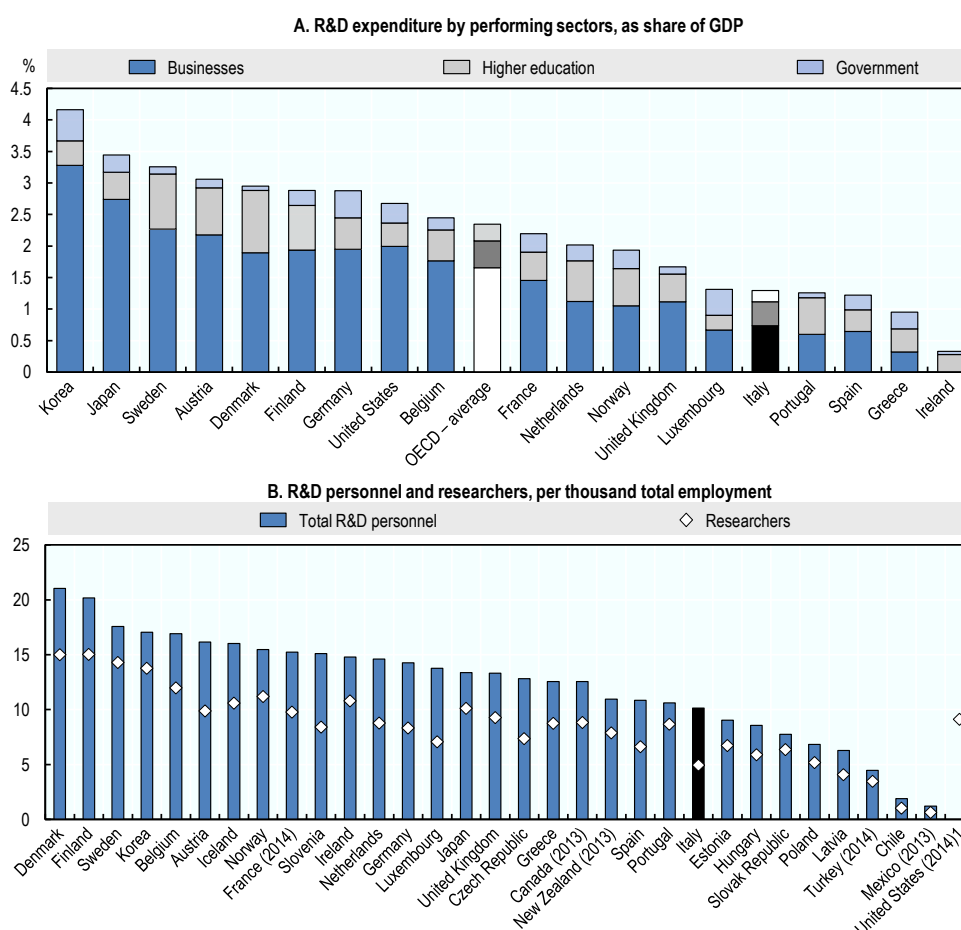
As a share of value added in industry, 2013



Source: Source: OECD (2015), OECD Science, Technology and Industry Scoreboard 2015, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933274408>.

In Italy, the relatively limited R&D performed by the business sector is not compensated by greater R&D efforts made by the government or by higher education institutions: all three institutional sectors in fact invest less (in proportion to GDP and in proportion of the number of researchers and R&D personnel) than the average OECD country (Figure 45). The number of workers holding a PhD (ISCED level 8) is 0.4%, which is relatively low compared with the OECD average (1.03%) (OECD, Education at a Glance, 2016).

Figure 45. R&D expenditure and personnel, 2015



1. Information on non-researchers R&D personnel for the United States is not available
 Source: OECD.Stat (Main Science and Technology Indicators Database).

Low R&D-expenditure intensity goes hand in hand with low proportions of total employment represented by R&D personnel. In 2015, Italy had the lowest intensity in the sample, whether one considers the number of researchers or the sum of researchers and of other R&D personnel. What is more, the country displays the lowest proportion of researcher over total R&D personnel. That said, Italy is one of the three countries in the sample (together with Greece and Sweden) where the number of researcher per employed persons has increased from 2013 to 2015, while the number of non-researcher R&D personnel per employed persons has decreased.

Public support to R&D is relatively small. While Italy is one of the 28 OECD countries offering tax support for R&D expenditure, its volume was very low in 2013 (OECD, 2015b). The two forms of support in Italy summed to 0.05% of GDP in 2013, against an average of 0.15% across all countries considered, or the 0.11% of Spain and the 0.13% of Portugal. Italy's patent box provides an exemption for corporate income tax (IRES) and the regional tax on productive activity (IRAP). The exemption regards the income derived from patents and other intellectual property considered functionally

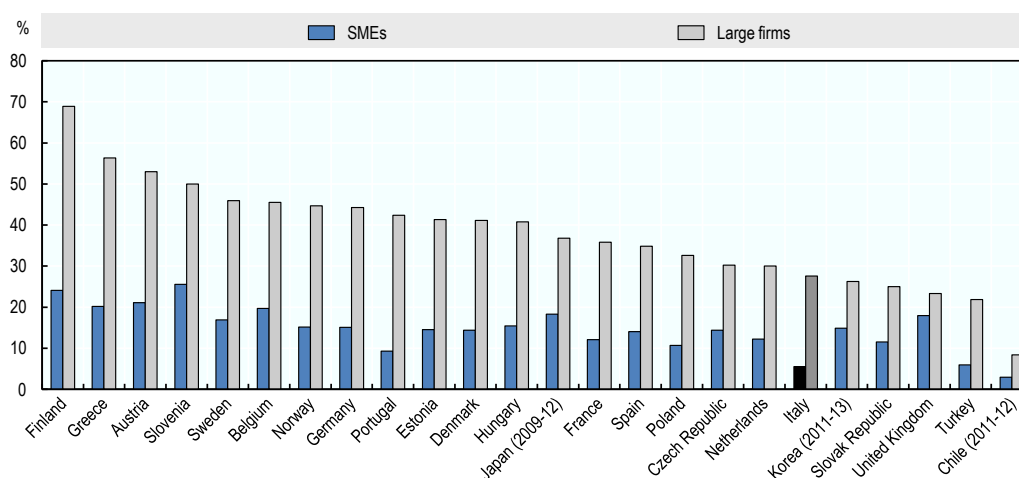
equivalent to patents such as know-how, trademarks designs and models eligible to legal protection, software protected by copyrights. The tax exemption was set at 30% for 2015, 40% for 2016 and 50% thereafter (OECD ECO 2017).

Italian firms could be collaborating more with institutions of higher education

Italy still lags behind other OECD countries in the proportion of firms collaborating with higher education or research institutions, independently on firm size (Figure 46). This is especially worrying given the high proportion of small and medium enterprises in the country and the very low propensity to collaborate that these firms exhibit. In this situation, there are limited incentives to develop high-skills, and this contributes to feeding the vicious cycle of the low-skills equilibrium trap. A precondition for more and better collaborative projects to take place is having clear and harmonised rules in terms of ownership of the innovation output and linked intellectual property rights that may arise out of the collaborations put in place. Uncertainty about ownership of outcomes may lead to reduced collaboration and hinder knowledge production (see, e.g. Czarnitzki et al., 2015; Mowery et al., 2015).

Figure 46. Firms collaborating on innovation with higher education or research institutions

As a share of product and/or process-innovating firms in each size category,
by firm size, 2010-12



Note: International comparability may be limited due to differences in innovation survey methodologies and country-specific response patterns. European countries follow harmonised survey guidelines with the Community Innovation Survey.

Source: OECD (2015), OECD Science, Technology and Industry Scoreboard 2015, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933274074>.

Also, too few Italian firms are engaged in international collaboration for innovation, in particular among SMEs (OECD, 2015b). Such collaborations can play an important role with respect to innovating and competing in international markets, as they allow firms to gain access to a broader pool of resources and knowledge at lower costs and to share risks.

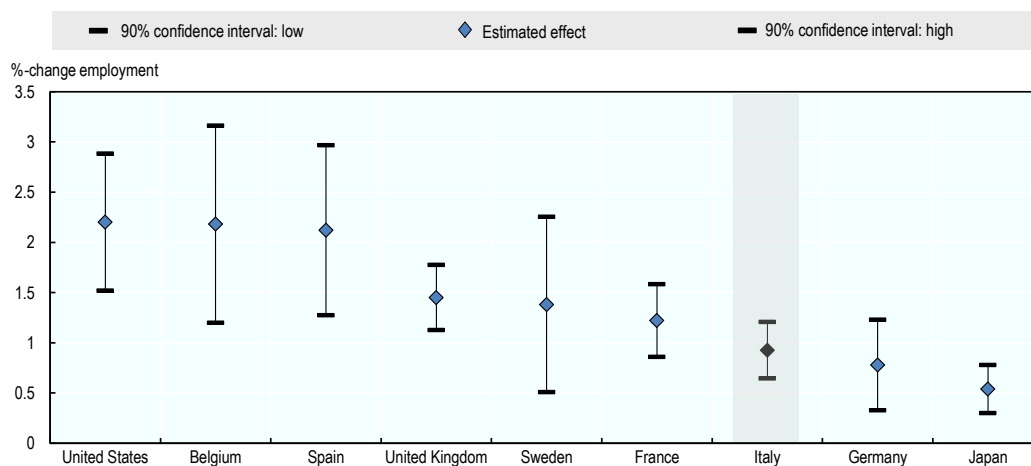
A number of factors negatively impact on the use of skills for innovation

Resources do not accrue to the most productive firms

Italy does not allocate resources to patenting firms – considered as more productive/innovative than the average – as well as other OECD countries (Andrews et al., 2014). This means for instance that patenting firms in Italy are less able to attract workers than the U.S., Belgium, Spain, or the UK. When focussing on the point estimates only, the magnitude of the differences is important, with a 10% increase in patent stocks translating in a twofold bigger increase in employment in the average U.S. firm than in the average Italian firm (Figure 47). The associations are similar for the growth in capital inputs. These results suggest that Italian firms are relatively less capable to benefit from their innovation activities, and this may in turn undermine their ability not only to scale-up production, but to further develop their innovation.

Figure 47. Change in employment associated with a 10% change in patent stock

Country-specific point estimate and 90% confidence interval of a panel fixed-effect regression at firm level of capital stock on patent stock, 2003-2010



Source: Andrews, Criscuolo and Menon (2014).

The Italian productive sector is dominated by small and micro firms

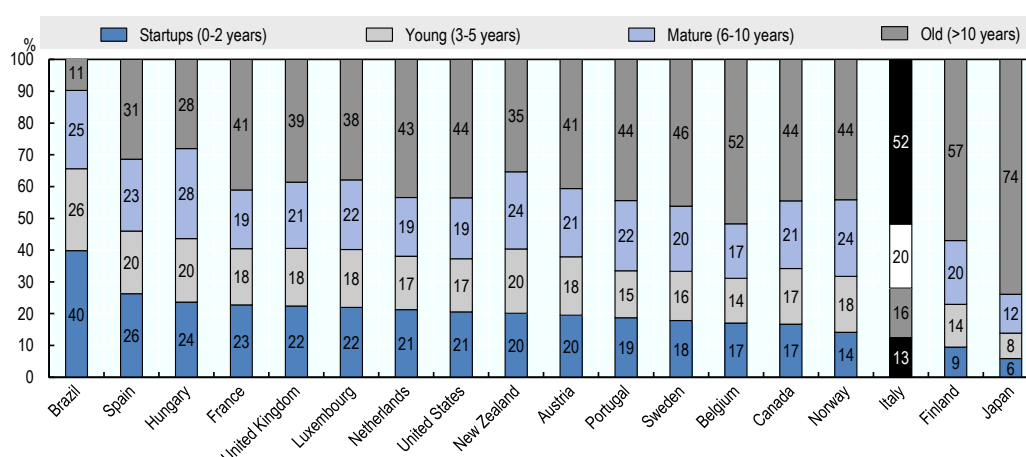
Another important dimension which can shape a country's ability to innovate, perform and compete, also on international markets, is its industrial structure, intended also and especially as the size distribution of its firms. Approximately 90% of firms in Italy employ less than 10 employees, more than any other OECD country in the sample

considered by Criscuolo *et al.* (2014), and significantly more than the U.S. (75%). This may constitute a barrier to innovation, if smaller firms are less able to face the initial investment required to innovate. SMEs have more limited access to credit, and often a lower degree of connection with other firms and with the international market, which is an important potential source of inputs of higher technological and quality content (e.g. Bloom *et al.*, 2015). SMEs may also be less able to pay a premium for talented employees, which would in turn reduce a firm's chances to innovate.

Italian firms are small and old

Also, firm age matters. In most countries, more than 50% of SMEs with 50 employees or less are older businesses, i.e. they have been operating for more than 10 years (see Figure 48). In particular, Italy displays a low proportion of start-ups among SMEs, and they are smaller than in other OECD countries at entry (Calvino *et al.*, 2015). This may be especially problematic, if it is the case that old and small firms are inefficient and exploit resource, which could instead be allocated to higher productivity and more dynamic firms.

Figure 48. Age composition of small businesses (less than 50 employees), average over time, 2001-2011



Notes: Different periods and administrative unit may have been considered in different countries. See Fig.6 in Criscuolo *et al.* (2014) for more details on the sample used.

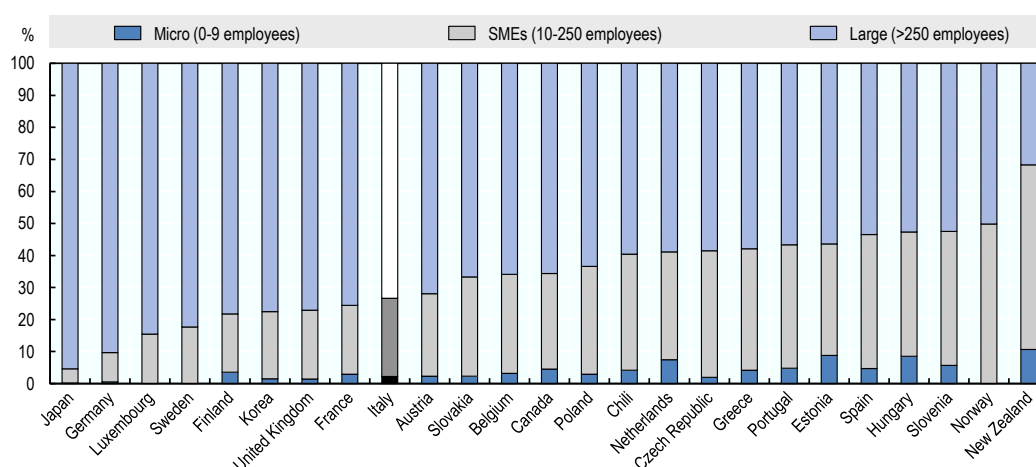
Source: Criscuolo, Gal and Menon (2014).

While there may be several reasons why firms in Italy do not grow in size as they grow old, all bear important possible consequences for the dynamics of aggregate productivity and the ability of the production sector to innovate. Bobbio (2016), for instance, suggests that SMEs in Italy may not invest in innovation because it implies growing in size and being subject to more stringent tax auditing as a consequence. Adalet McGowan *et al.* (2017) find that firms with persistent difficulties in meeting interest payments are frequent in Italy, Spain, Belgium and Portugal. In Italy, for instance, they make up for about 19% of total assets owned by the country's companies and 10% of the workers.

Figure 49 offers some descriptive evidence of the role of firm size in innovation, and in particular expenditure in business R&D (BERD). In all OECD countries considered, the bulk of business R&D expenditure is performed by firms employing more than 250 employees. In Italy this proportion (73%) is higher than the average of all countries considered (66%). Similarly in Fig. 4 above, only approximately 6% of Italian SMEs are collaborating with higher education institutions in innovation, relative to 28% of large firms.

Figure 49. Business enterprise R&D expenditure by size class

Share of class size in total BERD, 2013



Source: OECD (2017), Research and Development Statistics Database, <http://dx.doi.org/10.1787/rd-stats-data-en>.

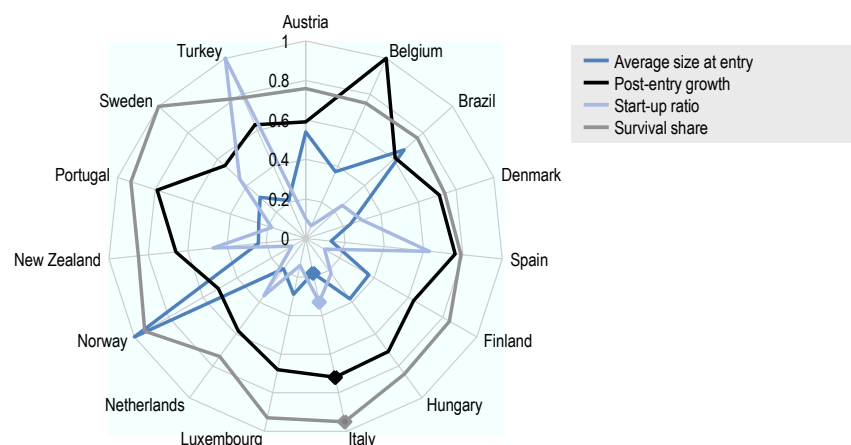
Italy's efforts to improve productivity go in the right direction

Let them grow! Italy's policy to promote start-ups goes in the right direction

While the picture thus far depicted looks grim, Italy nevertheless exhibits positive features that can be leveraged upon. In Italy start-ups are more likely to survive than start-ups in other countries, and tend to grow in their first 3 years at roughly the same rate as their counterparts located in other countries (Figure 50 from Calvino *et al.*, 2015). This is important, as large firms can improve their innovation profile from collaboration with start-ups, leveraging on the latter's high levels of flexibility and creativity.

Figure 50. Start-up ratio, average size at entry, survival and post entry growth rate

The four components of the growth decomposition (for sectors manufacturing, construction, and non-financial business services) normalized over the maximum value across all countries included in the sample, average of available years 2001, 2004 and 2007



Source: Calvino, Criscuolo and Menon (2015).

The measures envisaged by the Italian Startup Act aim to create the enabling conditions for firms to go to the market and for the scale-up of high-tech start-ups, and are supposed to affect all stages of businesses' life cycles. Over a period of five years, innovative start-ups can profit by a number of benefits, including: the possibility to remunerate workers and consultants through stock options and work for equity schemes which are tax deductible; tax incentives by of 30% on seed and early-stage investment; access to public guarantees by 80% on bank loans amounting up to EUR 2.5 million.

These measures, especially needed in a country where many firms age without growing, have the welcome feature of getting periodically adjusted on the basis of analysis and evaluation entailing a structured monitoring system involving the National Statistics Institute (ISTAT).

Industry 4.0 aims to spur investment in knowledge-based capital

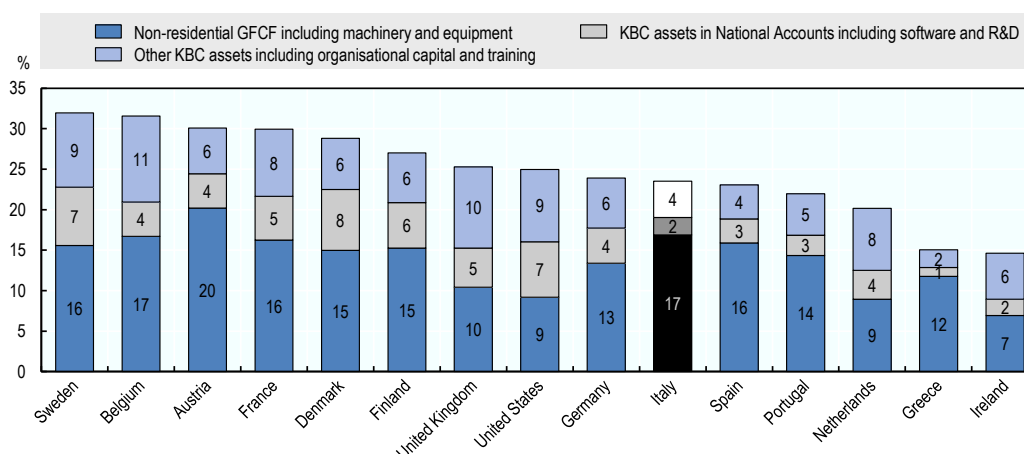
Aware of the need to further develop the non-banking component of the financial markets, such as venture capital and private equity, and to spur innovation, Italy has recently put in place a number measures in the context of its broad investment strategy to promote digital technology: Industry 4.0 (see challenges 6, and 8). These include alternative forms of finance like non-bank lending, Venture Capital and private equity aimed at allocating more capital to innovative firms; patent boxes; stimuli to private investments in new equipment and I4.0 transformation; and the setting up of competence centres.

The aim of Industry 4.0 is to spur innovation by increasing private expenditure in R&D and innovation, promoting investment in drivers of the digital transformation, , and in investment in knowledge-based capital (KBC), i.e. complementary assets such as

software, design, organisational know-how and firm-specific training. It should be said that despite the decline in capital deepening, Italy still displayed in 2013 the second highest intensity in non-residential investment over gross value added among European countries included in the sample, and a significantly higher level than the United States (Figure 51). However, it still invests relatively little in knowledge-based capital (6.7% of gross value added, relative to an average of 11% across the countries considered). This is especially true for investment in assets, which are reported in National Accounts (software, R&D, entertainment, literary and artistic originals, and mineral exploration). This does not exclude, however, that significant progress has been achieved, with KBC intensity in 2013 being 20% higher than in 2000.

