



European  
Commission

Volume 12 | Issue 5 | June 2015

ISSN: 1725-8375

# ECFIN *Country Focus*

ECONOMIC ANALYSIS FROM EUROPEAN COMMISSION'S DIRECTORATE-GENERAL FOR ECONOMIC AND FINANCIAL AFFAIRS

## HIGHLIGHTS IN THIS ISSUE:

- *Italy combines a poor supply of tertiary graduates with low employment rates for this educational group.*
- *Private employers report that around 20% of tertiary hiring needs are difficult to fill.*
- *A shortage of certain tertiary profiles and a lack of adequate competence or training represent the main challenges to tackle to improve the transition from education to work.*

## From tertiary education to work in Italy: a difficult transition

*Marco Montanari\*, Dino Pinelli\*\*, Roberta Torre\*\**

### Summary

*Despite their scarcity, Italy's university graduates struggle to secure jobs and the difference between their earnings and those of less educated people are smaller than elsewhere in the EU. To shed light on this apparent paradox, this Country Focus takes advantage of a unique national database to analyse the transition from tertiary education to work.*

*In the 2013 Excelsior survey, private sector employers found nearly 20% of their vacancies requiring tertiary education difficult to fill. This was due not only to the general shortage of candidates but also to the lack of adequate skills or experience among available candidates, suggesting some shortcomings in Italy's supply of tertiary graduates.*

*Another factor complicating the job search of Italy's tertiary graduates is the widespread use of informal selection procedures among companies in Italy.*

*Policies to improve career counselling services, strengthen vocationally-oriented tertiary education and to reinforce coordination and performance of public employment services could improve the job matching process in Italy and ease the transition from tertiary education to work.*

### Introduction

This Country Focus investigates the difficult interaction between education and the labour market in Italy. The objective is to identify the key features of the education system and labour market functioning that prevent a fluid and efficient matching of supply and demand of skills, while taking as given the structure of the Italian economy (e.g. firm size, sectoral specialisation).

The Country Focus is structured as follows. Firstly, it presents some characteristics of employment and supply of tertiary graduates in Italy. Subsequently, it looks at the demand side and discusses why skill matching is problematic. Finally, it draws some policy conclusions.

\* DG EAC – Modernisation of Education I, Unit A2 Country analysis.

\*\* DG ECFIN – Economies of the Member States I, Unit E1 Italy, Malta and Slovenia.

The views expressed in the ECFIN Country Focus are those of the authors only and do not necessarily correspond to those of the Directorate-General for Economic and financial Affairs or the European Commission.

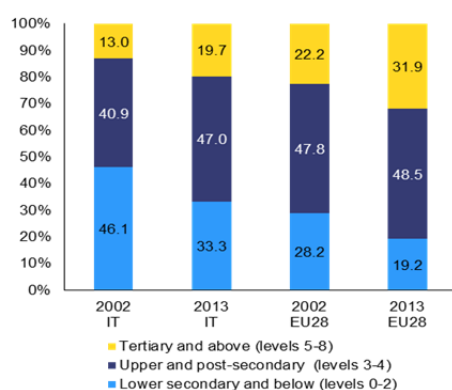
## Employment outcomes of tertiary graduates: some specific facts

The composition of employment has been changing over time both in Europe and in Italy in favour of tertiary graduates, mainly at the expense of the lower qualified ones. However, the difference between Italy and Europe with respect to the share of graduates in employment is striking: in 2013, only about 20% of employed people had a tertiary degree while in Europe the share was around 32% (see Graph 1).