Figure 51. Business investment in fixed and knowledge-based capital

As a share of business sector value added, 2013



Source: OECD (2015), OECD Science, Technology and Industry Scoreboard 2015, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933273011>.

Investment in KBC matters for both productivity growth and innovation. Battisti *et al.* (2015) in particular show that intangible assets play an important role in raising both the firms' propensity to adopt a new, frontier technology, as well as a firm's total factor productivity (TFP), holding technology constant. Calligaris *et al.* (2016) also find that a higher proportion of KBC investment over total firms' assets is associated with higher firm productivity in Italy. Marcolin *et al.* (forthcoming) and OECD (2013) provide evidence that KBC investment is associated with greater participation in global value chains, as this type of investment may contribute, for instance, to upgrade the quality of products, create value in upstream activities such as new concept or product development, as well as to engage in downstream activities related to bringing products onto markets such as marketing.

Attract foreign investment to strengthen international linkages and boost growth

In an effort to increase and improve its global outreach, Italy has been devoting growing efforts to attract foreign direct investments. The Italian Trade Agency (ICE, or "Istituto per il Commercio Estero"), with its 81 branches and 9 specialised FDI Desks

spread around the world, is at the centre of this endeavour. Foreign investors are provided with information on available business opportunities on the national territory and assistance throughout the life of their investment. Insofar as FDI can be channelled into the creation of new, innovative businesses on the national territory, and into the expansion of firms' investment in human capital, the Agency can sustain Italy's efforts to leverage on and enhance the skills of its workforce.

Foreign investors targeting Italy for their operations can also benefit from the support of *Investitalia*, the national agency managing the quasi-totality of national incentives to business creation in the country. *Invitalia* also provides support to innovative investment and the development of incubators, and acts as the purchasing body and the contracting authority for the execution of strategic actions at the local level on behalf of the public administration. It is therefore an important tool for the creation of high-growth and innovative businesses, as well as continuing investment in the skills of the workforce. Moreover, by targeting entrepreneurs with development plans especially in innovative and high added value sectors, *Invitalia* may succeed in connecting growth-enhancing company strategies with knowledge and skills-based start-up initiatives. Firm creation and firm growth could therefore be addressed in a co-ordinated manner.

Both agencies represent a well aligned complement to the measures foreseen in the context of structural reforms such as Industry 4.0, the Good School Act and the Jobs Act (see challenges 1, 4, 5, 6, 8), as they can support growth in strategic sectors for development and employment, and help revitalising areas in difficult economic conditions, especially in the South of the country. It is important for these measures to live up to expectations to convey co-ordinated and coherent messages, and to act in synergy. Italian authorities should therefore make sure that not only these agencies' roles are well defined and operationally implemented in a coherent fashion, but also that information targeting (prospect and actual) foreign investors is provided in a clear and user-friendly fashion.

More and better organisational capital is needed to complement these reforms

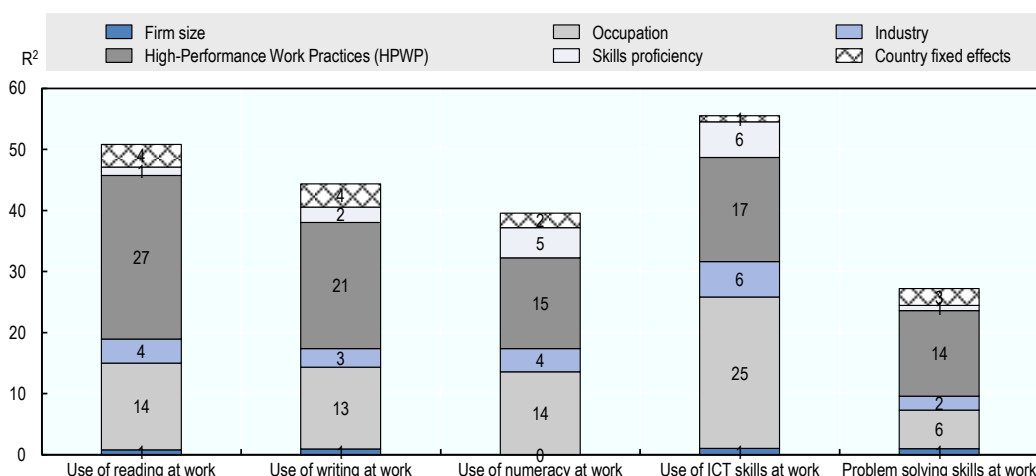
While the reforms discussed above are very welcome, their adoption requires firms to be aware of and be able to screen the many options available to them in order to pursue the one(s) that best suit their needs. This in turn requires firms to be endowed with a certain amount of organisational and managerial capital. Organisational and managerial capital are the firm-specific organisational know-how that impact the medium and long-term functioning of firms. Organisational capital (OC) can make the production process more flexible, increase the rate of adoption of ICT and the absorption of knowledge from the technological frontier, and enhance the ability of companies to manage their production across borders. There is ample evidence that better managerial and organisational capabilities are positively correlated with productivity, both at the firm (e.g. Bloom et al., 2014) and industry level (Corrado *et al.*, 2013).

Italian firms nevertheless invest significantly less in organisational assets (in terms of value added), and in managerial capabilities in particular, than firms in other countries. Although 12% of total employment is engaged in OC-related activities (compared to the OECD average of 16 percent), investment reaches only 0.4 percent of value added (compared to 2.2% in the OECD). Furthermore, the Italian context is characterised by a high proportion of family-owned companies. Italy's peculiarity emerges in the composition of management: in 66% of the family-owned companies not only the CEO but also the majority of the management is related to the family, contrary to France (26%), Germany (28%), Spain (36%) or the UK (10%)⁴⁹. Family management is negatively associated to firm performance, on average across country (Bloom and Van Reenen, 2007). Such result is confirmed in Bandiera et al. (2010) for Italy, where it is shown that family-owned firms evaluate managers' performance on the basis of loyalty to the family and the company more than on the contribution to the firm's performance. And this translates in lower growth and revenues.

Some factors more than others contribute the most to the use of skills in the workplace (Figure 52) (OECD Employment Outlook, 2016). Aside for greater cognitive skills such as literacy and numeracy ("skills proficiency") and country- and occupation-specific arrangements, the most important factor is the implementation of effective managerial practices (including "High-Performance Work Practices" – see challenge 6). This reinforces the arguments presented above by highlighting one channel through which managerial practices can impact performance, i.e. an improved use of workers' skills on the job.

Figure 52. The contribution of skills and other factors to the variance of skills use at work

Share of the variance in skills use explained by each factor



Note: Results obtained using regression-based decompositions proposed by Fields (2004) with one model estimated for each skill. The height of the bar corresponds to the total R-squared of the full regression model. The subcomponents show the contribution of each factor (or set of regressors) to the total R-squared. The Fields decomposition is explained in more detail in OECD Employment Outlook 2014, Box 5.4 (OECD, 2014a). Occupation and industry are included as 1-digit codes of the International Standard Classification of Occupations (ISCO) and 1-digit codes of the International Standard Industrial Classification (ISIC) Rev.4 codes, respectively. High-Performance Work Practices include whether workers have any flexibility in deciding on the sequence of tasks they perform, how they do the work, the speed of the work, and working time; how often they organise their own time and plan their own activities; how often they co-operate or share information with others; how often they instruct, teach

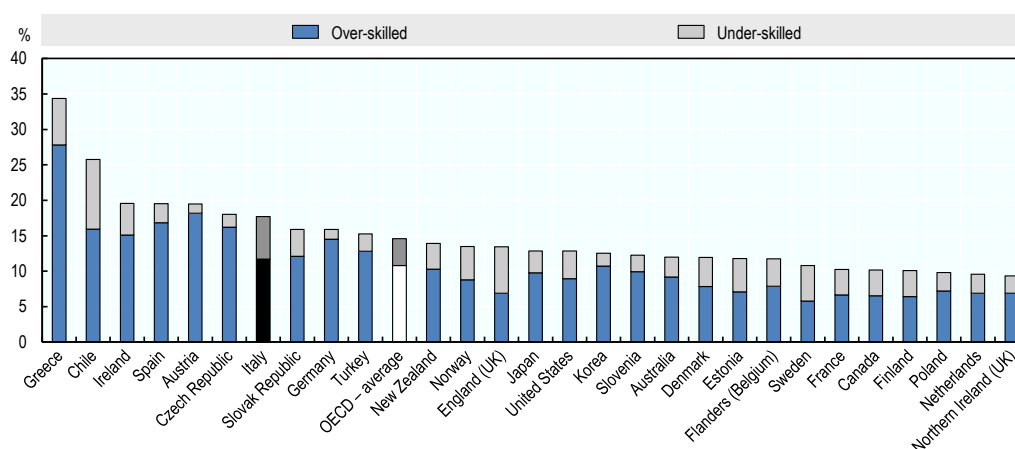
or train other people; whether they received education/training in the past twelve months; and whether they received a bonus payment. Skills proficiency corresponds to literacy proficiency for the use of reading and writing at work, to numeracy proficiency for the numeracy at work, and problem solving in technology-rich environments for ICT and problem solving at work. Italy, France and Spain are excluded from the regressions on the use of ICT and problem solving at work because they did not administer the problem solving in technology-rich environments module in the Survey of Adult Skills. Including them, by using literacy or numeracy scores as controls for proficiency, does not change the results.

Source: OECD (2016), OECD Employment Outlook 2016, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933384526>.

Better performance calls for better skills and better matching

As discussed in challenge 6, an efficient use of skills available in the labour market requires that the demand for skills by employers is met by the set of skills offered by workers. A good matching between labour supply and demand contributes to improve an economy's productivity, both by allocating resources to the best performing firms, and by improving the relative performance of firms surviving a competitive market environment. In Italy, mismatched workers who are trapped in low-productivity firms find it difficult to relocate to firms that could potentially employ them more efficiently. This mismatch slows productivity and technological change, as human capital is wasted in relatively unproductive positions. In a fast-digitalising world, demand for skilled workers will likely keep on increasing, potentially making mismatches more costly for the economy.

The incidence of skills mismatch in Italy is pervasive. Figure 53, based on the OECD Survey of Adults Skills (PIAAC), shows that about 12% of Italian workers are over-skilled, i.e. they are not able to fully utilise their skills and abilities on the job. This may partially mirror an inability of labour demand to suitably allocate the human capital generated by the educational system. 8% of workers instead are under-skilled, i.e. they lack the skills normally needed for their job. Both values are above the OECD average of 10% and 4%, respectively. This is also coupled by high qualification mismatch in the country, and in particular under-qualification. A high proportion of workers display a qualification which is higher than the qualification they think is necessary to work in their current position.⁵⁰

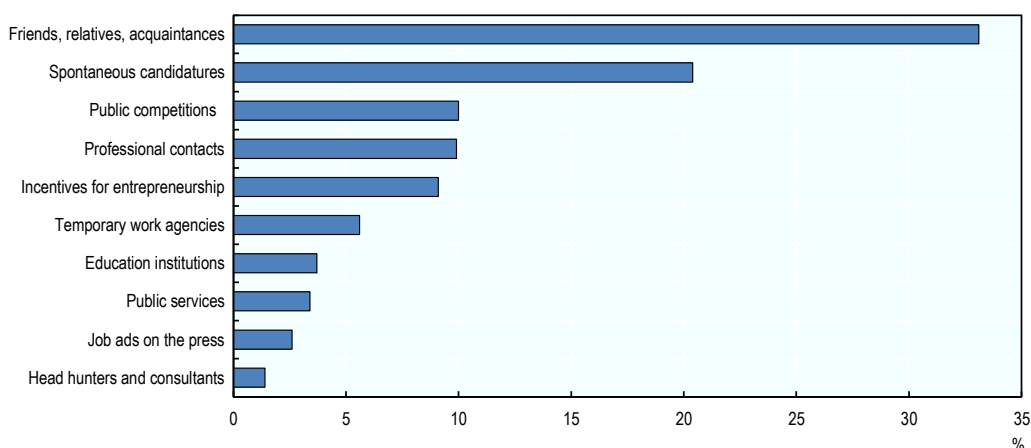
Figure 53. Percentage of over- and under-skilled workers in literacy, 2012

Source: OECD (2016), Skills Matter: Further Results from the Survey of Adult Skills, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933366353>.

The frequency of mismatch in Italy may be related to the use of informal selection procedures among companies, especially SMEs (European Commission, 2016). Mandrone et al. (2016) provide some evidence of the importance of personal contacts in job search in Italy. 35% of the respondents who attained a job position after 2003 obtained it through contacts provided by friends or family (Figure 54). If one also considers spontaneous candidatures and professional contacts, two-thirds of the respondent obtained a job through informal channels. This may be problematic, insofar as it signals that job-search formalised instruments may not be effective in matching job seekers with vacancies. What is more, informal contacts may not match the most meritorious candidates with the right job position, thus potentially increasing the misallocation of inputs of production which has been signalled here as a limit to productivity growth. As noted in challenge 4, there is a need to strengthen the role of the PES in supporting effective job searches

Figure 54. Channels through which a job was attained

Share of interviewed individuals who had been looking for a job, all ages and professions, after 2003



Source: Mandrone et al. (2016), based on ISFOL-PLUS survey (2014)

The evidence above calls for policy actions along many directions related to the use of skills at work, to enhance productivity and innovation. Promoting learning in adulthood is crucial to improve the match of workers with their job positions, and to increase their flexibility in light of the changes happening in the production structure of firms. What is more improving workers' and managers' skills may lead to the development and adoption of new innovative products or processes. However, participation in adult education and training in Italy is among the lowest in the European Union, especially among low-skill workers (OECD, 2017). See challenge 3 for a more detailed discussion of low-skilled adults and their participation in education and training.

Recommended areas for action

- Promote synergies and policy complementarities to spur investment in R&D and, in particular, in research-related human capital and skills. This goal can be achieved by:
 - Providing firms and other relevant stakeholders with more accessible information about existing policy supports.
 - Targeting R&D tax credits (including the patent box) at innovative SMEs and start-ups. Investing more in R&D and, in particular, in research-related human capital and skills would be important for Italy to get out of the low skills equilibrium in which the country has been trapped for some years. As already noted, the measures foreseen in the context of Industry 4.0 go in the right direction, although more can be done to trigger a virtuous circle of investment in R&D, skills and innovation.
 - Strengthening linkages between small- and medium-sized firms and higher education to promote innovation, for instance, by promoting traineeship

programmes for graduates (*apprendistato di terzo livello*), which are currently underutilized.

- Creating a system to facilitate shared hiring to make highly-skilled workers accessible for SMEs operating in a same territory and/or in the same supply-chain.
- Improving the organisational capabilities of firms by investing in improving the skills of managers, including of owners and managers of family firms. To be able to perform and grow, managers and firm owners, especially of small firms, need being endowed with the necessary business planning knowledge, including about the financial viability of projects, and the ability to pitch their plan to investors. There is a need for entrepreneurship and managerial skills (and sometimes even basic notions in this respect) to become more widespread, as they support the diffusion and absorption of new technologies and can help firms adapt to the challenges of production in a digitalising and international environment.

NOTES

⁴⁷ Cohen and Levinthal (1989) were the first to highlight innovation and learning to be the “two faces of R&D” and to emphasise the upskilling role of R&D.

⁴⁸ In 2013, the top3 2-digit ISIC4 manufacturing sectors by produced value added were Machinery and equipment n.e.c. (D28), fabricated metals (D28) and food products (D10). The top 3 business service industries by value added were real estate (D68), wholesale trade (D46), and construction (D41-43). This does not change when considering output instead (STAN data in current prices, accessed May 2017).

⁴⁹ EFIGE sampled approximately 15,000 manufacturing companies with at least 11 employees in Austria, France, Germany, Hungary, Italy, Spain, and the UK. The sample exploited in Bugamelli et al. (2012) refers to the years 2007-2009 in which information on innovation and R&D was also available.

⁵⁰ While there is evidence of both skill- and qualification- mismatch in the country, these are two different phenomena and may or may not go hand in hand. As the skills level of tertiary graduates is on average lower than the one of other PIAAC countries, a Worker could be simultaneously overqualified (education-wise) and still have the right skills for the job.

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CHALLENGE 8: STRENGTHENING MULTILEVEL GOVERNANCE AND PARTNERSHIPS TO IMPROVE SKILLS OUTCOMES

Key messages

- Complex governance systems are common across OECD countries, and co-ordinating skills policies among different sectors and across levels of government represents a challenge for all of them, including Italy.
- In Italy, longstanding obstacles to the effective implementation of public policy include: weak co-ordination mechanisms between the centre and subnational levels of government, the instability of legal and regulatory frameworks which creates uncertainty, and – with some important exceptions such as the Good School Reform – a limited use of consultation with key stakeholders.
- Italy is actively taking steps to adapt the governance of its national skills system to meet emerging skills needs and challenges. Since 2014, the country has introduced important reforms to improve skills outcomes, and the government is making concerted efforts to ensure full implementation together with subnational government, business, and social partners. Although these reforms face some implementation challenges, they are steps in the right direction and efforts have been made to promote complementarities among relevant policy domains. Progress has been made in strengthening the capacity of the public administration to interact with citizens and business thanks to the 2015 “Delegation to the Government for Public Administrations’ Re-organisation Law” law (known as the Madia Law). This law also re-organised the central administration, introduced measures to facilitate co-ordination among public entities and strengthened the Prime Minister’s Office’s function to co-ordinate and evaluate public policies. Efforts to ensure open policy-making are also supported by Open Government Initiative, which promotes a digital agenda to: better engage citizens in policy-making; simplify bureaucracy; and increase transparency.

Introduction and stakeholder perspectives

Complex governance systems are common across OECD countries, and co-ordinating skills policies among different sectors and across levels of government represents a challenge for all of them. In Italy, longstanding obstacles to the effective implementation of public policy include: weak co-ordination mechanisms between the centre and the subnational levels, the instability of legal and regulatory frameworks which creates uncertainty, and limited use of consultation with key stakeholders (OECD 2016; Pisu, *et al.*, forthcoming). Italy is actively taking steps to adapt the

governance of its national skills system to meet emerging skills needs. Since 2011, the country has engaged in important reform processes to improve skills outcomes, and the government is making concerted efforts to ensure full implementation together with subnational government, business and social partners. OECD evidence on skills outcomes underscores the importance of focussing on strengthening multilevel governance, institutional capacity and stakeholder engagement. For instance, Italy displays very large regional variations in PISA and PIAAC. Regional fragmentation negatively affects labour mobility, and the capacity to exchange valuable information on outcomes, performance and good practices.

Considering poor governance as a key obstacle to skills policies, stakeholders, almost unanimously, advocated for the creation of a national co-ordination framework – a *cabina di regia*, in their own words – to co-ordinate and oversee skills policies and, in particular, to facilitate implementation of policy reforms. This specific request reflects the heterogeneity of stakeholders and interests in the country and, more in general, the need to start building a shared narrative and a common vision about skills needs and opportunities in the country. The co-ordination framework could help connect the design and implementation of sectoral policies that impact skills outcomes (“skills proofing”), including across different levels of government; stimulate, and capitalise on, policy complementarities; make better use of the vast quantities of data and information generated at different levels of government to inform both policy-making and citizens; boost administrative capacity at the regional level; and improve overall accountability in the system.

.Stakeholder perspectives

- Stakeholders identified weak governance arrangements as one of the main challenges negatively affecting Italy's capacity to develop and implement a national skills strategy. In particular, skills policies and programmes are perceived as complex and ever-changing, making it hard for stakeholders, and in particular business, to interact effectively with public authorities. Accordingly, lack of co-ordination and co-operation within the public sector and between public authorities and the private sector were identified as key issues.
- Many stakeholders identified regional labour market institutions and qualifications frameworks as a barrier to labour mobility and the optimal use of existing talent. For instance, some innovations such as “territorial networks”, now co-ordinated by the national employment agency (ANPAL), are seen as positive and should be fully implemented. In the same vein, stakeholders praised the integration between passive and active labour market policies under ANPAL. There is widespread expectation that the presence of ANPAL will favour the co-ordination of skills policies, and also facilitate policy monitoring and evaluation.
- As a possible solution for the (multi)governance challenge affecting skills policies in Italy, stakeholders identified the creation of a national co-ordination framework (a *cabina di regia*, in Italian) operating across sectoral policies and tiers of governments.

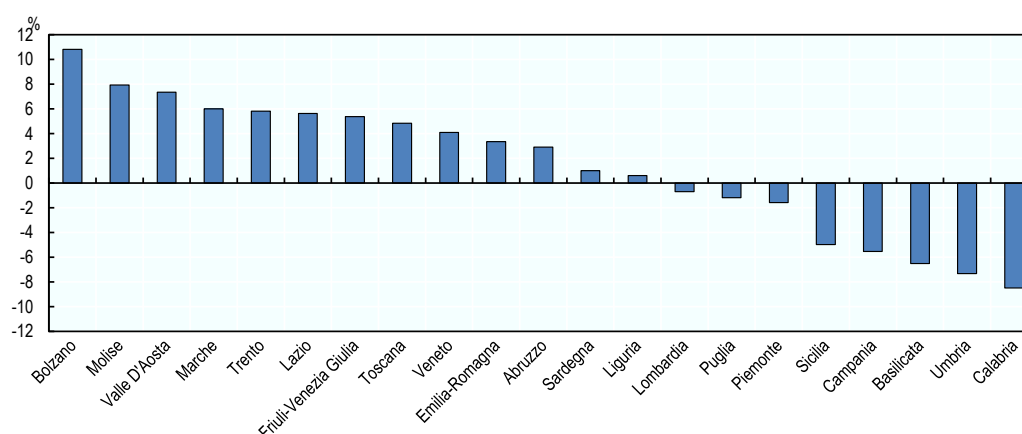
What is the impact of poor governance of skills policy in Italy?

Institutional capacity matters for skill in regions

Large regional variations in skills performance in Italy reflect differences in institutional capacity at the subnational level. In other words, poor governance helps to explain Italy's large regional variation in terms of skills, which is among the largest within the OECD, as measured by both the Programme for International Student Assessment (PISA) and the Survey of Adult Skills (PIAAC) (Figure 55). There is longstanding, historical socio-economic cleavage between the south of the country – the so-called *Mezzogiorno* – and northern regions that is well documented (Meldolesi, 1999). Tackling this “dualism” was one of the main drivers of decentralisation which aimed to tailor policy solutions to local needs. A series of reforms between 1970 and 2001 generated a governance system based on regions and two autonomous provinces.⁵¹ Within this framework, regional governments acquired the responsibility of managing important elements of national skills policies including part of the vocational education and training policy, active labour market policies and public employment services, research and development, and innovation. However, poor co-ordination with the national level, and very different administrative capacity at the regional and local level have, in some cases, exacerbated rather than reduced gaps in regional skills performance where, despite some remarkable exceptions, most southern regions score below Italy's average.

Figure 55. Regional variation of the mean literacy score

Relative difference with average literacy score for Italian regions



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

Regional fragmentation impinges upon labour mobility and skills matching. The governance system also contributes to the fragmentation of the Italian labour market into regional ones. Data shows that Italy is one of the OECD countries where regional mobility of labour is the lowest. Stakeholders were very vocal about the fact that the

presence of different regional labour market institutions negatively affects labour mobility in Italy. For instance, till recently, differences of regional certification systems caused that a worker participating in a given training programme in a region did not automatically see her skills recognised by employers in other Italian regions. This situation has changed when the National Framework of Regional Qualifications was introduced in 2015. The national framework is in fact designed to provide common references by which regional qualifications may be compared. In addition, to reduce regional fragmentation, the National Agency for Active Labour Market policies (ANPAL) has established a new nationwide information systems to facilitate the exchange of information among regional employment services. Another issue is represented by the fact that there are no specific active labour market policies (ALMP) that facilitate labour mobility across the country (relocation). Finally, the housing market is quite rigid, with a limited supply, and the private rental market is small and expensive which also hampers labour mobility (OECD, ECO 2017a).

Limited use is made of monitoring and evaluation to identify good practices among regions

The exchange of information and good policy practices among regions is limited. Regional authorities' efforts to co-ordinate among themselves are often focussed on negotiations with the central government through the *Conferenze Stato Regioni*, which is a political body. This does not favour the exchange of information about their respective policy approaches and policy experiences in tackling skills challenges. Without strong leadership and commitment, it is very difficult to pilot, monitor and evaluate national and regional skills policies, despite the relative abundance of information and data (as discussed in Challenge 9). Boosting business productivity and demand for high-skills depends in part upon institutional capacity.

Poor governance may also affect the demand-side of skill, thus contributing to the low-skills equilibrium identified as a key challenge by stakeholders (see challenge 2, 6 and 7). In some regions, public administration inefficiency places a heavy burden on local business, in particular SMEs, and hinders investment and productivity (OECD 2017a). A recent analysis conducted at the subnational level illustrates that there is a direct link between the efficiency of the public sector and firm-level labour productivity (Pisu *et al.*, 2017). The negative impact is even larger for small firms, which is alarming given the prevalence of SMEs, including micro firms, whose performance is more dependent on external factors, including the availability of public goods and services.

Lack of clear responsibility and accountability of the public administration hinders the propensity of stakeholders to co-operate with the public sector to tackle skills challenges

Poor governance limits public accountability and impinges upon the capacity of the public sector to establish partnerships with key stakeholders. Stakeholders participating in the workshops expressed their frustration in navigating complex regulatory frameworks and administrative requirements at both the national and regional levels. In this context, it is difficult for stakeholders and, in particular, for SMEs and individuals to identify which body/entity is responsible for a given policy

and to understand how to benefit from existing programmes and policies. The fact that the policy framework has been changing rapidly in recent years – as evidenced by the major reforms introduced in the Jobs Act and Buona Scuola – has meant that many actors struggle to adjust to the new framework conditions and requirements. In particular, several stakeholders representing the private sector mentioned that firms often perceive the public sector as incapable of generating the enabling conditions that would positively affect their business. Some firms, particularly in leading edge sectors, have developed the reflex of trying to solve skills challenges independently, by using their own expertise and resources independently or in association with other firms facing similar issues.

What are the factors that contribute to poor governance of skills policies?

In common with many other OECD countries, skills governance in Italy encompasses different policy sectors and involves a large number of stakeholders, including subnational governments, which have a key role in designing and implementing education policies, labour market policies, and economic development (investment) policy.⁵² However, the governance of skills systems in Italy is complex, which generates additional co-ordination challenges and high transaction costs. These high transaction costs make the adoption of a strategic and holistic approach to skills policies both particularly challenging and potentially rewarding in the case of Italy.

Governance of skills policies at the national level is complex

Using the OECD Skills Strategy framework as an analytical framework, it is possible to identify the main institutional actors responsible for skills policy as follows:

- **Skills development.** The Ministry of Education, Universities and Research (MIUR) defines and manages the general structure of the educational system, including upper-secondary technical and vocational educational training (*Istituti Tecnici e Istituti Professionali di Stato*). Regional governments manage and co-finance a part of upper-secondary vocational training – the *Istruzione e Formazione Professionale, IeFP* – following a “minimum standard” principle and also the qualification repertory established together by the central government and the Italian regions. Municipalities also play a role as they are in charge of managing pre-school services. Schools and universities manage their own organisation, within a context of increasing autonomy and decentralisation of responsibilities. Annex 2, at the end of this report, illustrates in detail the structure of the education system in Italy (Annex 2).
- **Skills activation.** Both the Ministry of Economy and Finance and the Ministry of Labour and Social Policy define the main policies concerning the activation of skills. The former influences this process mainly through the design of the tax and benefits system. The latter designs the labour market legislation and develops social policies, such as the parental leave scheme. Importantly, in the framework of the Jobs Act reform, the Ministry of Labour and Social Policy is currently pursuing a process of re-organisation of public employment services (PES) that constitute the main tool for the provision of Active Labour Market Policies

(ALMP) and that fall under the responsibility of regions. This re-organisation process has generated the National Agency for Active Labour Market policies, ANPAL, which supports regions implementing ALMP in Italy and promotes the integration of regional labour markets and the harmonisation of labour market institutions.

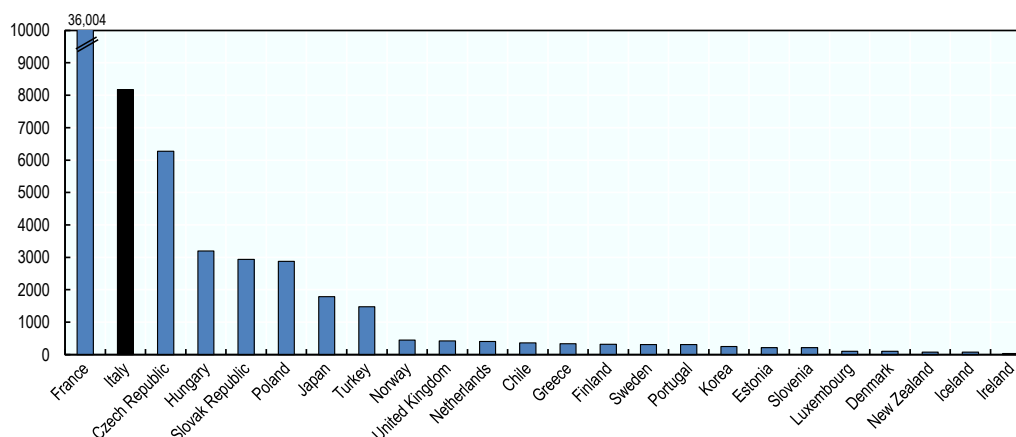
- Skills use. The Ministry of Economic Development, working together with actors such as trade unions, business, the chambers of commerce, and of course subnational authorities, plays a leading role in the governance of mechanisms aimed at promoting the use of skills. Examples of such mechanisms are policies to help managers, particularly in small and medium-sized enterprises (SMEs) promote innovation and adopt technologies and practices that make the best use of the existing skills base. Among others, examples of these initiatives are the so-called Temporary Export Manager or TEMs; grants to SMEs (in the form of a voucher) to be used to access specialised skills that can help them developing an internationalisation strategy.
- Skills system. Due to the need for a place-based approach to skills, institutions such as the State-Regions Conference (*Conferenza Stato Regioni*) and the National Agency for Cohesion Policy play an important role in connecting policies and investment (*i.e.* European Structural and Cohesion Funds) across different domains and with lower tiers of government.⁵³ Beyond this “first circle” of governmental actors, a broad range of stakeholders also play important roles. These include: citizen associations; employer associations; trade unions; teachers unions; and national and international experts in the field of skills, education and development policies. Finally, the supranational level also plays an important role in the Italian skills system through European Union policy initiatives, such as the New Agenda for Skills in Europe, and skills financing mechanisms, via the European Structural and Cohesion Funds and the Youth Guarantee.

A lack of clear responsibilities within Italy's multilevel governance arrangements undermines accountability for results

In Italy, subnational governments play a pivotal role within the national skills systems. Although Italy is a unitary country, its governance framework is strongly decentralised (Breton, Fraschini, 2016; Charbit, 2011). For instance, with over 8 000 subnational entities, including municipalities, provinces and regions, Italy governance framework is the second most fragmented among OECD unitary states, after France (Figure 56). While a large number of local governments *per se* may not in itself be a problem, fragmented governance can become an issue if there is no mechanism to streamline co-ordination in policy design and implementation (Bartolini, 2015). This is especially true when subnational authorities play such an important role in skills policies, as is the case in Italy. For instance, regions have legislative and administrative competences, defined by their statutes and are granted financial autonomy regarding revenues and expenditure. There are other subnational entities, including provinces, metropolitan areas and cities.⁵⁴

Figure 56. Italy territorial governance is based on a large number of entities

Total number of subnational governments in OECD unitary countries, 2014



Source: OECD.Stat (Subnational government structure and finance).

Italy's skills systems have evolved in different ways across regions since the 1990s, when increasing decentralisation of power was introduced into the national governance. In particular, since 2001 when the new region-based governance model was formalised through a Constitutional reform and policies to decentralise power were introduced. As already mentioned, since regions acquired full legislative power on several policies affecting the demand and supply of skills, priorities and outcomes have diverged.

Territorial governance arrangements have changed starting in 2014 when a national reform, Law 56/2014, prescribed the transformation of the provincial level of government into an "institutional body of second level" without a political mandate, and the creation of so-called "metropolitan cities" in the ten largest urban areas. In the new governance arrangement, regions have taken over the responsibility for managing public employment centres from provinces.

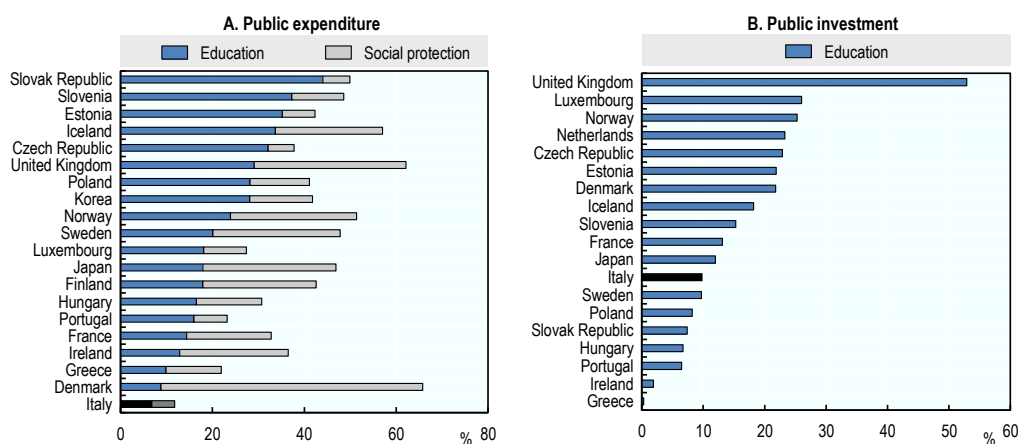
Funding arrangements for regional skills policies may be sub-optimal

Although progress has been made, the way in which regional skills policies, as discussed above, are financed by the public sector may still be sub-optimal. The national fiscal system is still characterised by a significant reliance on transfers from the centre, and regional tax autonomy is limited (OECD, 2007, Scuto, 2011, Mastromarino 2012; OECD, 2012)⁵⁵ In particular, the current system may reduce certainty about budget allocated at the subnational level.⁵⁶ Subnational revenue assignments, on aggregate, cover roughly half of current expenses, making regional and local government dependent on transfers from the national government. Subnational governments can also borrow for investment purposes. In addition, another important source of funding of skills policies at the regional level are the European Structural and Cohesion Funds (in particular the European Social Fund and the European Regional Development Fund). Despite the magnitude of these funds, their actual and effective use is hampered by capacity and co-ordination issues (OECD, ECO 2017a).

Among OECD unitary countries, Italy is the one that spends the least on skills policies at the subnational level, despite important responsibilities being delegated to regional governments. Health care makes up the bulk of subnational spending, accounting for some 50% of the total expenditures. In addition, subnational expenditures on social protection, which encompasses employment benefits and other components of ALMPs, were comparatively low in 2014 (Figure 57). National funds allocated to ALMPs are still relatively limited (see challenge 4). It is possible that, once fully implemented, the recent reforms, including the Jobs Act (2014), policy against poverty and active income incentives, will affect both the level and the composition of expenditure at the regional level.

Figure 57. Italy's subnational expenditure and investment in skills is comparatively low

Share of public expenditure and investment on education and social protection, 2014



Source: OECD.Stat (Subnational government structure and finance).

The lack of funding negatively affects the capacity of subnational public entities to deliver skills services. A 2014 monitoring report done by ISFOL sheds light on the limited – and decreasing – resources allocated by Italy to public employment services, for example. On that year, Italy devoted only 0.03% of her GDP to Employment Centres (*Centri per l'Impiego*), compared with a EU average of 0.25%. In other words, Italy total investment to PES was EUR 500 million; about half of what invested by Spain in the same year, and far from EUR 8.9 billion invested in Germany and EUR 5 billion invested in France (ISFOL, 2014). Less funds translated into less operators (as discussed in challenge 4). Italy had in total approximately 9 000 PES operators in 2014; in the same year, Spain had 11 000 Germany 115 000 and France 49 000 in France (ISFOL). According to regional stakeholders, due to the endemic underfunding, characterising the last decade, employment centres are still understaffed, and many operators lack the capabilities, training, and tools to provide workers with effective support.

Italian authorities have undertaken reforms to increase the accountability of subnational governments for their spending, further align revenue powers with responsibilities, and improve their capacity. The major change was to move away from

transfers to subnational governments based on historical costs, in favour of a system based on actual needs (standard financing needs) or costs. Since 2014 this approach has been adopted in areas where the central government has responsibility for setting national service standards, *Livelli Essenziali di Assistenza* – LEA, such as health, vocational training, and social assistance. The application of the standard financing needs model has helped to improve the planning and programming of the activities carried out by subnational governments. For example, public accountability has been enhanced by online publication of performance indicators of local governments (OpenCivitas). Concerning the implementation of European Structural and Cohesion Funds, the government has created a Territorial Cohesion Agency to improve co-ordination in the system and Invitalia – an agency within the Ministry of Finance – that, among others, support the public administration for the effective management of EU structural funds (OECD, 2017a).

The preponderance of SMEs amplifies the challenge of delivering tailored and effective support for skills development and use

In Italy, policy makers have to identify the specific skills needs of a very diverse universe of small firms. The backbone of the Italian economy are its SMEs, including micro firms, which generate 80% of national employment, and 67% of the overall value added in the non-financial business sector (cf. challenges 6 and 7). This is high compared to other large economies of the European Union such as Germany and France where SMEs represent 63% and 64%, respectively, of total employment and 55% and 58%, respectively, of the national value added (EU, 2015).⁵⁷ The lack of large firms (national champions), which are able to orient/influence skills policy decisions, along with a relative decline of industrial districts, and the fact that Italian SMEs have a lower propensity to grow compared with other OECD countries, are all factors that make the design and delivery of effective skills policy an even greater challenge.

Italy has taken steps to improve the multilevel governance of its skills system

Italy is actively taking steps to adapt the governance of its national skills system to meet emerging skills needs, including by putting in place incentives that can spur co-operation between the public and the private sector. Concerning the supply of skills, since 2014 the country has put in place important reforms to improve skills outcomes. Regarding the demand for skills, the significant public investments to promote digital technology that started in 2017 under Industria 4.0 are designed to facilitate partnerships between the public and the private sector.

Italy's recent reforms recognise the need to co-ordinate across policy sectors

Italian authorities understand that poor governance is a major factor affecting the country's skills performance, and have put in place a series of actions to improve it. For example, efforts to improve policy co-ordination within the national skills system have been introduced in 2012, when the government launched “territorial networks for life-long learning” – a policy measure originally included in the Law n.92/2012, the so-called *Legge Fornero*, which is now dealt with by the National Agency for Active Labour

Market policies (ANPAL). These territorial networks are formal entities that are created to accompany workers through education, training and job opportunities, throughout the entire span of their working lives. To incentivise the creation of territorial networks, the law grants networks a priority access to public incentives and additional resources provided by the European Social Fund (ESF) and other European Structural and Cohesion Funds. Although implementation challenges remain, this initiative has had the merit of introducing people-centred systems in which various policies co-ordinate to deliver an integrated basket of skills services including profiling, career guidance, and skills recognition, among others.

Between 2014 and 2016, the Italian government introduced major reforms affecting the national skills systems. In particular, these reforms aim to improve ALMP, education, innovation policies and also the functioning of the public administration. Although these reforms face implementation challenges, they are steps in the right direction and promote linkages between relevant policy domains.

Strengthening public administration capacity

- Reform of the public administration. Progress has been made in terms of strengthening the capacity of the public administration to interact with citizens and business. For instance, the 2015 “Delegation to the Government for Public Administrations’ Re-organisation Law” provided the legal basis for establishing a new kind of relationship between the government and the public. This Delegation Law re-organised the central administration and introduced measures to facilitate co-ordination among public entities. Most importantly, concerning skills policies, the reform strengthened the Prime Minister’s Office’s function to co-ordinate and evaluate public policies. Finally, the Delegation Law connects with the Open Government Initiative, which promotes digital agenda to: better engages citizens in policy-making; simplify bureaucracy; and increase transparency.

Improving stakeholder engagement

- The reform of the national education system. The design of the 2015 Good School reform –discussed extensively in earlier sections of this report – involved stakeholders in a broad consultation process, which ran from September to November 2014. Consultation was based on both an online questionnaire and an online platform that shared the results of debates between education professionals and practitioners.⁵⁸ Contributions to the consultation process came also through thematic discussions to gather good practices and suggestions. For example, the consultation platform had thematic areas for this purpose, where participants could mention ideas, proposals, ongoing pilot projects and comment on proposals already posted by other users (OECD, 2016). As a result, overall, the consultation process involved some 1.8 million people, including 200 thousand stakeholders that were involved in more than 200 meetings organised all over the country.⁵⁹ The engagement of stakeholders in the design of the reform may be considered an important factor that helped in its adoption.

New approaches to inter-ministerial policy co-ordination

- The Italian Youth Guarantee.⁶⁰ This policy – based on a common framework launched by the European Union in 2013 and implemented in Italy since 2014 – generated at least two good practices in terms of governance. First, to comply with the holistic approach featuring the EU Youth Guarantee, the Italian government had to integrate different policy sectors and entities and establish a special mission structure based on the Ministry of Labour and its agencies (e.g. ISFOL, *Italia Lavoro* which have become respectively INAPP and ANPAL Servizi), INPS, the Ministry of Education, the Ministry of Economic Development, the Department of Youth at the Presidency of the Council of Ministers, the Ministry of Economy and Finance, the Regions and the Chambers of Commerce (Unioncamere). Second, the Youth Guarantee introduced a “contestability mechanism” which gives young people the possibility to move across different regions to select programmes that better match their needs.
- Strengthening the institutional framework for effective national-regional ion: The National Agency for Active Labour Market policies (ANPAL). Based on the positive experience of the Youth Guarantee, the government promoted the transition from a system based on income replacement benefits paid to unemployed workers (passive policies) to one offering profiling services, training, wage subsidies, among others, which are active labour market policies. To facilitate this transition, in 2014, the central government and regions agreed to create a national agency in charge of co-ordinating labour policies, called ANPAL. The national agency has been working together with regional governments to harmonise the quality of regional services by identifying minimum standards concerning PES. In addition, and only upon the request of a given region, ANPAL could manage directly regional employment centres and take-over the responsibility of ALMP.⁶¹ This may generate a variable geometry governance of labour market policies possibly helping lagging regions to improve the functioning of their labour market institutions.⁶²

Making better use of available information on skills

- National skills intelligence. To support the action of ANPAL and facilitate integration of regional skills systems and labour markets, the government has intervened to improve national skills intelligence and generate an integrated, nationwide, system of information (see challenge 9). Recent efforts have been made to “map” diverse regional skills recognition and certification systems onto a common national framework, which is expected to facilitate labour mobility across regions and clarify the skills workers have developed for the benefit of prospective employees and employers alike. Finally, research services have been strengthened with the creation of National Institute for the Analysis of Public Policies – INAPP (former ISFOL).