■ *Average employment rates of tertiary graduates in Italy compare unfavourably not only to peers in the EU-28 but also to groups with lower education.*

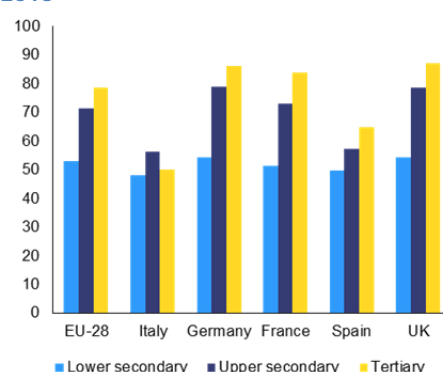
Among young people, the employment pattern by education level displays Italy as a clear outlier in the EU (Graph 2). While the employment rate of the 25-29 year-olds is usually increasing in their educational attainment, in Italy this does not happen. The employment rate of 25-29 year-old tertiary graduates is well below that of 25-29 year olds with at most upper secondary education (50.1% compared with 56.2% in 2013)<sup>1</sup> and barely higher than that of 25-29 year olds with at most lower secondary education (48.2%)<sup>2</sup>. This suggests that in Italy, in terms of employment prospects, having been in the labour market for some more years (the typical situation of people who left education after upper secondary school) pays off more than holding a tertiary degree. However, when comparing recent school leavers and graduates irrespectively of their age, tertiary graduates still enjoy an advantage vis-à-vis recent upper secondary graduates in terms of employment rate (Graph 3). In Italy, among people having left education between 1 and 3 years ago, the employment rate of tertiary graduates is 16 pps higher than that of upper secondary graduates. Nevertheless, compared to the EU average, it is still 24 pps lower, confirming that entering the labour market is more difficult in Italy than in the rest of the EU for tertiary graduates.

Graph 1: Employment by education, 2013



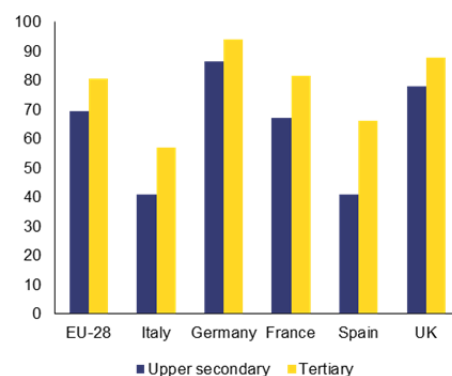
Source: Eurostat

Graph 2: Employment rate of people aged 25-29 by highest education attainment, 2013



Source: Eurostat

Graph 3: Employment rate of recent graduates<sup>3</sup>, 2013



Source: Eurostat

■ *Returns to education are lower than in other developed countries.*

In addition, private returns from investing in tertiary education, estimated in terms of earning differentials, are low. According to the OECD (2013), in Italy, the relative earnings of tertiary graduates (aged 25-34 year-old) correspond to 122% of the income of peers with only upper secondary education. This proportion is 140% for the OECD average. These estimates are consistent with available micro-econometric evidence showing that an additional year of education increases earnings by about 5% in Italy, one of the lowest values in the OECD (Hanushek et al, 2015).

## Italy's supply and demand of tertiary graduates

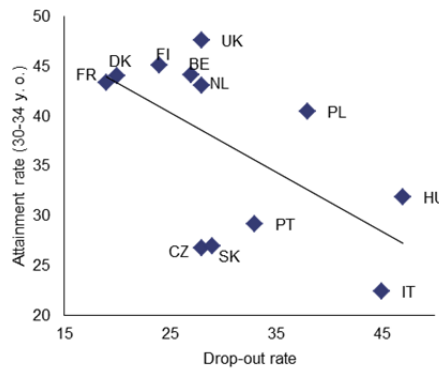
■ *Italy has the second lowest attainment rate for tertiary education in the EU.*

■ *Some fields of study chosen diverge significantly from the average pattern in the EU.*

Italy shows weak educational attainments. Italy has not only the second lowest attainment rate for tertiary education<sup>4</sup> in the EU for the adult<sup>5</sup> population (16.3% in 2013), but also the lowest one for the 30-34 age group (22.4% in 2013)<sup>6</sup>, coupled with a very high drop-out rate (45% in 2011-12) (Graph 4). Moreover, it takes long to obtain a degree: the average time needed to complete the first cycle of tertiary education (3 statutory years) is 5.1 years<sup>7</sup>, with only 33% of students graduating on time (ANVUR 2014).