Building stronger partnerships with stakeholders

- Industry 4.0. Planned investments in digital technologies promoted by *Industria 4.0* totalling EUR 13 billion between 2017 and 2020 is a catalyst for new partnerships and new territorial networks. Some policy actions will be delivered

in collaboration with the Italian industrialist association (Confindustria), other entities representing manufacturing and service companies, and with selected universities and research centres. Digital innovation hubs (DIH) and digital enterprise points (PID – *Punti Impresa Digitale*) will be used as contact point between companies, research institutions and public/private investors with the main mission of create awareness on Industry 4.0 opportunities. Based on international good practices such as UK's Catapult and German Fraunhofer, Italy plans to devote EUR 30 million to the creation of selected competence centres focussed on facilitating innovation projects in all industries with the strong involvement of leading Italian universities and large private players.⁶³

- Competence centres, digital innovation hubs, and digital enterprise points will be the main interface with users. For instance, DIH and PID will help firms, including SMEs, familiarise with the new technological opportunities. They will also orient firms with specific technology needs to competence centres. In addition, PIDs will be in charge of the dissemination of the policy initiatives connected to *Industria 4.0*, and DIHs will provide firms with specialised training and information on specific technological solutions. Competence centres will be created following a selection process co-ordinated by the Ministry of Economic Development (MISE) through a public tender process. Centres will specialise in priority technological fields already identified by *Industria 4.0*. The aim is to create science-based poles that will be able to agglomerate knowledge from universities, research institutions and enterprises into open networks. These competence centres will establish a strong partnership with large private players, SMEs and start-ups.

Italy's multidimensional reform package has been generating positive policy complementarities

The fact that Italy has put in place a package of reforms in different sectors favours the development of policy complementarities, which are emerging despite the challenging governance framework. Policy complementarities refer to the mutually reinforcing benefits of policies that are implemented within a coherent framework, and seem to be jointly critical for generating growth (Braga De Macedo, Oliveira Martins, 2008) (Box 13). For instance:

- Complementarities are emerging between the Jobs Act and the Good School reforms. To promote the use of new open-end contracts provided by the Jobs Act and given the budget constraints, starting in 2017 the government will provide 3-year exemption from social contributions to those firms hiring youth they were training through work-based learning. In this way, tax cuts will promote at the same time employment and work-learning activities and the Good School, the Jobs Act and the IeFP will be mutually reinforcing.
- The Good School reform has started focussing on digital technology to improve the supply of digital skills and support the current public investment generated by *Industria 4.0*. Within the Good School reform, the National Plan for Digital Education (PNSD) promotes the teaching of ICT technologies in primary and secondary schools and also the creation of digital territorial laboratories (Fab Labs) that can support learning activities of different schools located in a given

area. Laboratories have been created and financed in all regions. These initiatives will facilitate the adoption of digital technologies in firms, including SMEs, and should unleash the potential of *Industry* 4.0 to generate a general technological upgrade in Italy's manufacturing sector.

- A specific development strategy for remote and sparsely populated areas (*Aree Interne*) promotes policy complementarities among education, ALMP, economic development policy and investment. *Aree Interne* is based on a broad network of facilitators that work in direct contact with local institutions to help them define a common vision for their territory and to connect this vision with national resources, including those provided under recent reforms.

Box 12. Policy Complementarities

The concept of policy complementarity refers to the mutually reinforcing impact of different actions on a given policy outcome. Policies can be complementary because they support the achievement of a given target from different angles. For example, production development policy, innovation policy and trade policy all support the competitiveness of national or regional industry. Alternatively, a policy in one domain can reinforce the impact of another policy.

Sequencing is also important in policy complementarity. Some policies are best put in place simultaneously. For example, innovation, industrial and trade policies must be synchronised to address the issue of industrial competitiveness from all angles. In other cases, policies synergies may be achieved sequentially. For example, investments in broadband infrastructure need to be followed up with specific policies on access and disseminating those services among the population. Complementarities between policies can be “latent”, but can also be encouraged by specific governance arrangements. For example, mechanisms that facilitate action across levels of government (vertical action) can help attain complementarity across policies from various levels. Triple helix arrangements can develop a strategic common framework involving all relevant actors in a region. Alternatively, they can be induced, by combining different policies through conditionality schemes, or when the complementarities are the result of strategic planning. Opportunities to create jobs, for example, can be attached to direct cash transfers to enlist those with the least resources in production, so that they can avoid becoming dependent on income transfers. While policy complementarities can arise spontaneously, they are best fostered actively by ensuring early identification of potential synergies through ongoing co-ordination among ministries or agencies.

Source: Braga de Macedo, Oliveira Martins (2008).

What more could Italy do to strengthen multilevel governance of its national skills system, build effective partnerships and improve skills outcomes?

Based on stakeholders' feedback, empirical evidence, and the framework created by the OECD to promote a strategic approach to skills policies, it is possible to identify at least two areas in which Italy needs to put in place timely and co-ordinated actions.

- Italy should tackle its implementation challenges and consider how best to respond to stakeholders' requests to create a national framework (a *Cabina di Regia*, in Italian) for co-ordinating skills policy implementation. This framework should operate across all relevant stakeholders and sectorial policies.
- A national skills strategy should be supported by strong and durable partnerships with the private sector, trade unions and training providers. This will help the early identification of emerging policy needs and also to ensure that the burden of policy implementation is shared by all actors.

Italy needs to adopt a whole-of-government approach to skills

First, concerted efforts are needed to foster a whole-of government approach to skills policies. This requires: co-ordinating different policy sectors; broadening the scope of skills policies; and improving multilevel governance arrangements following the principle of subsidiarity. In this way policy complementarities could be better identified and maximised *ex ante* during policy-making.

Enlarge the scope of skills policies to reflect a wider range of Italy's competitive economic sectors

Skills policies could have a broader scope and deal with issues that although relevant to improve skills development, activation and use, lay outside the current policy framework. This includes economic sectors. For instance, key policy initiatives such as Industry 4.0 and ITSs focus mostly on manufacturing and technology-based sectors. However, as was also flagged by stakeholders, Italy's comparative advantage also lies in other non-manufacturing sectors such as tourism and culture which can leverage the country's cultural heritage, represented by both its built environment and natural features, including landscape amenities (ISFOL, 2011). These are economic sectors in which it would be possible to generate a demand for highly-skilled workers thus contributing to break the vicious cycle characteristic of a low-skills equilibrium. Likewise, other policies such as housing and those related to product market regulation (PMR) also have an impact on skills allocation (worker mobility) and should be embedded in a national skills strategy (OECD, 2017a).

Improve multilevel governance arrangements and strengthen capacities at the subnational level

Italy should seek more efficient and effective multilevel governance arrangements in the field of skills that would facilitate collaboration among different levels of government (i.e. sharing information and goals) and strengthens capacities at the subnational level. In particular, Italy's national skills strategy will need to find the right balance between decentralisation and the need for national co-ordination. Stakeholders mentioned that the complex institutional relations between the centre and regional governments represent a major obstacle to effective policy action. Skills policies should retain a national dimension to guarantee that regions have the institutional capacity and funds to ensure similar levels of service delivery and strategic support to all citizens, educational institutions and firms to improve skills outcomes throughout the country. For instance, some regional authorities in the Italian Mezzogiorno may need additional support from the national government – in line with the principle of subsidiarity – to

be able to improve skills outcomes. In addition, despite the important role large cities can and do play in skills development, activation and use (Florida, 2002; Glaeser, 2011; OECD, 2015) it seems that these institutional actors play a limited role in the policy dialogue on skills in Italy.

Several stakeholders mentioned that there are untapped administrative capacities in the public sector, including at the subnational levels. As a result of the decentralisation process, regional governments have acquired almost two decades' of experience in dealing with complex policy systems and have developed capacities that could be leveraged for national processes. Moreover, many good policy practices have been implemented at the regional level that would merit greater visibility and that could be shared within the country.

Make better use of skills data to improve policy and inform stakeholders

In Italy there is scope to improve evidence-based policy-making for skills policies and provide citizens and firms with better information on skills outcomes. A first step in this direction would be to streamline the current “governance of data”. A good example of this is the *Sistema Informativo sulle Professioni*, put in place by ISFOL (now INAPP) with the national institute for statistics of Italy (ISTAT)) which aims to aggregate labour market intelligence proceeding from different data sources to provide a wide array of users (e.g. policy makers, end-users, officials in the various ministries) labour market information at the occupational level (OECD, 2017b) (see challenge 9). There are several bodies/entities in the country that produce information related to skills development, activation, and use. Recent efforts to co-ordinate information sources go in the right direction. For instance, the creation of INAPP could facilitate a holistic approach to policy evaluation, which – in the medium term – could also help improve policy and programme design and implementation capacity. Data and analysis should be also be used to inform citizens. This would require greater efforts to streamline information, make it user-friendly and accessible to policy users. Open-data and reliable rating systems could play an important role in improving the performance of education systems, employment centres and DIHs.

The country faces implementation challenges

Italy's recent reform effort faces several implementation challenges which may limit the policy complementarities that could be generated among different sectors. Political economy of reform challenges (OECD MRH, 2010) depend on several factors, First, Italy's limited fiscal room, which limits the capacity of the government to create incentives to support the reform process, and to compensate those that are negatively affected by the reform. Second, the large variance of regional performance which requires tailoring policy actions to improve skills development, activation, and use in different territorial settings while ensuring high-quality services for all citizens and businesses. Third, the need to ensure that key stakeholders such as teachers, firms and families are on board.

An example of this dynamic is provided by the case of ANPAL. Following the December 2016 referendum, it is unclear what degree of influence ANPAL should have on regional employment centres. The implementing decree 150/2015 that creates ANPAL and sets the “cycle of ALMP” in Italy has identified a “transition period” of 3

years, between 2015 and 2018, in which employment centres will be under the aegis of regional governments. To manage the employment centres, regional governments have reached an agreement (*convenzione*) with provinces, which were the government tier in charge of managing the centres under the previous governance arrangement (and that have been abolished, at least *de jure*, by a recent territorial governance reform). Both the Ministry of Labour and regional governments are contributing financially to the functioning of employment centres, i.e. salaries of employment centres' workers. In particular, the Ministry covers two-thirds of the operating costs while regions cover the remaining third. Due to budget constraints, most regions use European Structural Funds, including those allocated through national-level programming (*Programma Operativo Nazionale*), to finance their part of the contribution to employment centres.

Similarly, it is a concern that competence centres, which represent the main interface between *Industria 4.0* and firms operating in knowledge-intensive sectors, may be prevented from accumulating additional funding streams from different ministries due to the lack of specific policy complementarities, thereby negatively affecting their capacity to design integrated programmes to support industrial development.

To deal with such implementation challenges, stakeholders suggested the creation of a single co-ordination framework (*a cabina di regia*) in charge of implementing skills policy. Nonetheless, implementing a national skills strategy in Italy will require the central government to work closely with regional and local governments and stakeholders to generate and sustain a shared vision of how to improve Italy's skills system, including what concrete actions need to be taken and by whom. All stakeholders should be involved in this process and put forward their own interests and aspirations, in a very transparent and collaborative setting. The government should play a leadership role in facilitating and supporting an open policy dialogue in order to identify concrete actions and accountability for results.

Box 13. Building a shared vision and responsibility for a National Skills Strategy: the example of Norway and the Netherlands

The experience of other OECD countries who have undertaken National Skills Strategy country projects with the OECD, such as Norway and Netherlands, provide some useful insights into building a shared approach to tackling skills challenges.

Norway: in February 2017, three years after completing both the Diagnostic and Action Phases of their National Skills Strategy project, Norway issued a “National Skills Strategy Policy 2017-2020” which was signed by the Prime Minister, representatives of the main social partners (including trade unions and employers’ associations), the Sami Parliament and the Adult Education Association. The strategy includes a number of measures aimed at improving co-ordination at the local, regional and national levels, including the establishment of a Future Skills Needs Committee. Implementation of the strategy will be monitored through a Skills Policy Council.

The Netherlands: in April 2017, following the public launch of the OECD Skills Strategy Diagnostic Report for the Netherlands in Amsterdam, a stakeholder meeting explored potential options for future actions. One proposal was to work together to develop a “Skills Pact” involving all relevant government and non-government actors.

Source: <https://www.regjeringen.no/en/topics/education/voksnes-laring-og-kompetanse/artikler/National-Skills-Policy-Strategy-2017-2021/id2516169/>

Engaging with key stakeholders

Policy implementation could be improved through the use of public-private partnerships (PPPs). Italy’s reform effort to improve skills policies has already generated the conditions for more interactions between the public sector and private actors. For instance, the activation of work-based learning and internships by the Good School reform required the government and also individual schools to engage with the business community to generate internship opportunities (see Annex 2 for some examples of policy practices). Likewise, *Industria 4.0* is supported by the Italian industrialist association (*Confindustria*) and requires the direct involvement of some leading national universities and also of the *Istituti Tecnici Superiori* (ITS) – see challenge 2 – which gain new opportunities for both funding and collaboration. These examples illustrate the success of partnerships and may encourage greater use of partnerships in policy design and delivery whereby the public sector can benefit from the support of “national champions” to co-deliver policy actions. Examples of some international good practices clearly illustrate the advantage of PPPs in skills systems (Box 15).

Box 14. SME training consortia in Korea

Under the Vocational Ability Development Programme (VADP) the Korean government provides training grants to enterprises from the employment insurance fund (EIF) which is funded through a payroll tax on enterprises. Prior to this, in the period from 1976 to 1994, Korea had adopted a “train-or-pay” scheme which after some initial success saw the percentage of eligible firms using its financial incentives fall from two-thirds in 1977-80 to less than one-fifth in 1991-93 (OECD, 2000).

Today, the VADP provides subsidies to firms that: 1) conduct in-plant training; 2) assign workers to paid education or training leave; and 3) provide offsite training courses. It also helps employees pursue education and training – including training for older workers – and provides tuition loans. One of the main drawbacks of the VADP is that the prime beneficiaries are large firms; small and micro enterprises benefit much less from it (although they also pay smaller contributions).

Given the low take-up rate among smaller enterprises, the Korean government is supporting training consortia that involve large enterprises (including multinationals) in organising training for small and medium-sized enterprises (SMEs). The initiative provides an interesting and innovative example of how to tackle low training participation among SMEs. Under this system, training institutions of large enterprises pool resources to create a joint training centre to cater to suppliers, distributors and subcontractors. This collaboration benefits all partners by increasing the efficiency and quality of training, streamlining the training programmes of partner enterprises, encouraging employees of partner enterprises to participate in training, and ultimately improving product quality. Moreover, training consortia organised by multinational enterprises or technologically advanced domestic firms may facilitate technology spillovers.

Two training consortia established by Samsung Heavy Industries and Volvo are good examples of this initiative. Facing shortages of skilled labour and inadequate product quality among partner enterprises, Samsung Heavy Industries created a joint training facility for its partners. The pilot project began in 2001 by developing and delivering training programmes and materials that reflected the skill demand of partner enterprises. In 2002, 92% of Samsung's partner enterprises participated in the training programme, and 98% of participants in the programme completed their courses. The Volvo consortium also pooled training resources to improve the skill level of suppliers and subcontractors. This scheme benefited not only Volvo, by raising the quality of inputs from its suppliers, but also the partner companies (mostly SMEs), by improving their productive efficiency.

Sources: OECD (2005), Promoting Adult Learning, <http://dx.doi.org/10.1787/9789264010932-en>, p.63, based on Ra, Y.S., J.H. Choi and S.H. Kim (2005), “OECD thematic review on adult learning: Korea background report”; OECD (2000), Pushing Ahead with Reform in Korea: Labour Market and Social Safety-net Policies, <http://dx.doi.org/10.1787/9789264181922-en>.

Recommended areas for action

- Continue improving the current efforts to adopt a whole-of government approach to developing and effectively using skills to maximise emerging policy complementarities by requiring enhanced co-ordination and information sharing across ministries and with subnational levels of governments and with relevant stakeholders.
- Boost the public administration's capacity to implement skills policies by increasing training for public servants, exchanging data and information across public authorities.
- Improve public sector engagement with key stakeholders by making a greater effort to encourage them to participate in established policy forums, as well as by undertaking targeted focus groups. In particular, ensure that disadvantaged groups and regions are well represented in the policy development process.
- Strengthen transparency and accountability by clarifying responsibilities across public authorities and requiring public reporting of results.

NOTES

- ⁵¹ Italy is composed of Regions (*regioni*), Provinces (*province*), Municipalities (*comuni*) and metropolitan cities (*città metropolitane*). The Regions and the Municipalities may adopt their own statutes. There are fifteen Regions with ordinary status (*regioni a statuto ordinario*): Piemonte, Lombardia, Veneto, Liguria, Emilia-Romagna, Toscana, Umbria, Marche, Lazio, Abruzzo, Molise, Campania, Puglia, Basilicata and Calabria. Five Regions have a special autonomous status (*regioni autonome a statuto speciale*); they are Friuli-Venezia Giulia, Sardegna, Sicilia, Trentino-Alto Adige/Südtirol, and the Valle d'Aosta. In particular, the Trentino-Alto Adige/Südtirol Region is made up of the autonomous provinces of Trento and Bolzano.
- ⁵² The central government has exclusive competence in areas such as foreign policy; national security; macroeconomic policy; income redistribution; tax collection; constitutional matters; and setting public service standards.
- ⁵³ The Conference of State-Regions (*Conferenza Stato Regioni*) allows regional governments to participate in the process of institutional development, especially relating to the transfer of functions from the centre to the regions and local authorities. The Conference of State-Regions co-ordinates relations between the state and local authorities and deliberates on local authority issues. The Unified Conference of State-

Regions-Municipalities and other local authorities is the institution consulted on any actions in the field of common responsibilities such as on decrees concerning the allocation of personnel and financial resources to regions and local authorities.

- 54 A reform of the provincial level of administration, adopted in 2014, elevated the role of larger cities and removed the direct election of political representatives in provinces. Italy's ten largest cities have become "metropolitan cities" and replace the corresponding provinces. They have greater powers than did the former provinces and the mayor of the main city heads the new body. The remaining provinces are governed by an assembly of all mayors and an executive council that consists of a local administrator elected by all local councils on a population-weighted basis. The exact functions allocated to the new provincial bodies are determined by regional governments generating flexibility – as well as uncertainty – within the multilevel governance system.
- 55 Horizontal inequities between regions are also significant. The South is more dependent than the North and has a lower margin of flexibility to increase own revenue (Blöchliger, H, Vamalle C., 2012).
- 56 For instance, in 1999, the budget autonomy of Italian municipalities, and also of its regions and provinces, was reduced with the introduction of a Domestic Stability Pact, or simply Stability Pact, stipulated in Law 448/1998. Such fiscal rules were introduced by most countries in the euro zone as a consequence of the Stability and Growth Pact, to control and possibly limit the budget deficits of lower levels of government. These fiscal rules generally involve a limitation on running deficits and/or direct limits to spending. In Italy, the Stability Pact mainly defines a set of norms contained in the annual budget law. Because the Stability Pact is prescribed in the budget law, it may be subject to substantial modification from one year to the next, creating uncertainty about available resources, at the subnational level
- 57 Small and medium enterprises (SMEs) are defined as businesses which employ less than 250 staff and have an annual turnover of less than an annual turnover of less than EUR 50 million, and/or their balance sheet EUR 50 million, and/or their balance sheet total is less than EUR 43 million. They comprise three categories of enterprises, namely micro, small, and medium- medium-sized enterprises (European Commission, 2015).
- 58 A kit for offline consultation was made available through download.
- 59 See http://www.istruzione.it/allegati/2014/focus151214_all1.pdf (accessed on 16 02 2017)
- 60 The Youth Guarantee is a policy initiative of the European Union that provides youth below 25 with tailored skills services, including profiling and training (cf. challenge 5). Italy's Youth Guarantee Plan started in 2014, with a total budget of more than EUR 1.2 billion (half of which, approx. EUR 560 million, co-financed by the European Social Fund). The Youth Guarantee identifies and implements a set of standard services and

measures that employment services at regional level have to provide to young people applying for the programme (see Challenge 5).

- ⁶¹ The ANPAL was originally designed to co-ordinate national ALMP. However, in Italy, as ALMP falls under the competence of regional governments, before establishing the Agency, the Italian government had to organise a national Constitutional referendum to ask the people to accept a re-centralisation of the competence related to ALMP. Voters rejected the proposition.
- ⁶² In December 2016, Italians voted against a Constitutional reform which would have allocated at the central government some key responsibilities concerning PES and ALMP, transforming ANPAL in the main institutional actor concerning employment policies.
- ⁶³ Catapult centres are organisations set up by Innovate UK (previously the Technology Strategy Board) in the United Kingdom to promote research and development through business-led collaboration between scientists, engineers and market opportunities. Each Catapult centre is expected to raise funds equally from different sources, in particular: business-funded R&D contracts and core UK public funding (The internet UK Catapult programme site, accessed on April 2017).