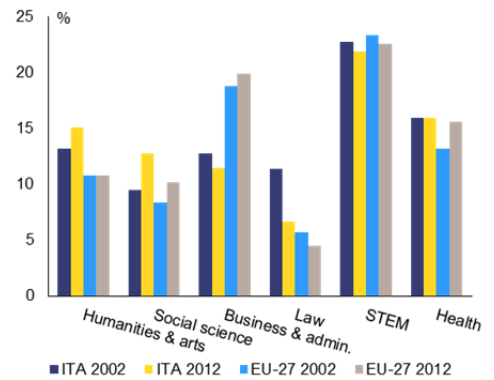
The share of students graduating in science-technology-engineering-mathematics (STEM) and health is similar in Italy and the EU on average. By contrast, Italy shows different levels and trends in other areas: (i) a somewhat higher and increasing share of graduates in humanities and arts and in social science; (ii) a still higher but rapidly decreasing share of graduates in law; (iii) a stagnating and significantly lower share of graduates in business and administration (Graph 5).

Graph 4: Drop-out vs. attainment rates for tertiary education in the EU<sup>8</sup>



Source: own calculations on Eurostat data, OECD (2013a) and ANVUR (2014)

Graph 5: Share of tertiary graduates by selected fields

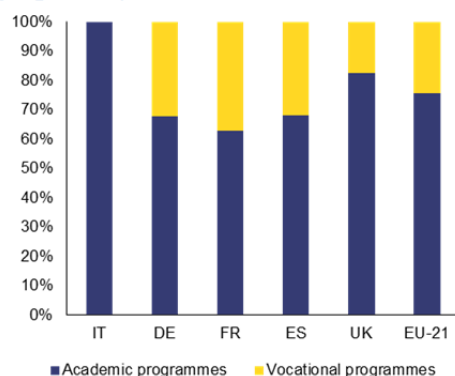


Source: Eurostat

■ *Italy lacks vocational programmes at tertiary level and lags behind in terms of basic skills of young graduates.*

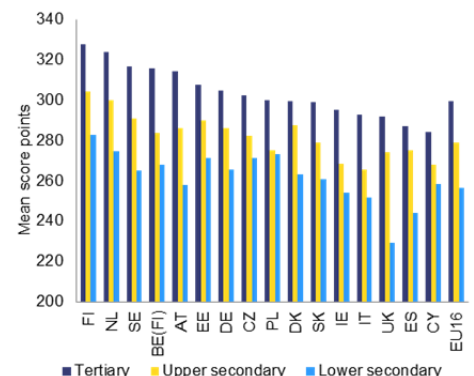
Another relevant difference between Italy and many other EU countries concerns the absence of vocational programmes at tertiary level. As displayed in Graph 6, in 2011 100% of Italian graduates came from academic programmes, while more than 30% of graduates in Germany, France and Spain had completed vocational programmes. Since then, Italy has created a vocationally-oriented tertiary sector (the Higher Technical Institutes), but participation is less than 1% of current students. Moreover, at upper secondary level vocational education and training is developed but insufficiently work-based. As a consequence, the share of young people (15-29) studying and working at the same time is 3.9% vs. the EU average of 12.9%.