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CHALLENGE 9: PROMOTING SKILLS ASSESSMENT AND ANTICIPATION TO REDUCE SKILLS MISMATCHES

Key messages

- A wide range of skills assessment and anticipation (SAA) exercises are produced in Italy, reflecting the different objectives and needs of the actors involved.
- Some information gaps exist. In particular, the development of domestic long-term skills needs forecasts, measurement of soft skills in the population, and the use of big data, could be strengthened.
- The level of granularity of certain information could be deepened in the future, and the statistical soundness of some SAA exercises improved.
- Providers of SAA information still do not exploit all different dissemination channels available (e.g. social and public media) and could do more to engage their audiences more effectively.
- The use of SAA information is ad-hoc rather than systematic, partly reflecting the fact that regional and local authorities, as well as education and employment programmes providers, have a great deal of autonomy on policy/programme delivery.
- Career guidance – based on solid SAA information – is limited and provided in a scattered way.
- Italy is taking good steps to improve its SAA information systems. For instance, good efforts are currently being undertaken to link different SAA exercises with one another. One notable example is the establishment of the Information System on Occupations which centralises data from different sources and creates co-ordination and structural links between the different SAA exercises scattered across the country. Good efforts have been recently undertaken to harmonise different existing definitions of skills. One example is the recent establishment of the *Atlante del Lavoro e delle Qualificazioni*, developed by ISFOL (now INAPP), which describes job contents (e.g. tasks) related to occupations, with the aim to harmonise the language used by the world of work with that used by the Regional VET pathways, ITS and Apprenticeship across the territory.

Introduction and stakeholder perspectives

Skills assessment and anticipation (SAA) exercises are tools used to generate information on current and future skills needs. Typically, the results of SAA produce

information on where (i.e. in what economic sectors, occupations, or geographic areas) and when (i.e. now, in the future, or both) the demand and supply of skills are (mis-)aligned. SAA information can be disseminated in different ways (reports; web-portals; conferences; micro-data; social or public media) to reach a broad audience. It is typically used by policy makers to steer policy action (e.g. in education, employment, and migration policy areas), and by individuals (e.g. students; jobseekers) to support their employment or education choices.

Stakeholders recognised that systematic forecasts of current and future skills needs is crucial to reduce skills mismatches and shortages, thus breaking the current “low skills-equilibrium”. As users, they were also able to highlight the limits of the current system. For instance, in Italy many different users of SAA information end up having very different understandings of what the current and future skills needs of the labour market will be, suggesting that greater efforts are needed to produce and disseminate clear, concise and user-friendly information (see below).

Stakeholder perspectives

- Different users of SAA information end up having very different understandings of what the current and future skills needs of the labour market will be, suggesting that greater efforts are needed to produce and disseminate clear, concise, integrated, and user-friendly information.
- Not enough is done to make use of big data to assess the pulse of the labour market in real time.
- Despite recent improvements, information on the level of soft skills in the population remains also scattered.
- The level of granularity of information could be deepened in some occasions.
- Information on job vacancies is dispersed across multiple regional databases and there is no national information system that brings them all together.
- ALMPs are designed by regions, often without consultation with firms, education or social institutions, and with little consideration of available SAA information negatively affecting the possibility to implement evidence-based policy-making.
- Good quality career guidance and counselling services – informed by up-to-date SAA information – are virtually inexistent or are provided in a scattered way.

What skills assessment and anticipation (SAA) information is produced in Italy?

A plethora of different SAA exercises exists in Italy. These exercises are very heterogeneous as they are produced by different actors, serve several purposes, cover a number of time spans (current, short- and medium-term forecasts), are conducted with different frequencies, provide information at various levels of aggregation, use a variety of methods, and sometimes adopt dissimilar definitions of skills (Table 1 provides information on a selection of SAA exercises available in Italy).

Many different actors are involved in the development of SAA information. These include the National Statistical Office (ISTAT); national research institutes (e.g. ISFOL (now INAPP); ANVUR; INVALSI; INDIRE); the Italian Union of the Chambers of Commerce (Unioncamere); Interuniversity Consortia (e.g. Almalaurea); associations of upper-secondary schools (e.g. Almadiploma); foundations (such as *Fondazione Agnelli* and *Fondazione Brodolini*); independent research institutes (e.g. CRISP); as well as local actors and/or regional authorities (e.g. the observatory Veneto Lavoro).

SAA exercise serves very different purposes. Some SAA exercises analyse the quality of the education system (e.g. AlmaDiploma Survey; INVALSI National Evaluation System) and the skills and knowledge of students (e.g. INVALSI skills assessment survey through standardised tests in primary and lower/upper-secondary education). Some exercises aim to explore the labour market outcomes situation of tertiary graduates in the labour market (e.g. Almalaurea Graduate Survey), the soft skills of tertiary graduates (e.g. ANVUR TECO) or the quality of tertiary education and research (e.g. ANVUR Assessment of the Quality of Universities' Research Activities). Others look at the situation of the Italian population (e.g. ISFOL (now INAPP) National Survey on the Italian Population PLUS) or specific thematic areas (e.g. ISTAT school-to-work transition survey). Some exercises aim to assess the skills possessed by the workforce from the point of view of firms (e.g. ISFOL (now INAPP) Audit Survey of Professional Needs; ISFOL (now INAPP) Survey on Occupations).

SAA information varies in terms of the time span covered. While most SAA information available refers to the current situation (see above), forecasting exercises aiming to anticipate future skill needs also exist. In this respect, ISFOL (now INAPP)/*Fondazione Brodolini*, and the Unioncamere's Excelsior survey have a key role in this area as they conduct short- or medium-term forecasts (e.g. from 3 months to 5 years) on the supply and demand of skills in the labour market (see Castiglioni and Tjidsen, 2014).

The frequency with which skills needs information is collected varies across different SAA exercises. Like in other OECD countries, most SAA exercises in Italy are updated on a regular basis to take into account new developments and ensure that they draw on the most up-to-date information. Some exercises are conducted on a quarterly basis (e.g. Unioncamere Excelsior forecasts), while others are carried out once a year (e.g. Almalaurea Survey of Graduates), every two years (e.g. Audit Survey of Professional Needs), every fifth year (e.g. ISFOL (now INAPP) Survey on Occupations), or on an ad-hoc basis (e.g. Almalaurea Survey of ITS graduates; e.g. the pilot ANVUR TECO survey).

SAA information is presented at different levels of granularity and aggregation. Some SAA information is available only at the national level, while other can be disaggregated by regions or even provincial levels (e.g. Excelsior). Some SAA information is disaggregated at very detailed occupation levels (e.g. 800 occupations in the Survey on Occupations), while other is presented by very broad economic sectors (e.g. Audit Survey of Professional Needs). Differences in the level of disaggregation affect the use that can be made of the information. For instance, national-level information is important for broad education policy and labour market monitoring, but typically overlooks specific skill needs emerging in particular regions or sectors. By contrast, regional and sector-specific information can facilitate the creation of more targeted policies (e.g. ALMPs), but cannot inform a nationwide policy agenda.

Italy combines different (qualitative and quantitative) methods and data sources to assess current and future skills needs. A large array of methods and data sources is used to carry out SAA exercises, including surveys of employers, workers, students, graduates, or schools; administrative data; as well as econometric estimates of future skill needs, or scenario-based methodologies. Because each method has its strengths and weaknesses and there is no single ideal model. International experience suggests that combining different (both quantitative and qualitative) methods – as is being done in Italy – is a good approach to achieve reliable and meaningful results and a robust assessment and anticipation of skills needs (OECD, 2016).

Different definitions of skills are used across SAA exercises, but ongoing efforts are underway to try and create a common language. One key challenge commonly observed across OECD countries is that different SAA exercises may adopt different definitions of “skills”, and therefore there may be no strict correspondence between how skills are defined in the skills development process and in the labour market.

Like in other OECD countries, lack of consistency in the use of language and definitions has created challenges in Italy, but good efforts have been recently undertaken to harmonise different existing approaches. One example is the recent establishment of the *Atlante del Lavoro e delle Qualificazioni*, developed by ISFOL (now INAPP), which describes job contents (e.g. tasks) related to occupations (ISCO 08), with the aim to harmonise the language used by the world of work with that used by the Regional VET pathways, ITS and Apprenticeship across the territory. The ambition is to include the Central IVET system (Istruzione tecnica e professionale) and regulated professions. One key challenge is to have different SAA exercises adopt the same language, thus supporting the comparability with other sources and the recognition through the Italian territory.

Table 3. Selected SAA exercises available in Italy

Name of SAA exercise	Organisation	Purpose	Time span	Frequency	Methods and data sources
Audit Survey of Professional Needs	ISFOL (Now INAPP)	Assess workforce's knowledge and skills	Current	Ad hoc	Survey of employers
ISFOL PLUS Survey	ISFOL (Now INAPP)	Collect data on the Italian population	Current	Ad hoc	Survey of the Italian Population
Survey on Occupations	ISFOL (now INAPP) and ISTAT	Assess workforce's knowledge and skills; and job characteristics	Current	Every five years	Survey of workers
Occupation and employment forecasts	ISFOL (now INAPP)/Fondazione Giacomo Brodolini	Forecast future skills needs	Forecasts	Yearly	Combination of labour market information, econometric techniques, skills audits
Sectoral studies to anticipate skills in the medium term (5 years)	ISFOL (Now INAPP)	Anticipating sectoral changes and their impact on skills and job characteristics	Forecasts	Yearly	Scenario-based methodologies
Survey of University Graduates	Almalaurea	Monitor labour market situation of university graduates and assess their satisfaction with quality of education	Current	Yearly	Survey of university graduates administered 1,3, and 5 years after graduation
Survey of ITS graduates	Almalaurea	Assess labour market situation – and satisfaction with quality of education – of ITS graduates	Current	Ad hoc	Survey of ITS graduates administered one year after graduation
Almadiploma survey	Almadiploma	Assess the quality of upper-secondary education	Current	Yearly	Survey of upper-secondary students
Skills Assessment Survey	INVALSI	Assess skills and knowledge of students in upper-secondary education	Current	Yearly	Survey of upper-secondary students
National Evaluation System	INVALSI	Benchmark the performance of upper-secondary schools	Current	Yearly	Survey of upper-secondary schools
Excelsior	Unioncamere	Assess future recruitment and skills needs of firms	Forecasts	Yearly	Survey of employers
Assessment of the Quality of Universities' Research Activities	ANVUR	Assess the quality of university research	Current	Ad hoc	Peer review and bibliometrics
School-to-work transition Survey	ISTAT	Provide information on school-to-work transition of graduates	Current	Annual	Survey of upper-secondary; university; and PhD graduates.

Table 3. (cont'd.) Selected SAA exercises available in Italy

Name of SAA exercise	Organisation	Purpose	Time span	Frequency	Methods and data sources
TECO test	ANVUR	Assess soft skills of university students.	Current	Ad-hoc (pilot project)	Survey of university students.
Eduscopio	Fondazione Agnelli	Provide information to prospective upper-secondary students on labour market and university outcomes at the school level	Current	Annual	Administrative data
UNICO	Ministry of Labour and Social Policies and the University of Rome "La Sapienza"	Investigate the employability of university graduates	Current	Ad-hoc (pilot project)	Administrative data from <i>comunicazioni obbligatorie</i> ; INFOSTUD; employment centres
Real-Time Labour Market Information on Skill Requirements: Setting up the EU system for on-line vacancy analysis	University of Milano-Bicocca & CRISP	Assess the pulse of the labour market in real time	Current	In real time.	Job vacancy information from largest job-advertising Italian portals

Despite the wealth of existing SAA exercises, information gaps exist

According to the view of many stakeholders, often the available SAA information does not answer the relevant questions. Various information gaps exist and should be filled to have a correct and complete understanding of the skills needs of the Italian labour market.

For instance, long-term skills needs forecasts (e.g. more than 5 years) are scant. International exercises to forecast long-term skills needs exist – for instance, CEDEFOP produces long-term (20-25 years) skills forecasts for European countries, including Italy – however, unlike what is observed in many OECD countries, *domestically-produced* long-term forecasts (which typically can produce more detailed and disaggregated results than international exercises) do not exist.

Existing (domestically-produced) exercises only assess current and short- to medium-term skills needs (up to 5 years) – and therefore they can only inform short-term skills policies (e.g. migration; ALMPs). The international experience suggests that long-term forecasts could be useful to inform more forward-looking planning (e.g. in education and VET policy).⁶⁴ Italy could learn from the experience of Nordic countries (e.g. Denmark, Norway and Sweden), which have a longstanding experience with long-term skills forecasts. For instance, Denmark's DREAM model evaluates future skills needs 100 years into the future. Norway forecasts skill needs in the health sector 10 to

80 years into the future and needs in the teaching sector 35 years in advance. It also carries out 20-year forecasts by general occupations. Statistics Sweden conducts long-term forecasts covering a time span of 20 to 25 years (OECD, 2016).

Many stakeholders have highlighted that not enough is done to make use of big data either. Recent technology innovations and the surge of big-data and internet platforms are spurring the use innovative approaches to skill needs analysis in OECD countries. For instance, the collection of job vacancy data is starting to be used to measure the pulse of the labour market in real time. This approach can bring various advantages compared to using more traditional data sources, the most obvious being the high frequency with which information can be collected and updated. In Italy, some initiatives have been undertaken (e.g. CRISP, see Table 1) but remain quite isolated practices. However, skills needs information resulting from the analysis of job vacancies needs to be taken with caution in a country like Italy where only a minority of all job vacancies are posted online (see Chapter 4) as results may not be representative of the labour market as a whole (OECD, 2017a).

Stakeholders noticed that information on the level of soft skills in the population is also scattered. While information on cognitive skills is collected systematically (e.g. INVALSI skills assessment surveys; ISFOL (now INAPP) Audit Survey of Professional Needs), little information exists on the incidence and level of soft skills and only few pilot studies have been conducted so far on small sections of the population. One example is the pilot TECO initiative undertaken by ANVUR, which aims to assess the soft skills of university graduates. Other institutes (e.g. Fondazione Agnelli) have also investigated – tangentially – the issue of soft skills (see Chapter 5). Overall, however, information remains uneven (see OECD, 2017a).

Another point that was raised by stakeholders is that the level of granularity of information could be deepened in some occasions. For example, information collected by AlmaLaurea today arrives at the university degree level, but in the future further efforts will be needed to provide more detailed and disaggregated information.

Lastly, the statistical soundness of some SAA exercises could be strengthened. One example is the AlmaDiploma survey – which investigates students' socio-economic status, their core activities at school, their satisfaction with the quality of school infrastructures (e.g. laboratories), extra-curricular activities, and the content of educational curricula, as well as intentions for after graduation. Although being of great value, the coverage of the *Almadiploma* survey remains quite small – especially in some regions – and therefore the results are often not representative of the entire upper-secondary education system in Italy. Indeed, while the sample size is relatively large in some regions in the Centre/North of Italy (e.g. Lazio, Lombardy and Emilia Romagna), it is quite small or non-existent in other regions, especially in the South. Because participating schools are typically located in more developed regions/areas, there may be a bias towards best practice examples.

The *dissemination* of SAA information to different users could be improved

Effective production of SAA information needs to be complemented with good dissemination practices. Indeed, the final objective of SAA exercises is to feed policy

makers with sound statistics to assist their policy action, as well as to inform a wider range of other actors, spanning from public institutions (e.g. education and training organisations; employment centres) to workers, jobseekers and students. Without effective dissemination practices, SAA information may fail to reach the desired audiences and could lead to sub-optimal utilisation (see next section).

SAA information is disseminated through different channels in Italy. Similarly to what is observed in many OECD countries, in Italy results from SAA exercises are shared to a wider non-specialist audience through reports, dedicated web-portals, conferences/seminars and/or through dissemination of micro-data:

- **Reports:** Disseminating SAA information through reports is very common. Almost all results from SAA exercises are disseminated in this way. For instance, ISFOL (now INAPP), ANVUR, ISTAT, INVALSI, and Almalaurea, all produce regular reports summarising the key findings of their SAA exercises.
- **Dedicated web-portals:** Web-portals are also a common tool for disseminating SAA information. For instance, the information collected by ISFOL (now INAPP) is presented in ISFOL (now INAPP)'s *Professioni, Occupazione, Fabbisogni* web-portal (<http://professionioccupazione.isfol.it/>). As another example, results from Excelsior forecasts are disseminated on a dedicated website (<http://excelsior.unioncamere.net/>). The website Eduscopio (<http://eduscopio.it/>), developed by *Fondazione Agnelli*, is also a good practice example on how information can be presented in a user-friendly way and tailored to the needs of different users (including students; parents; and teachers).
- **Conferences/events/seminars:** Disseminating the results of SAA exercises through conferences/event/seminars is also used by certain agencies. For instance, Almalaurea presents results of their University and ITS Graduate Surveys at an annual national conference.
- **Micro-data:** Some agencies provide access to micro-data, either to targeted audiences or to the general public. For instance, *Almalaurea* shares micro-data with all associated universities. ISFOL (now INAPP) allows for downloading anonymised micro-data directly from the website.

Each dissemination channel has its strengths and weaknesses. The benefit of publishing SAA information on the internet (e.g. through reports or dedicated web-portals) is that the information is freely available to a variety of stakeholders at the same time. However, information needs to be easy to find, navigate, and understand, and ideally it has to be tailored to respond to the needs of different audiences. Conferences/events/seminars represent a useful approach to spreading SAA information, although they need to be well-targeted to the audience, and may require significant human and financial resources. Disseminating micro-data is useful for certain, more technical, audiences (e.g. researchers), but typically does not directly reach out to lay audiences (e.g. students; parents). Adopting a mix of strategies is therefore advisable.

Despite the fact that SAA information is available to everyone, students, education providers, and firms often end-up having very different understandings on what are the skills demanded in the labour market – suggesting that there is a need to disseminate available SAA information more effectively and in a more co-ordinated manner. For instance, a study conducted by *Fondazione Agnelli* shows that there is a large gap between what graduates think is valued in the labour market, and what firms actually value and look for in potential hires (Villosio, 2011; Mangano, 2014). Students often end-up choosing education pathways that are not highly demanded in the labour market (see Pillar 1 and 2), suggesting that many of them may simply be misinformed. And firms – especially micro- and small-sized firms – often struggle to identify the specific skills they need in their employees (see Pillar 3).

There is scope for the providers of SAA information to exploit other dissemination channels and engage their audiences more effectively, for example through *social media* (e.g. Facebook; twitter). This channel is rarely used in Italy⁶⁵. Extending dissemination practices using social media channels can prove effective to increase reach-out, especially among certain population groups such as the youth. The main difference between disseminating SAA information through a simple report or web-portal (see above) and through social networks is that in the former case individuals need to actively look for SAA information while in the latter case the providers can actively reach out to individuals who are already part of the social network (Manca, 2015).

More systematic efforts can be undertaken to disseminate information through *public media*. Indeed, while around half of OECD countries disseminate SAA information through TV, radio, newspapers or magazines, this does not seem to be systematically the case in Italy (see Manca, 2015; OECD, 2016). Disseminating SAA information through these channels could be an additional, and powerful, tool to reach out to a broader public.

One key challenge of effective dissemination is that information is dispersed across different sources. Because various exercises are carried out by different institutions at the same time (see Table 3), information is scattered, delinked, and there is no unique platform that brings all information in one place. Stakeholders claim, for example, that information on job vacancies is dispersed across multiple regional databases and there is no national information system that brings them all together (see Chapter 4).

Good initiatives have been implemented but need to be expanded. One notable example is the establishment of the *Information System on Occupations* (see Box 1) which centralises data from different sources and create co-ordination and structural links between the different SAA exercises scattered across the country. Going forward, the challenge will be to expand the system to include additional actors (e.g. ministries; regions); guarantee that information is updated on a continuous basis; and ensure that a clearer dissemination strategy is developed to raise visibility among end-users.

Box 15. Providing an homogeneous and interconnected network of SAA information: The Information System on Occupations

Since 2010, ISTAT and ISFOL (now INAPP) have started developing an Information System on Occupations (*Sistema Informativo sulle Professioni*), which aims to provide different users (e.g. policy makers, social partners, firms, jobseekers, workers, students) with information on occupations using a variety of data sources generated by the activities of institutional partners.

Different data sources (and associated institutional partners) feed into the Information System on Occupations. These include: the Labour Force Survey (ISTAT); the Excelsior survey (Unioncamere); the Survey on Occupations (ISFOL (now INAPP) and ISTAT); the Audit Survey of Professional Needs (ISFOL (now INAPP)); occupation and employment forecasts (ISFOL (now INAPP)). Administrative data also feed in the Information System on Occupations, including: data on universities' supply of courses and education offer (Ministry of Education and Research); information on wages (Social Security Service – INPS); data on accidents at the workplace (National Institute for Insurance against Work-related Injuries – INAIL); data on health care workers (ENPAM); data on workers employed in certain occupations (e.g. Association of Agro-technicians); as well as information on local training systems and labour markets (e.g. Liguria and Veneto regions).

The distinctive feature of the Information System on Occupations consists in being a 'distributed information system' in which each of the institutional partners' websites functions as a gateway to the system. Data from different sources are put in connection with each other, but remain independent, thanks to a widget that permits to retrieve the data directly from the different sources but with a shared nomenclature.

Another key feature of the Information System on Occupations is that it groups information based on common terminologies and definitions. All institutional partners need to provide information following a shared terminology and definition: the Nomenclature and Classification of Occupations (*Classificazione delle Professioni*, hereafter CP2011), which provides a common terminology and definition around occupations, in line with the International Standard Classification of Occupations ISCO-08.

But some challenges are likely to emerge in the future, as the Information System on Occupations is moving away from being a mere prototype to being a fully institutionalised system in which institutional partners are involved in planning and governance decisions.

One key challenge will be the extension of the partnership to new data providers, and the integration of their data into the existing information system. At the time of writing, efforts are currently being undertaken to expand the network to the Basilicata Region, the Ministry of Education, and the Italian pension fund for medical professionals (ENPAM). Expanding the network to other Regions is proving to be a very complex process and the negotiations need to be carried out case by case with local authorities. The methodological steps to join the network include, to quote one example, the full re-classification of the regional statistics according to the CP2011 nomenclature. A process to include the Ministry of Education into the network is also ongoing. From a technical point of view everything is ready to integrate the Ministry of Education data into the system. The finalization of this process is now awaiting the 'political green light'. Negotiations are also ongoing to include the Italian pension fund for medical professionals (ENPAM).

Box 15. (cont'd) Providing an homogeneous and interconnected network of SAA information: The Information System on Occupations

Another key challenge will be to guarantee that the information system is kept up to date on a continuous basis. The establishment of an inter-institutional body, which guarantees the updating and development over time of the system, is currently being discussed.

Finally, another challenge will be to identify and develop a clear dissemination strategy. The project and the website have been officially launched in 2015 but no official dissemination strategies are in place or have been planned. Moreover, the rapid increase in the use of new technologies and social network platforms raises the questions of whether the Information System on Occupations should be made available on mobile applications so as to maximise diffusion and utilisation.

Source: OECD (2017a), Getting skills right: adapting to changing skills needs. Policy Review: Italy, OECD Publishing; European Commission (2015), Skills Governance in Europe: Italy, European Commission.

SAA information is not used systematically by many users

A crucial challenge for Italy will be to make sure that the wealth of SAA information which is produced and disseminated is also *used* effectively by different actors. Across the OECD, SAA information is typically used by *policy makers* to inform education, employment, and migration policy; and by *individuals* (such as students and jobseekers) to shape their education and career decisions.

The use of SAA information in Italy is not systematic. There are no formal mechanisms in place to ensure that results from SAA exercises are used on a systematic basis by policy makers.

This ad-hoc use of SAA information partly stems from the fact that regional and local authorities, as well as education and employment programmes providers, have a great deal of autonomy on policy/programme delivery and therefore on whether, how, and how often to use SAA information. As a result, examples of striking success can be found alongside much less successful practices. Similarly, individuals are often left to autonomously look for SAA information, as career guidance and orientation services are limited and their offer is scattered.

The use of SAA information by policy makers is mixed

SAA exercises are used in OECD countries to inform education, employment, and migration policy. In education policy, SAA information is often used to inform the design of new courses, revise curricula, inform funding decisions, and/or determine student numbers by field-of-study. In employment policy, SAA information typically informs the development of occupational standards and worker training programmes, and ALMPs. By identifying skills needs, SAA information may also inform migration policy by giving priorities to applicants with those skills (OECD, 2016).

Similarly to what happens in other OECD countries, in Italy SAA information is used to inform funding decisions. In post-secondary VET, funding decisions (e.g. of ITSs) are partly based on employment outcomes of graduates. In tertiary education, funds are partially allocated to universities following outcome-based principles and evaluation mechanisms. For instance, the IRAS1⁶⁶ indicator developed by ANVUR – which is a proxy for the quality of academic research conducted in any given university or research institute – is used to allocate around 60% of public funding. Indicators such as graduate employment rates, as well as information on whether students have completed a programme within the prescribed study period, are also used for allocating funding (OECD, 2017; Claeys-Kulik and Estermann, 2015; European Commission, 2014; 2015).

SAA information is also used to set up new tertiary VET and tertiary academic education programmes. At tertiary level, universities are required to provide evidence (through the use of SAA information) of the economic viability of any new field of study/course that is planned to be introduced (OECD, 2017). At the tertiary level, *Istituti Tecnici Superiori* (hereafter ITSs) are typically developed with the explicit aim to respond to local labour market needs, and systematic consultation with social partners is regulated by an inter-ministerial decree. Some regions (e.g. Emilia Romagna) go even beyond the mere consultation process and engage in formal foresight analysis of skills needs in the medium-run at the regional level, with the specific objective to inform the development of ITSs. These foresight exercises have the aim to define what types of technologies will impact the productive structure of the region, and what kind of skills and occupational profiles should be developed further to meet the needs of the labour market in the future (see OECD, 2017c).

Strategies to revise curricula are driven by a number of factors that often go beyond considerations of labour market needs. At both tertiary VET and tertiary academic levels, education providers do not have obligations for linking their activities to the needs of the labour market. The process of adapting curricula requires significant investments, both in terms of financial and human resources, and as a result education providers tend to introduce few changes to their offers. To give one example at the tertiary level, while MIUR requires universities to meet with social partners and firms to review the adequacy of their training offer, in practice this dialogue does not take place on a systematic basis, and even when it does universities are not requested to adjust the training offer accordingly. Similarly, most universities have access to *AlmaLaurea* information on a yearly basis (see above) but there is no obligation for them to use it and change their offer accordingly⁶⁷. At the end of the day each university is fully responsible for updating its training offer and there is no accountability mechanism in place to monitor that offer is in line with demand.

Unlike what is observed in many OECD countries, in Italy SAA information is not systematically used to determine student numbers and/or vacancies offered by fields-of-study. Indeed, each university independently decides whether to adopt the “*numerus clausus*”, and the strategy for student intakes and/or number of vacancies to offer does not necessary take into account SAA information. This is different from what can be observed in other OECD countries. For example, in Norway the expected lack of certain professional profiles (notably engineers, teachers, and health professionals) influenced the educational offer of post-secondary education spaces. In New Zealand, the expected shortage of STEM-related skills led to the increase in

university spaces and reduced tuition fees in these programmes. In the Netherlands, the expected shortage of STEM-related skills encouraged policy makers to develop the *Techniekpact* in 2013 which aims to increase the number of students enrolled in STEM fields (OECD, 2016).

Use of SAA information to drive employment policy is scattered. Unlike what is observed in many OECD countries – where SAA exercises typically inform the design of occupational standards, re-training and on-the-job training, and apprenticeship schemes (see Box 2) – in Italy SAA exercises do not seem to be used systematically to inform employment policies. For instance, stakeholders claim that ALMPs – which are delivered by PESs – are designed by regions, often without consultation with firms, education or social institutions, and with little consideration of available SAA information (see Chapter 4).

Some good practices do exist – but need to be adopted more broadly. For instance, SAA information is used to design/adapt/adjust the programmes delivered within the context of the Youth Guarantee. Another good example is the initiative *Occupato* implemented in the Torino province, whereby PESs, trade unions, and local administration, use results of SSA exercises (e.g. Excelsior) and administrative information (e.g. *comunicazioni obbligatorie*) to collectively design ALMPs that target disadvantaged population groups (e.g. older workers, long-term unemployed) and are adapted to local labour market needs.

Box 16. The experience of OECD countries in using SAA information to influence employment policy

Among OECD countries, one common use of SAA information is to define occupational standards, re-training, on-the-job training programmes and/or apprenticeship schemes.

Occupational standards

SAA information typically influences the updating of occupational standards across OECD countries. Occupational standards identify the skills and qualifications needed to perform an occupation. They can be used to develop educational curricula and qualifications, or to inform firms' human development strategies. Some good practice examples can be highlighted in a number of OECD countries. In the **United Kingdom**, for instance, information on skill needs feeds into the *National Occupation Standards* to fast track the development of standards in new occupations or occupations with changing skill requirements. **Chile** uses SAA information disaggregated at the regional level to define occupational profiles that determine entry requirements for the National Employment and Training Service's training offer. The **Czech Republic** involves firms through sector skills councils to consider their needs when updating occupational standards.

Re-training and on-the-job training

Another common use of SAA exercises is to inform re-training and/or on-the-job training programmes. In **Japan**, the offer of VET for workers who wish to change job or upskill is based on SAA information disaggregated at local and industry level – produced by the PES and the regional branches of the Ministry of Labour, Health and Welfare. SAA information is also used to design new on-the-job training programmes. In **France**, guiding education and training offers (and particularly on-the-job training) is one of the explicit purposes of existing SAA exercises. In **Belgium** the PES actively influences training provision for the unemployed towards shortage occupations. In **Estonia**, information on future skills needs is used to define priority areas for training for the unemployed. These priority areas are revised every six months to ensure that training is aligned with labour market needs. In order to tackle the shortage of professionals in the IT sector, the **United States** has launched *TechHire*, a USD 100 million programme that provides training through universities, community colleges and “coding camps” to equip workers with coding skills. This programme was motivated by the fact that full university degree in computer science is not necessarily required for many of the IT jobs offered but at the same time many firms do seek for formal credentials/qualifications. The offer of training programmes is coupled with outreach strategies with firms to help them recognise coding skills in jobseekers with no computer science degree.

One approach adopted by several OECD countries is to have the PES to engage in SSA exercises and use the results for their own training or ALMPs offer. For instance, in **Turkey** the PES directly conducts SAA exercises and uses them to inform the design of ALMPs. Similarly, in **Austria** the PES has developed the Qualification Barometer – which monitors the labour market outcomes of 24 vocational fields – and has established the “Standing Committee on New Skills” which identifies short- to medium-term skills needs by occupations. This information is then used by the PES to design its own on-the-job training and re-training programmes.

Box. 16 (cont'd) The experience of OECD countries in using SAA information to influence employment policy

Apprenticeship schemes

SAA exercises also inform the development of apprenticeship programmes across the OECD area. For instance, in **Germany**, the Federal Institute for Vocational Education and Training (BIBB) carries out short-term econometric models to forecast the supply and demand for apprenticeship places for the following year. In some OECD countries (e.g. Australia; Northern Ireland; Turkey), SAA information is used to promote apprenticeships in occupations with greater demand for skilled labour. For instance, **Australia** directs the funds allocated to training organisations; **Northern Ireland** extends funds available for apprenticeships in shortage sectors to candidates of all ages (rather than young people only). **Turkey** gives priority to apprenticeships in occupations in shortages as identified by SAA exercises.

Source: OECD (2016), *Getting Skills Right: Skills Assessment and Anticipation Exercises*, OECD Publishing.

SAA information could also be used more systematically to inform migration policy. Linking admission of immigrant workers more closely to actual skills shortages has been identified as one of the key areas for improvements by a recent OECD review on the integration of migrants in the Italian labour market (OECD, 2014). Across the OECD, SAA information is used to inform migration policy to give priority access to migrants with skills in shortage in the labour market. Italy could learn from the experience of Australia, where SAA information on skills shortages is used to facilitate migration of workers with the skills most demanded in the labour market (see Box 17).

Box 17. Australian Skills Occupation List and its use in migration policy

In Australia, the Department of Employment regularly identifies current skill shortages to construct a Skilled Occupations List (SOL). SOL is constructed with quantitative information collected through the analysis of recently advertised vacancies, as well as qualitative information collected through discussions with key stakeholders (e.g. employers). Occupations are classified as “in shortage”, “in recruitment difficulty” or “no shortage”, and divided by national, state/territory, and metropolitan area levels.

SOL is publicly available and widely used in a range of policies, including migration. For example, the SOL information is used to decide which migrants can apply for permanent residency without having to be sponsored by an employer or family member, or be nominated by a state or territory government (e.g. Australia’s Independent Skilled Migration programme). Indeed, migrants are awarded points based on several factors, including their skills and educational qualifications, and eligibility is determined if migrants reach a minimum cut-off of points.

Source: OECD (2016), *Getting Skills Right: Skills Assessment and Anticipation Exercises*, OECD Publishing.

Individuals can make greater use of SAA exercises to inform their education and career choices

SAA information – delivered through career guidance and counselling services – can be used by *individuals* (students, jobseekers) to inform their education and career decisions. The international experience suggests that effective career guidance could reduce school drop-outs, reduce NEET rates, and direct students towards the most adequate education tracks. It could counter gender stereotypes that exist around choosing certain education tracks and jobs (see Chapter 5). On top of that, it could also facilitate mobility and job matching by allowing jobseekers to relocate or gain the skills most demanded in the labour market (see OECD, forthcoming).

In Italy, as in other OECD countries, career guidance is delivered through different channels. Typically, schools, universities, public employment services, specialised bodies, and firms are involved in providing career guidance to students and/or jobseekers. The web is also another channel through which career guidance is delivered.

Despite the wealth of career guidance channels available, access by students and jobseekers is often poor. Stakeholders in Italy systematically report that good quality career guidance and counselling services - informed by up-to-date SAA information - are virtually inexistent or are provided in a scattered way.

Within the school, few students access career guidance services. The international experience suggests that, when well-informed by SAA information, school-based career guidance has a great potential to guide youth in their education and career decisions. However, elaborations of PISA data show that only 35.8% of 15-year-olds in Italy consult with career advisors inside schools, which is low compared to OECD countries such as Denmark or Finland where 80-90% of youth do so (OECD, 2016).

Typically those who need guidance most may fail to obtain it. School-based guidance in Italy is provided to students within schools' educational offer as defined in their mandatory Triennial School Development Plan (PTOF), but on an individual student basis, this autonomous provision may not be serving the most disadvantaged individuals who are the least aware of its value and who often have the greatest needs.

School personnel are often not adequately equipped for delivering career guidance to students, either. Career advisors and teachers are often not well-informed about the skills needed in the labour market, and therefore they are not in a position to provide effective guidance to students. Only around 20% of Italian teachers report that career guidance and counselling was included in their initial education, or that it is included in their professional development activities (OECD, forthcoming). This has direct repercussions on the quality of guidance provided. Almadiploma (2016) shows that many (44%) of upper-secondary students receiving career guidance are not fully satisfied with the support received.

At tertiary level, the quality of services varies across the territory because each university has its career guidance strategy. Each university has its own information and career guidance system, and services vary from simple information on courses available, to support and structured career guidance in the choices of courses and job

opportunities. Therefore, whether and how career guidance is delivered depends on the decision of each and single university.

Advice sometimes lacks objectivity. Counsellors in universities may not be able to provide an objective view of all the career options or an impartial assessment of the labour market outcomes of their programmes. Indeed, universities typically have the tendency to direct students towards programmes offered at their own institution, even when these are not in the students' best interest (see OECD, forthcoming).

Public Employment Services play a little role in providing counselling services – based on SAA information – to students and jobseekers (see Chapter 4). By nature, such services focus primarily on getting unemployed adults back into work – and therefore they play a little role in guiding the career choices of young students. But they play a weak role for jobseekers too. Evidence shows that too often counselling services are requested but not obtained by jobseekers (Mandrone *et al*, 2016). The high jobseeker/staff ratio, the fact that staff is often unmotivated, and low-skilled (see Chapter 4), may undermine caseworkers' ability to provide personalised guidance and support to jobseekers.

Italy has also established specialised career guidance agencies, but outreach to certain groups may be challenging. Information and orientation centres (*centri di informazione e orientamento al lavoro*) operate at the local level and offer, among other services, information on labour market and skills needs. As in other OECD countries, in Italy these agencies have the advantage to have a clearer identity, better links to the labour market, and better trained staff (see OECD, forthcoming). However, outreach may prove difficult. Although ISFOL (now INAPP) has developed a database which includes information on what are information and orientation centres and where to find them⁶⁸, outreach to certain categories of people (e.g. youth, students) may be difficult.

Some firms are also sometimes involved in providing career guidance services to youth. Career guidance provided by firms can help young people to think about the breadth of career choices and routes into them. Some good practices can be highlighted. For instance, in 2016 some large firms, such as Eni has received the prize “Orientagiovani” by Confindustria for its engagement in providing multiple and integrated orientation services to students.

ENI, the Italian Energy Company, promotes career guidance through ad hoc events (e.g. Job&Orienta) as well as information provided on the web (e.g. through the portal you@eni, video testimonials, and information about company welfare). It also organises the event “Think About Tomorrow” targeted to employees' family members enrolled in the last year of upper-secondary school, to provide information on the labour market needs and job prospects for youth, discuss what are the skills needed to enter the labour market, provide testimonials from young professionals from Eni and suggestions and advice on how to conduct a job interview. Eni has also developed initiatives such as “girls want to count” (*le studentesse vogliono contare*) to encourage young female students to enrol in STEM-related fields of study.

Career guidance is also provided through the web. Italy, similarly to other OECD countries, increasingly uses technology to provide career guidance, a trend which has the potential to scale-up the supply of career guidance services in a cost-effective way. *Università* and *Almaorientati* are the two main websites at national level dedicated to

career guidance. *Univesitaly* is a website promoted by MIUR with information on courses activated at national level, access to funds, and admission criteria. *Almaorientati* is an online service offered by Almalaurea which provides an online survey and tailored career guidance and information based on the answers to the questionnaire.

Considered the high levels of engagement of youth with technologies and social media, potential outreach of these platforms is high. At the same time, the risk is that certain groups (e.g. people from disadvantaged backgrounds and/or with low ICT skills) suffer from digital exclusion. Moreover, individuals may encounter difficulties in handling and interpreting the volume and complexity of information available online.

Where quality career guidance services are not available, students tend to rely on informal sources, such as family and friends. While advice from family and friends is important, it may lack reliability and impartiality. In Italy as in other OECD countries, parental education levels and socio-economic status are important predictors of student choices, and students' decisions remain too often influenced by families rather than being based on students' real skills, merit, preferences, or real labour market needs (see Chapter 5).

As observed by different authors (Almadiploma, 2016; Ballarino and Checchi, 2013; European Commission, 2014; OECD, 2017a), Italian students coming from families with favourable socio-economic background and high levels of education are more likely to enrol in academic upper-secondary education (*licei*) than students coming from less advantaged families who instead tend to enrol in upper-secondary VET. Later on in their education pathways, certain university fields-of-study such as medicine, pharmacies, economics, are more likely to be chosen by students who have parents who work in these professional areas, partly because of the possibility to enter employment directly in the "family area of business" (European Commission, 2014).

Ongoing efforts are being undertaken by the government to enhance career guidance. The *Presidenza del Consiglio dei Ministri* is financing innovative projects aimed at providing orientation and career guidance services to youth.⁶⁹ Some pilot project at the regional level can also be highlighted. *Scuola Orienta Lazio* (SOL) – promoted by the Lazio region in collaboration with the Ministry of Education (MIUR), ISFOL (now INAPP) and ASAP – train teachers to provide career guidance to students in lower-secondary education and help them make informed decisions (see Grimaldi, 2014). The introduction of compulsory work-based learning (*Alternanza Scuola Lavoro*) for all upper-secondary students can also have the spillover effect of providing some sort of career guidance to students (see Chapter 1 and 5). While these are certainly good efforts, effective implementation, continuous monitoring, and the scaling-up of successful practices will be crucial to achieve good results.

Recommended areas for action

A plethora of different SAA exercises exists in Italy. However, improvements are needed to fill existing gaps in SAA information; strengthen dissemination practices; continue linking information with one another and adopting common definitions; and use SAA information more systematically to inform education, employment and migration policy as well as career guidance. In particular, Italy needs to take action in the following areas:

- Fill existing gaps in SAA information. Areas for improvement include: (i) expand existing skills forecasts to cover a longer-term time span (over 5 years), which could be used to inform more forward-looking planning (e.g. in education and VET policy); (ii) enhance skills assessment in real time, by using other less traditional data sources, such as big data; (iii) better assess the level of soft skills in the population; (iv) deepen the level of granularity of certain SAA information; (v) improve the statistical soundness of some existing SAA exercises to produce more robust results.
- Strengthen dissemination practices. For example, it will be important for the developers of SAA information to engage their audiences more proactively by combining different dissemination channels, and using additional ones such as public and social media.
- Continue involving other actors – regions, ministries – in the Information System of Occupations. This is important to allow additional SAA information sources to be linked to one another and adopt a common language across all existing SAA exercises.
- Use SAA exercises more systematically to inform education, employment, and migration policy. This will ensure that policies are designed in a way to respond to current and future skills needs.
- Strengthen the provision of career guidance for students and jobseekers based on SAA information. This will help students – especially those coming from disadvantaged socio-economic background – to make decisions based on their skills, merit, preferences and real labour market needs; and it will help jobseekers have access to reliable information on job vacancies and upskilling opportunities.

NOTES

⁶⁴ However, long-term forecasts have the drawback of requiring a more sophisticated statistical infrastructure, and – because future skill demand depends on many different, and often unpredictable, factors (e.g technological or economic change) – they are often perceived as being less reliable (OECD, 2016).

⁶⁵ This is similar to what is observed in most OECD countries.

⁶⁶ The IRAS1 indicator spans from 0 (least quality) to 1 (most quality). It is computed by attributing scores to the research activities in each single university/research institute by scientific area; and dividing these scores by the sum of the scores of all the research activities assessed in the same scientific area nationwide.

⁶⁷ SAA information produced by AlmaLaurea's Survey of University Graduate is shared with universities so that they can assess their performance and update the content of courses. Although it is difficult to assess to what extent this information is actually used, evidence shows that universities that have access to SAA information on their performance provide educational offer that is better aligned to labour market needs. Research results provided by Bagues and Sylos Labili (2005) suggest that employment outcomes (e.g. unemployment; employment; wages; job satisfaction) of graduates from universities associated to AlmaLaurea are better than employment outcomes of young graduates from other universities which are not part of the network (see also European Commission, 2014).

⁶⁸ http://www.isfol.it/temi/Lavoro_professioni/orientamento-al-lavoro/archivio-nazionale-orientamento.

⁶⁹ The funds come from the funds for youth policies (*Fondo per le politiche giovanili*). See <http://www.gioventuserviziocivilenazionale.gov.it/sx/avvisi-e-bandi/avvisi-e-bandi-dipartimentali/politiche-giovanili/avvisioorientamentoplacementgiovanitalenti.aspx>.