Graph 6: Distribution of 30-34 year-olds with tertiary education by type of programme, 2011



Source: OECD (2013a)

Graph 7: Performance of 16-29 year-olds in OECD PIAAC literacy tests by highest educational attainment



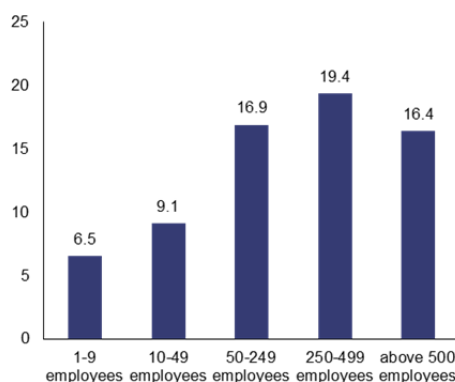
Source: OECD (2013b)

Italy lags behind most EU countries also in terms of basic skills (literacy and numeracy) of young graduates, according to the results of 2012 OECD PIAAC survey (Graph 7). Italy's young tertiary graduates score rather poorly not only compared with tertiary graduates in other EU countries but also with upper secondary graduates in the best performing EU countries, such as Finland and the Netherlands. (OECD 2013b; European Commission 2013).

■ Demand for tertiary graduates varies by firm's size and geographical location.

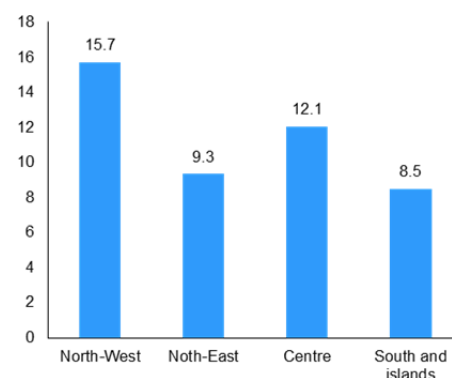
Concerning the demand side, the national database Excelsior<sup>9</sup> allows to look at the demand for graduates by firm size, geographical location and sector. Most of the demand for tertiary graduates comes from bigger firms, mainly in the North-West and Centre of Italy, and to a greater extent from other services such as financial and insurance services, IT or other services to businesses (Graphs 8-10). The Excelsior survey collects also data on hiring needs by degree and by education field.<sup>10</sup> As shown in Graph 11, the graduates most demanded are those in the socio-economic field (31% of total hiring needs in 2013), followed by engineering and architecture (28%).

Graph 8: Tertiary graduates as % of total hiring needs, by firm size (2013)



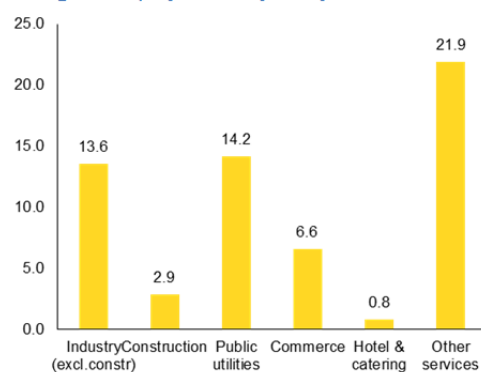
Source: Eurostat

Graph 9: Tertiary graduates as % of total hiring needs, by geographical area (2013)



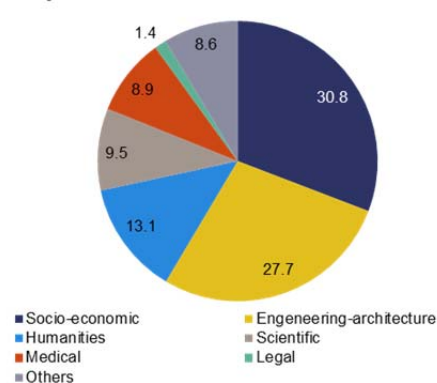
Source: Excelsior (2013)

Graph 10: Tertiary graduates as % of total hiring needs, by sector (2013)



Source: Excelsior (2013)

Graph 11: Hiring needs, by education field (2013)



Source: Excelsior (2013)

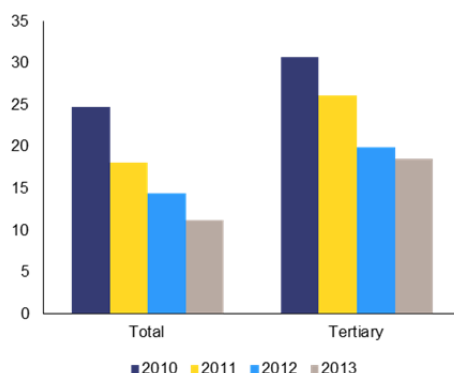
### Transition from tertiary education to work: evidence from the demand side

■ Italy presents a high share of under-qualified workers.