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CHALLENGE 10: INVESTING TO IMPROVE SKILLS OUTCOMES

Key messages

- Italy's invests comparatively little in skills development, especially on tertiary education and adult learning. While spending per-student on primary and secondary education in Italy is in line with the OECD average, spending at the tertiary level ranks Italy only 21st among 31 countries. The private sector in Italy funds training at the firm level in a number of ways, most notably through inter-professional funds (*Fondi Interprofessionali*). Still, private investment in skills is also low by international standards. Italy benefits from a significant allocation of funds from the European Commission Structural Funds, but struggles to fully spend these funds.
- Low and ineffective investment in education and training – along with other factors– may have negative implications for both access to, and quality of, skills development opportunities, with long-lasting negative effects on productivity and well-being. Several factors are making additional spending on education and training complicated, including the challenging budgetary situation and the large imbalance between current public expenditure and investment. These challenges underscore the importance of improving the efficiency with which revenues are raised in Italy.
- Despite Italy's challenging economic circumstances, some measures have been taken to strengthen skills financing. Italy's education spending has risen in recent years as a share of GDP. Several other positive steps have been taken including a targeted fund to finance grants for students in need. Performance-related funding for universities has been rising as a share of total funding. Finally, the Industry 4.0 policy allocates a total EUR 13 billion in tax credits to firms adopting digital technologies between 2017 and 2020, which should raise the demand for high-skills.

Introduction and stakeholder perspectives

Public investment in skills development in Italy is low in international comparison. Spending on tertiary education is especially low, with negative implications for both access to and quality of tertiary education. Public and private expenditure on training is also low, thereby limiting the opportunities that adults have to improve their skills during their working lives. Several factors are making additional spending on education and training complicated, including the challenging budgetary situation, the fact that Italy does not raise revenue as efficiently as it could and the large imbalance between

current public expenditure such as social benefits and investment in capital goods such as skills. Finally, low public investment in skill development is not counter-balanced by private investment in skills, which is also low by international standards.

Stakeholders, and in particular representatives from subnational governments, strongly advocated for an increase of public investment in skills. Nonetheless there is widespread understanding that there is only limited fiscal room for such increases. This limited fiscal room also hinders Italy's capacity to implement recent reforms. Recent increases in public expenditure on education and digitalisation go in the right direction.

Stakeholder perspectives

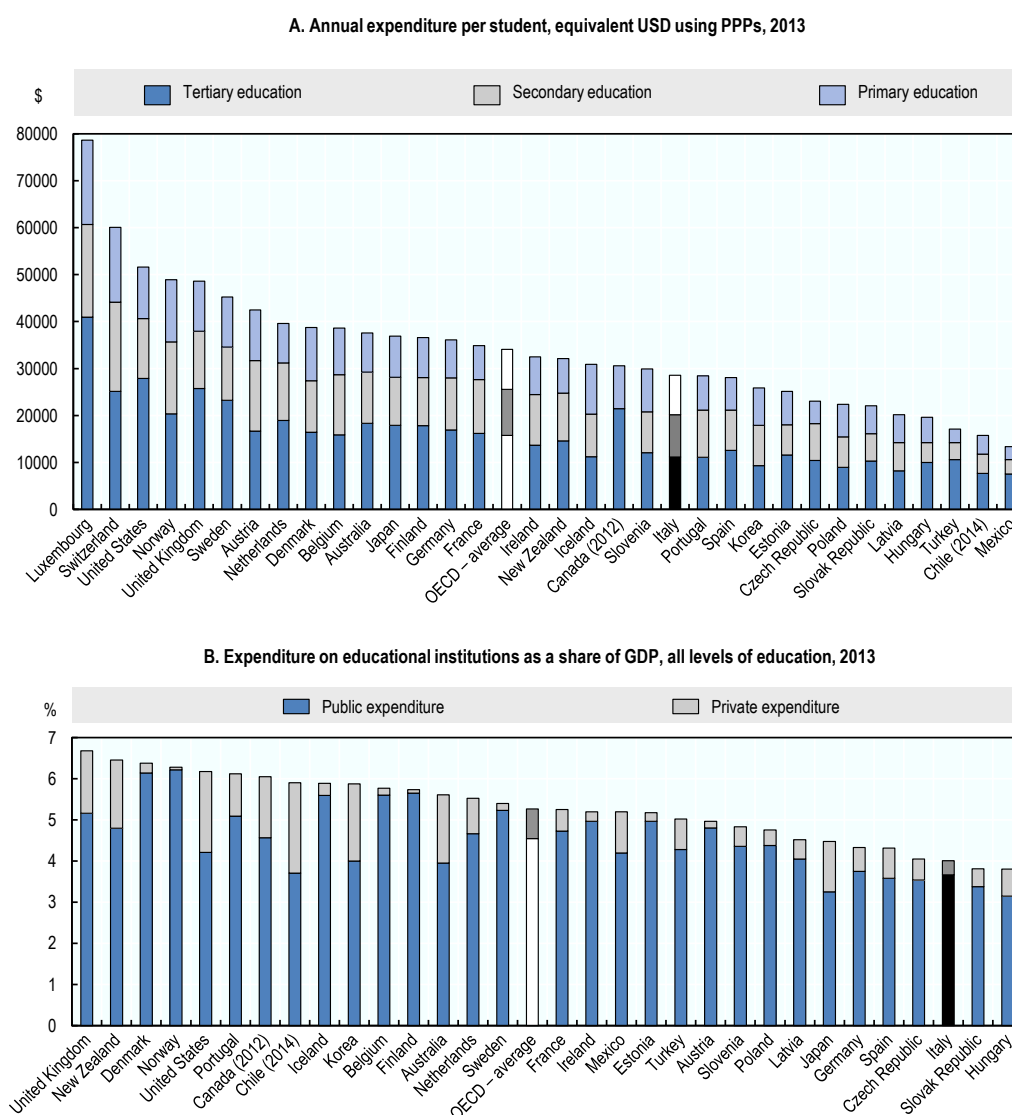
- Representatives from subnational governments and from business strongly advocated for an increase of public investment in skills accompanied by reducing taxes on labour.
- Nonetheless there is widespread understanding that there is only limited fiscal room for such increases and, therefore, it would be important to strengthen policy complementarities to improve the efficiency and the effectiveness of public investment in skills while also raising private investment in skills.
- Stakeholders flagged that the limited fiscal room hinders Italy's capacity to implement recent reforms, but recognised that the recent increases in public expenditure on education, including tertiary education go in the right direction.
- Finally, stakeholders praised the investment in new technology undertaken in the framework of the national policy Industry 4.0.

Italy is falling behind other OECD countries in its investment in skills

Spending on education overall, and on tertiary education in particular, falls below the OECD average. Low spending may negatively impact on access to, and the quality of, education. For instance, in 2011, spending per-student on primary and secondary education in Italy was in line with the OECD average, but spending at the tertiary level was very low, with Italy ranking only 21st among 31 countries (Figure 58, panel A).⁷⁰ Compared with OECD countries, Italy ranks 17th in spending on early childhood education (OECD, 2017).

Many of the countries that spend less on education than Italy on a per-student basis have lower levels of GDP per capita. In 2011, total spending on education was only 4,6% of GDP in Italy, the 3rd lowest share out of 31 OECD countries (Figure 58, panel B). Both public and private spending is comparatively low, with Italy ranking 3rd lowest and 8th lowest, respectively. The governance system, despite recent improvements, which allowed representatives from the private sector to be members of university boards, still set strict limits to private sector financing of tertiary education.

In Italy, tertiary students typically pay between EUR 198 and EUR 2 086 in tuition fees. An estimated 83% of Italian bachelor's students pay tuition fees. These fees are higher than those charged by certain other nearby OECD countries such as France (EUR 184), Austria (EUR 727) and Germany (the federal government does not levy fees on tertiary education).⁷¹ In spite of this, overall private spending on skills in Italy is below OECD averages.

Figure 58. Education spending is low in Italy, 2013

Source: OECD (2017), Education spending (indicator), <https://data.oecd.org/eduresource/education-spending.htm>, Public spending on education (indicator), Private spending on education (indicator).

Comparatively low investment may reduce access to education

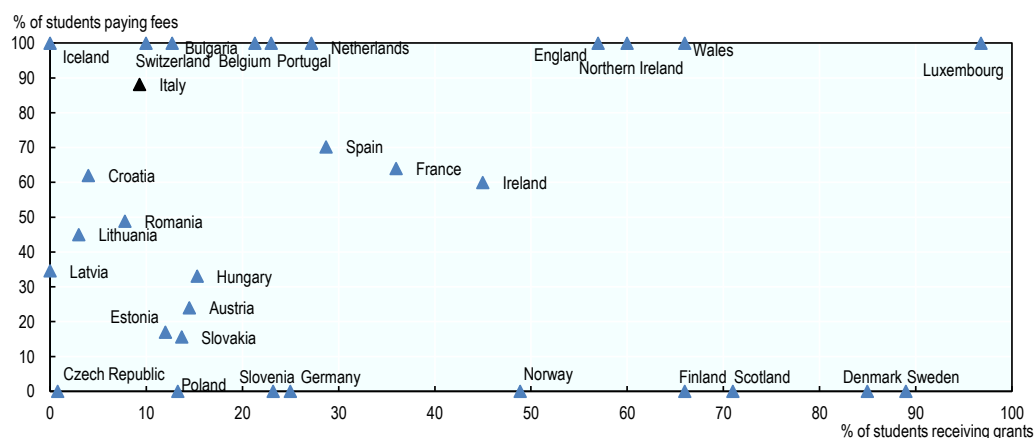
Low spending on tertiary education can negatively impact on both access to and the quality of education. This is particularly the case when a relatively large share of low-income students is not provided with the necessary funds (financial supports) to access to education (European Commission/EACEA/Eurydice, 2016). Also, taking into account the budgetary situation in the country, it is important to determine how the cost of university degrees can be better shared among students, employers and society – all of whom benefit from investments in skills.

Recent OECD research has shown that the total cost burden of skills investments are comprised in large part of foregone earnings, not just tuition fees, which means that supplementary supports to offset foregone earnings such as scholarships and grants is as important as reducing tuition fees (OECD, 2017b). The earnings students lose would in many cases be used to pay for cost-of-living expenses for many students. These costs may present particular financial challenges for those from disadvantaged backgrounds as their families may not be able to support them while they study. For this reason, most OECD countries further support access to tertiary education through scholarship and grant income, or through reduced taxation of student labour income (cf. Challenge 2).

In Italy, relatively few students receive scholarship or grant income (Figure 59). The size of grant support is also modest, ranging from EUR 1 925 to EUR 5 108, with an average value of EUR 3 347, or about 12% of the gross average annual wage. This is lower than the average value available in France (EUR 5 551) and Germany (EUR 5 376). Recent improvements – such as the allocation of extra funding to scholarship programmes done by the 2017 Stability Pact – go in the right direction, but there is still a need for further grant support to increase participation in tertiary education (see challenge 2).

Figure 59. Italy's share of students paying fees are above European average, but share of students receiving scholarships is below average

Share of fee-payers (2016/17) and share of beneficiaries of grants (2015/16) among full-time first cycle students in European countries



Note: This figure shows the share of students who pay fees (above EUR 100) and the share of recipients of grants among full-time first cycle students in European countries. International

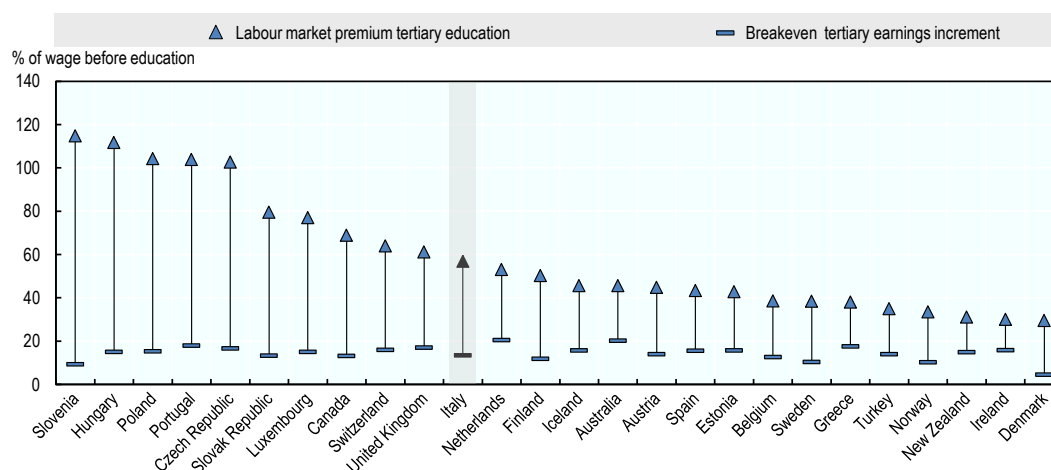
Source: National Student Fee and Support Systems in European Higher Education – 2016/17 (European Commission/EACEA/Eurydice, 2016).

Although, as discussed in the challenge 2, the earnings advantage tertiary graduates have over upper-secondary graduates is relatively low compared to other European countries, overall, it still makes financial sense for students to attain tertiary education (Figure 60). While tuition fees exist, they are modest, and provide a form of private support for the tertiary sector. Overall, the average student gains financially from their

investment in tertiary education. While their earnings need to rise by 17% to recoup the costs of their tertiary education, the average earnings premium is 56% higher than those that do not earn a tertiary degree. The difference (39%) is pure return on a skills investment for a typical tertiary student. This gap means tertiary education pays for the average student in the Italy. In line with the recent action taken to provide more scholarships and grants to students (see challenge 2), financing policy should focus on ensuring that those from low-income backgrounds can support themselves while they study.

Figure 60. Investment in tertiary education is a worthwhile investment for students in Italy

Comparing the tertiary education premium (compared to upper-secondary education) to the breakeven earnings premium in Italy, 15-65 year-olds



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

Source: OECD (2017b), *Taxation and Skills*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/8889333366224>.

Comparatively low public investment may also be a barrier to learning beyond school

A lack of financial support for skills investment also affects outcomes beyond initial education. In a fast-changing global economy, it is increasingly necessary that adults regularly upgrade their skills to maintain their relevance and to strengthen their labour market prospects (see Chapter 3 for a further discussion of adult skills policies in Italy). Securing adequate financial support for adult education is particularly important since education is often more expensive for adults from the perspective of foregone earnings. Pay scales in Italy are often related more to seniority than to individual performance of the worker. As a consequence, mid-career workers typically earn more than younger workers, and so the opportunity costs of skills investments are larger for adult workers, particularly where adults have families to support.

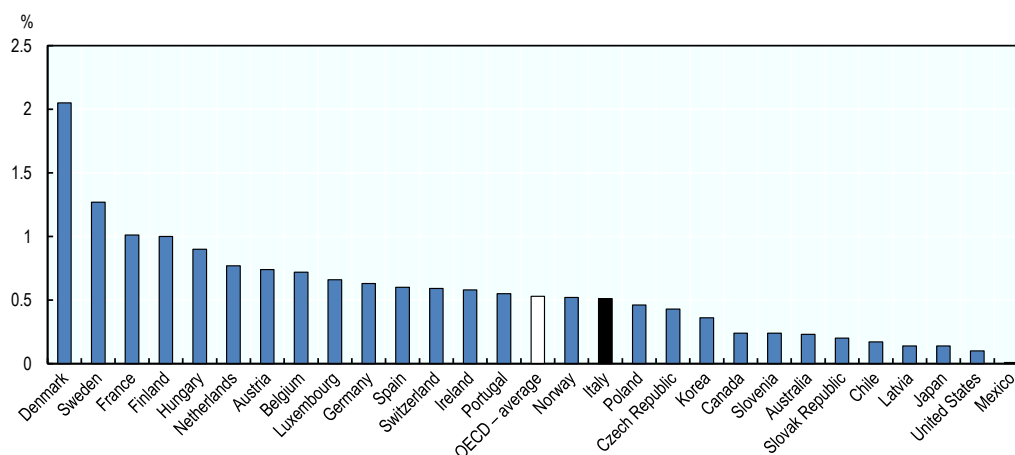
Unlike basic education, adult education is funded principally by individuals and firms. About 80% of continuous vocational training is financed by companies. Many of the returns from higher skills in the workplace accrue to workers in terms of higher wages and to firms in terms of higher productivity and profits. However, reliance on firms and individuals to finance adult learning can mean that some individuals fall through the cracks of the adult financing system. In Italy, older adults, those with low-levels of educational attainment, and unemployed adults are less likely to engage in life-long learning compared to the EU average (Cedefop, 2017). Only 56% of firms provided training to their workers, compared to an average of 65% across the EU (Cedefop, 2017).

Italy provides a 19% tax credit to support individuals' investments in skills. While this is below the lowest statutory income tax rate in Italy, it nonetheless provides some government financial support for adult skills investment. However, the credit is non-refundable. Therefore, those families or individuals that do not have income tax liability due to low income do not receive the same government financial support as those who do. This is particularly problematic as these families and individuals are most likely to need further skills investments. Making this tax credit refundable could help to increase adult investment in skills, particularly among those most in need.

Active labour market policies are an additional means of supporting adult skills investment across many OECD countries. Figure 61 shows public investment in ALMPs in Italy compared to other OECD countries, in 2014. Here, as with other education spending categories, Italy is below average, spending 0.36% of GDP compared to an OECD average of 0.57%. Also, the effectiveness of ALMPs varies greatly across regions. The revamping of ALMPs envisaged by the Jobs Act is currently being implemented. A strong co-ordination role of the newly created National Agency for Active Labour Market Policies (ANPAL) will be important to enhancing the effectiveness of ALMPs (OECD, 2017a). ALMPs may raise the skills of those who are unemployed or out of the labour market, but may not help those in the labour market that need to upgrade their skills.

Figure 61. Italy's spending on ALMPs is below the OECD average

Spending on ALMP as share of GDP, 2015



Note: Active labour market policies cover services and activities of the public employment services and labour market policy measures that provide temporary support for groups that are

Source: OECD.Stat (Labour Market Programmes).

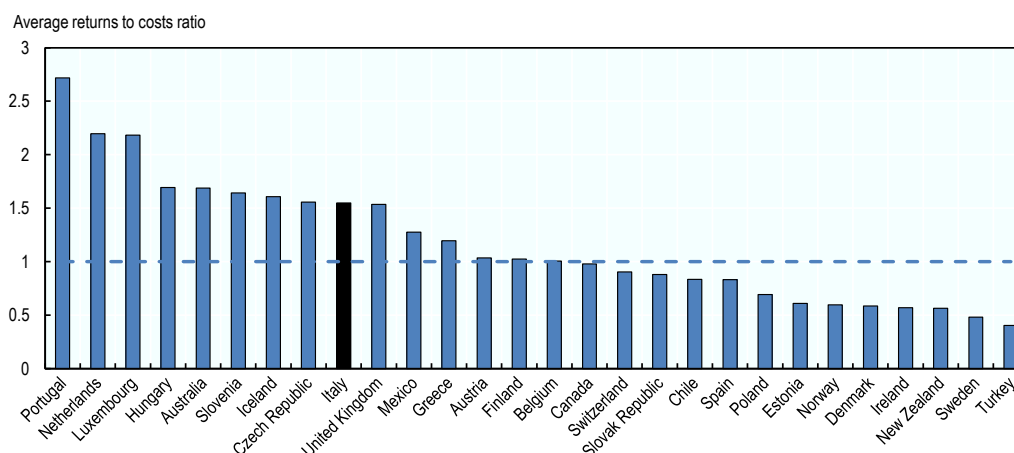
Low investment in education may reduce future tax revenue and worsen Italy's fiscal prospects

Financial investment in skills is particularly important now in Italy because of the potential consequences for Italy's growth and development, in the long-run. Like many OECD countries, Italy has an ageing population. Increases in worker productivity will be necessary for the economy to support retirees in the future. Not investing in skills now may dampen future productivity and growth and, thus, the tax revenues that can be used to support Italy's future social and skills spending. Skills spending can thus be seen as a public investment, with both costs and returns for the state.

OECD evidence suggests that the costs of tertiary education for the Italian government will be more than covered by higher future tax revenue. The estimated returns for the Italian government (*i.e.* higher tax revenues) exceed the costs to government (see Figure 62). This suggests that the costs of educating an average student are more than covered by the extra income tax revenue that the Italian government would receive from that student over their lifetime. Not making these skills investments now foregoes these future revenues.

Figure 62. Education has positive returns for governments in Italy in terms of future expected income tax revenue

Average returns to costs ratio of government investment in tertiary education, 15-65 year-olds



Note: Data are for a 17-year-old single taxpayer with no children, who undertakes a four-year course of non-job-related education, earning 25% of the average wage during schooling. This figure shows results that incorporate tax deductions and tax credits for direct costs, tax exemptions for scholarship income, and reduced taxes on student wage income. Tax incentives in the personal income tax system are incorporated, but not the social security contribution system. They do not incorporate STEs that subsidise parental spending on education or that subsidise firm spending on education. It is assumed that the skills investment is financed wholly with savings: students do not incur any debt to make a skills investment.

Source: OECD (2017b), *Taxation and Skills*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933446524>.

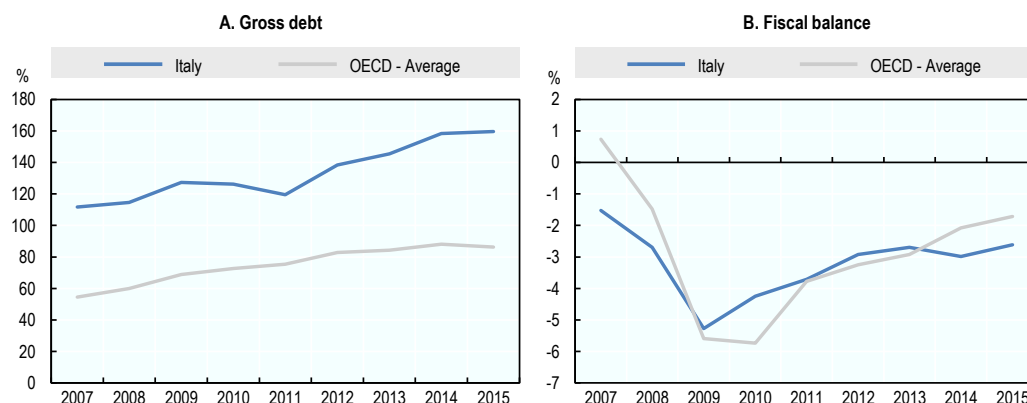
A number of factors help to explain comparatively low investment in skills in Italy

Italy's budgetary picture is challenging

The economic crisis has left Italy with a substantial budget deficit, which it has reduced through significant fiscal efforts (Figure 63). The crisis has also raised the debt to GDP ratio to more than 130% of GDP. High levels of government debt mean that Italy is vulnerable to increases in interest rates, which may increase its cost of debt, thus requiring larger primary budget surpluses to achieve fiscal targets. Reducing Italy's debt levels is thus a policy priority (OECD, 2017a). Furthermore, the cost of social protection system for the elderly is substantial, relying largely on pensions, and will rise further as the population ages, sustaining budgetary pressure.

Figure 63. Italy's fiscal environment is challenging

General government debt and fiscal balance, as a share of GDP, 2007-2015



Source: OECD (2017), General government debt (indicator), <https://data.oecd.org/gga/general-government-debt.htm>, General government deficit (indicator), <https://data.oecd.org/gga/general-government-deficit.htm#indicator-chart>.

Italy could rebalance its tax mix to raise taxes in a less distortive manner

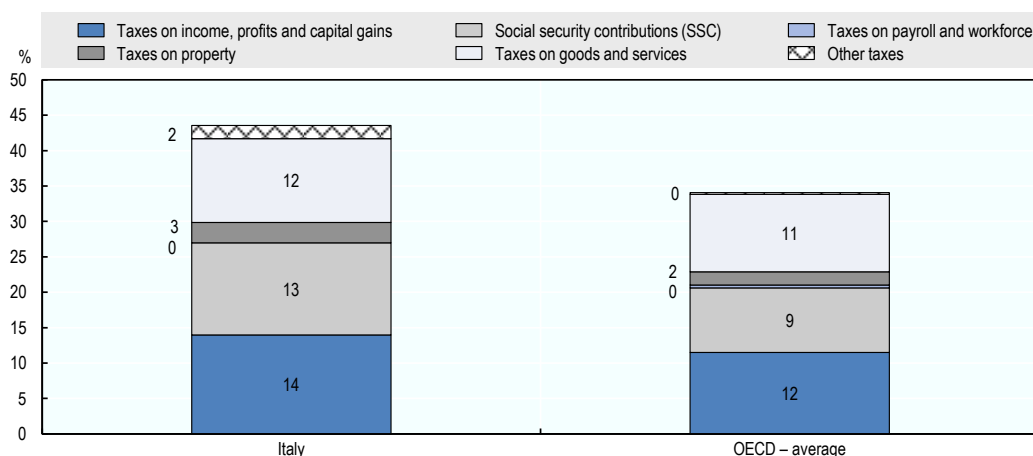
Italy's fiscal challenges are exacerbated by the need for tax reform. Italy's tax-to-GDP ratio is significantly above the OECD average (43.7% in 2014, compared to an OECD average of 34.2%). However, there are other factors contributing to fiscal challenges in the country. For instance, levels of compliance with tax laws are low and Italy has a large amount of unpaid tax debts. Fiscal evasion is also high and the tax gap was estimated at an average of EUR 91.4 billion per year for the period 2007-2013, approximately 6.6% of Italy GDP (OECD, 2015). Finally, one should also consider that the budgetary situation of the country is particularly challenging and reduces the room for action. All these combined factors make further increases in overall government revenue levels very difficult to achieve.

Nonetheless, Italy could relieve pressure somewhat by improving the efficiency with which it raises tax revenue. Italy's tax mix is dominated by taxes on income and labour (Figure 64), which create distortions that are harmful for growth and labour market activation. Shifting the tax mix away from labour and income taxes and towards taxes on property and consumption could allow Italy to improve the overall efficiency of its tax system (OECD, 2010; OECD 2017a). This could be carried out, for example, by reintroducing recurrent taxes on property above a certain threshold and updating market values regularly (OECD, 2017a). It could also be achieved by financing a reduction in employer SSCs with an increase in the VAT base. Italy has the sixth lowest share of VAT in the tax mix of all OECD countries, despite having a standard VAT rate well above the OECD average. Strengthening Italy's public financial outlook also requires a continued focus on tax administration and compliance, building on recent policy successes in this regard (OECD, 2017a). Lower VAT rates are levied on works of art, admission to shows and cultural events, restaurants, books, newspapers and weekly magazines. Removing these lower rates — while leaving the standard rate as is

— could increase revenues for Italy in a growth-friendly and progressive way (OECD/Korea Institute of Public Finance, 2014).

Figure 64. The tax mix in Italy

Taxes as a share of GDP, 2014



Source: (Revenue Statistics - OECD countries: Comparative tables).

Italy's public expenditure favours consumption over investment

While it may be difficult to raise overall levels of government revenue or to expand overall spending given Italy's difficult budget situation, the public spending mix could be adjusted to make room to expand public investment in skills. Education expenditures constitute a comparatively small share of total government spending (Figure 65). Specifically, Italy spends 8% of total public spending in education relative to an OECD average of 12%. This difference is in large part made up by the larger share of spending on health, housing and social protection, especially pensions. By shifting the expenditure mix away from spending on social protection and towards investment in skills Italy could help grow the economy and, thereby increase government revenues, which would put government budgets overall on a more sustainable footing.

Figure 65. Italy devotes a lower share of total spending on education relative to OECD averages

Share of total public expenditure by category, 2013



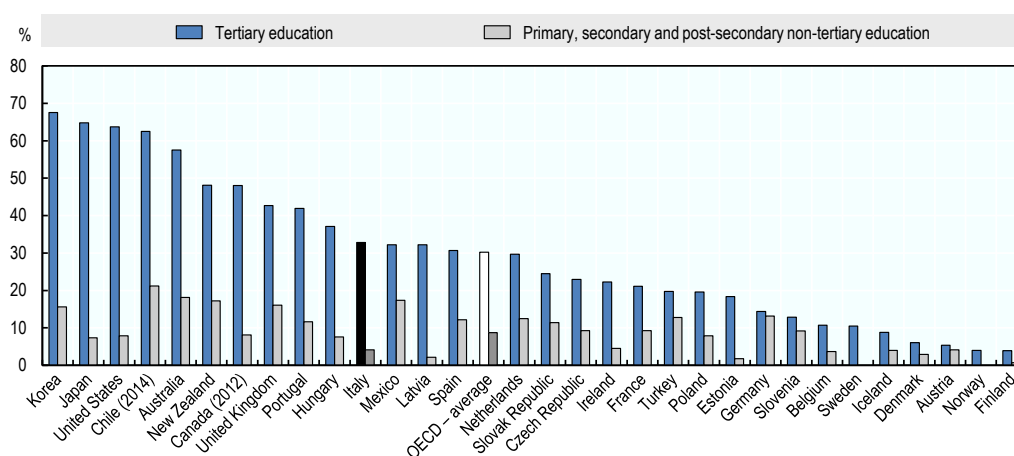
Note: Data are from the structure of general government expenditures by function. Spending on other includes defence, economic affairs, environment protection, public order and safety.
Source: OECD (2015), Government at a Glance, OECD Publishing, Paris, <http://dx.doi.org/10.1787/888933534784>.

Firms and students spend comparatively less on skills

In addition to low spending from the public sector, Italian firms and individuals also spend less on skills investments compared to other OECD countries (see Figure 66). Thus, while for a variety of reasons government spending on skills is relatively low, this section highlights the fact that spending by the private sector is also relatively low.

Figure 66. Private skills spending is below OECD average, though this is mainly driven by the non-tertiary sector

Private expenditure on educational institutions, as share of total expenditure, 2013



Source: OECD (2017), Private spending on education (indicator), <https://data.oecd.org/eduresource/private-spending-on-education.htm#indicator-chart>.

Providing incentives for firms to invest in skills is challenging. Firms may be reluctant to invest in their workers' skills out of fear that newly-trained workers may leave the firm after investment in their training. Firms may also not consider the positive spill-over effects that skills have on society, leading them to under-invest in skills relative to the social optimum.

Italy incentivises firms to invest in the skills of their workers through variety of measures. Italy allows the immediate deduction of skills expenditure from the corporate income for tax purposes, but this may not benefit those firms which have low profitability, and may not account for the fact that developing training programmes have sunk costs which can be particularly significant for SMEs.

Italy also funds adult education at the firm level through inter-professional funds (*Fondi Interprofessionali*). These funds support training plans at the sectoral and regional level that firms, either alone or in association, may decide to create for their employees (OECD, 2017c). The inter-professional funds can also finance individual training plans, as well as additional educational activities. These funds are financed through a compulsory contribution of 0.3 % of workers' payroll. By mandating firms to provide training and by providing training at the industry level, these funds help firms overcome the market failures described above. However recent OECD research has suggested that these funds are in need of reform, to better target their training towards the skills that workers will need to profit from changing economic circumstances (OECD, 2017c).

Achieving value for money with respect to the use of these of workers' payroll involves ensuring that more of these funds are used directly for training and not for other purposes. The nature of the skills investments matter as well. OECD research has highlighted that much of the training provided by training funds is already legally compulsory (such as health and safety training). In a context where Italian workers lack several ICT skills and show low proficiency in literacy and numeracy, the allocation of a large share of funds to training on safety regulations frustrates the spirit and objectives of the *Fondi Interprofessionali* to act as a tool to provide workers with the skills needed to adapt to the future challenges in the labour market (OECD, 2017c).

Firm spending on adult skills, while necessary and beneficial, can also introduce biases into the skills financing system. There is evidence that SMEs are less likely to invest in training of their workers than larger firms in general (Müller & Behringer, 2012; Stone, Braidford, & SSDA, 2008). The literature suggests that those with low skills are less likely to be trained by their employers (Hansson, 2008). There is also evidence that women and older workers are also less likely to receive employer training: women and low-educated workers are more likely to self-finance their worker training (Bassanini *et al.*, 2007). Reliance on firms to finance adult learning should be complemented with other sources of funds to ensure that all groups have access to adult learning. Government contributions to the adult learning funds could also give the government more say in how these funds are spent, and shift the focus of courses helping workers adapt their skills to the challenges arising from rapid technological change and globalisation.

Providing incentives for individuals to invest in skills is similarly difficult. As with firms, individuals may not internalise the broader social returns to their skills investments and so may under-invest relative to the social optimum. In addition, loan

markets for skills investments may fail because skills themselves cannot be offered as collateral, leaving many student credit constrained and unable to afford even profitable skills investments. Student loans exist in Italy, but only 20% of full-time tertiary students benefit from these loans. This is above some of Italy's competitor countries such as Austria (17%) but below high performers in this area such as Australia (87%), Norway (80%) and Finland (52%). This means that low-income students in particular may lack access to finance to undertake profitable skills investments (see challenge 2).

Italy has taken steps to increase investment in skills

Despite Italy's challenging economic circumstances, some measures have been taken to strengthen skills financing. Italy's education spending has risen in recent years as a share of GDP. Several other positive steps have been taken.

- A targeted fund has been set up to finance grants for students in need, defined according to their family income. A grant of EUR 15 000 net a year is available together with a tax exemption for the best 400 secondary school students who enrol in a state university.
- Performance-related funding for universities has been rising as a share of total funding, and the National Reform Programme confirmed the government's intention to continue this increase (MEF, 2015; OECD, 2017a). Particularly positive are the current efforts to refine the funding formula to take into account also qualitative indicators (including the impact factor of the research at the department level) and other factors including student employability (see challenge 2). In addition, lecturers and professors must pass a national exam (habitation) in order to be hired by universities. These measures have affected the creation of new University departments and favour a rationalisation of the current system making it more accountable.
- The 2017 Budget law introduced several measures to increase the quality of the research system, such as additional funding for the best departments and the best researchers, and increased annual endowment for ANVUR (the national agency for evaluation of the university and research system). In addition the Stability Pact 2017 allocated extra funds to increase the number of scholarships.
- Through the *Industria 4.0* programme, Italy has provided a total EUR 13 billion in tax credits between 2017 and 2020 to firms adopting digital technologies, which should positively affect the demand for high-skills.
- The recent Jobs Act has reformed the delivery of ALMPs, which may increase the amount of funding for these supports at regional level.

Recommended areas for action

- Increase public investment in skills, including on education, active labour market programmes and innovation, by shifting spending away from public consumption to education as well as by collecting tax revenue more efficiently.

- Increase private investment in skills through a combination of incentives for employer investment in skills. Policies providing incentives to private investment such as Industry 4.0 go in the right direction and should be empowered by creating complementarities with other policies and investment programmes. Tax credits for individuals should be made refundable so that they can be accessed by those in low-paying jobs before they become unemployed or leave the labour market. More training should be provided at the sectoral level to alleviate poaching concerns between firms. Other options pursued across the EU have included payback clauses, social security contribution reductions, train-or-pay schemes, and expanded corporate tax deductions for training.
- Improve the efficient use of resources by strengthening existing efforts to (a) determine how the costs of University degrees should be shared by the beneficiaries (fees) versus the rest of society; (b) refine the funding formula to take into account quality as much as quantity (number of students); (c) define thresholds for the creation/closure of new University Departments that take into account both the number of students and outputs; (d) improve selection procedures for lecturers and promotion mechanisms in such a way that merits become more relevant than seniority; and (e) improve Governance systems.
- Rigorously monitor and evaluate skills investment to ensure good value for money, particularly with respect to inter-professional training funds.

NOTES

⁷⁰ Spending has also to be efficient, so the level of spending alone may not be a good indicator. Furthermore concerning primary and secondary education, OECD (2017) evidence clearly illustrates that above a given threshold, which Italy has surpassed, there is no relationship between level of investment and student performance.

⁷¹ Since 2005, the 16 German *Länder* have been free to decide on the levying of tuition fees. A few *Länder* have levied tuitions fees, but the level of fees differs between *Länder*. In some *Länder*, the higher education institutions themselves are free to decide on the levying of study fees and the amount thereof. Most of the 16 *Länder* did not impose tuition fees for initial education (OECD, 2011)

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ANNEX 1. LIST OF STAKEHOLDERS

Stakeholder	Institution/Entity
Abate Marco	CUN and Università di Pisa
Abbondanza Mary	Formatemp
Agrò Maria Ludovica	Agenzia per la coesione territoriale
Aiello Anna Maria	Invalsi
Aiello Luisa	Indire
Alaimo Luana	Mckinsey
Alitto Cinzia	Ministero del Lavoro e delle Politiche Sociali
Allulli Giorgio	Associazione Treelle
Altieri Rosario	Alleanza Cooperative
Ansanelli Davide	ENEA
Arcidiacono Caterina	Università di Napoli Federico II
Azzolino Fabrizio	Miur - Forum Genitori
Bairati Andrea	Confindustria
Baldi Alessandra	Ministero dell'Istruzione
Balsamo Alfonso	Confindustria
Banfi Alessandro	MEDIASET
Baratta Renato	FORMATEMP
Barbagallo Carmelo	UIL
Barbieri Pietro	Forum Terzo Settore
Basso Giacomo	Casartigiani
Bassu Antonella	Assolombarda
Bastianelli Michela	Anpal
Bastianini Giovanni	Protezione Civile
Baudino Cecilia	BCG
Bellini Cristina	AFOL
Bemporad Simone	Generali
Benedetti Rossella	UIL Scuola
Benini Romano	ANPAL
Bernard Alberto	CEMENTIR
Bertazzoni Annamaria	Istituto degli innocenti
Bertoni Patrizia	Forum Terzo Settore
Bettoni Costanza	Tecnostruttura delle Regioni
Biffi Alvise	Secure Network
Biondi Giovanni	INDIRE
Bisi Claudio	Comune di Milano
Bixio Maria	Università europea di Roma
Boffo Vanna	Università di Firenze
Brandi Maria Carolina	Consiglio Nazionale delle Ricerche
Brezzi Francesca	Università di Roma 3

Brollo Marina	Università di Udine
Brugnoli Giovanni	Confindustria
Brunetti Pietro Maria	Ferrero
Buratta Vittoria	Istat
Buttara Francesca	UnipolSAI
Busacca Bruno	Ministero del Lavoro
Busetto Antonello	Assinform
Caimi Nicoletta	Confapi
Calligari Sophie	Prysmian
Calviello Germana	Confcommercio
Cammarata Maria Luisa	GI Group
Camplone Ganluca	Mckinsey
Cantamessa Marco	Politecnico di Torino
Carbonato Gianfranco	Prima Industrie
Carraro Paolo	CISL
Casanova Francesca	AFOL Metropolitana
Castellucci Eugenia	Telecom Italia S.p.A.
Castiello Matilde	ENEA
Catalano Antonio	Ferrero
Catania Elio	Confindustria
Ceccarelli Claudio	Istat
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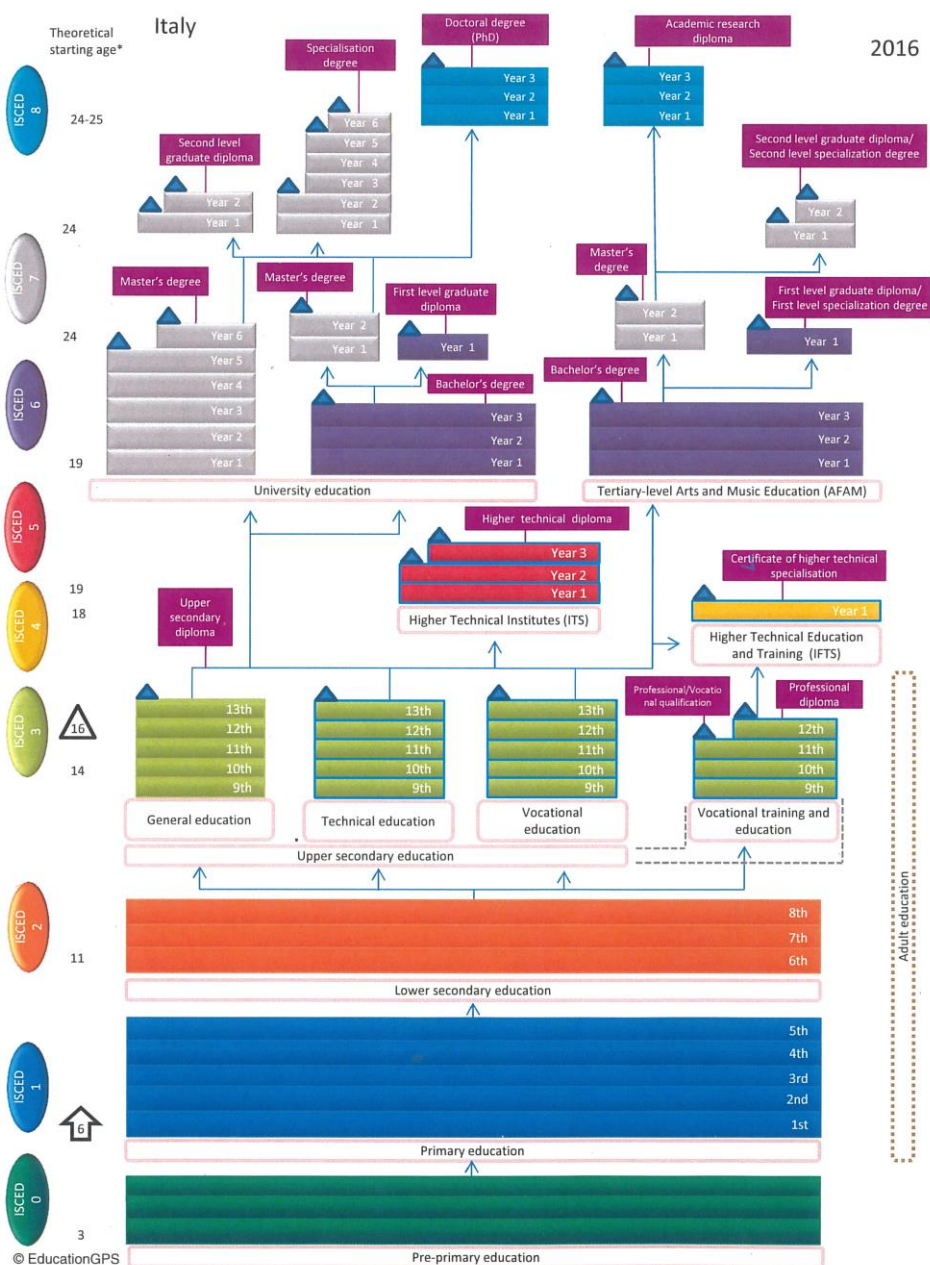
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ANNEX 2. STRUCTURE OF ITALY'S EDUCATION SYSTEM



Source: OECD (2012-13), "Italy: Overview of the education system", OECD Education GPS, http://gpseducation.oecd.org/Content/MapOfEducationSystem/ITA/ITA_2011_EN.pdf

OECD Skills Strategy Diagnostic Report

Italy

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

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

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

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

Further reading

OECD (2016), *Skills Matter: Further Results from the Survey of Adult Skills*, OECD Publishing.
OECD (2015), *OECD Skills Outlook 2015: Youth, Skills and Employability*, OECD Publishing.
OECD (2013), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing.
OECD (2012), *Better Skills, Better Jobs, Better Lives: A Strategic Approach to Skills Policies*, OECD Publishing.



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