The 2013 PIAAC survey offers recent evidence that Italy performs worse than the OECD average in terms of vertical mismatch, i.e. the degree to which jobholders are either under- or overqualified with respect to the requirements of the job position held. While Italy has a lower-than-average share of workers that are over-qualified for their job (13% compared with 21%), it has the highest share of under-qualified workers (22%). This shows that, despite their formal qualification, Italian graduates do not have the skills required by the job and/or that the labour market matching mechanisms do not work

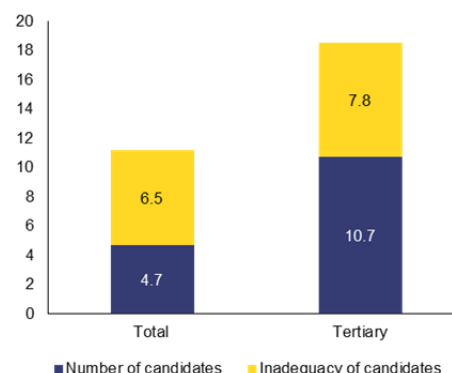
effectively<sup>11</sup>. As a consequence, the number of jobs for graduates is likely to be lower than what would be the case if the qualifications of the graduates were better aligned with demand and labour market matching mechanisms were working more effectively. This may be one of the factors explaining why labour market outcomes for Italian graduates are worse, despite the relatively smaller supply, than for their EU peers. It is interesting to notice that young Italian graduates tend to perform better in foreign labour markets than in the domestic one. On average, compared with their peers working in Italy, Italian graduates working abroad earn higher (and more rapidly increasing) salaries, work more frequently under open-ended contracts and consider their formal qualification as somewhat more effective for their job (AlmaLaurea 2014). This suggests possible problems stemming from the demand side.

Graph 12: Positions that are difficult to fill, % of the total needed (2013)



Source: Excelsior (2013)

Graph 13: Positions that are difficult to fill, by reason, % of total needed (2013)



Source: Excelsior (2013)

■ *The Excelsior survey reports recruitment needs that are considered difficult to fill.*

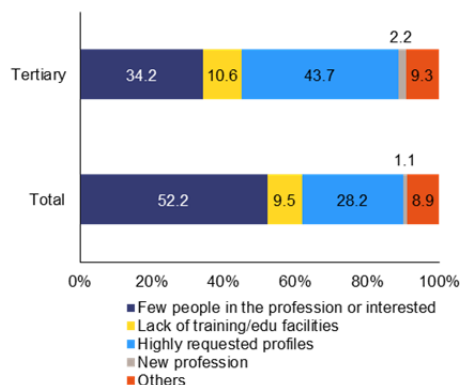
In order to shed more light on the transition from education to work of tertiary students, we focus our analysis on an indicator from the Excelsior database: hiring needs that firms consider difficult to fill. Its proportion compared with total recruitment needs is a good proxy for the mismatch between labour demand and supply since it represents potential employment that is difficult to realise. In 2013, around 11% of total recruitment needs were considered difficult to meet. This percentage increases to 18.5% for positions requiring tertiary education. As shown in Graph 12, these gaps have decreased over the last few years, which is probably explained by cyclical factors: since unemployment rates reached unprecedented levels as a consequence of the economic crisis, more people were available and willing to take up a job, ultimately reducing firms' difficulties to fill their vacancies. Despite the cyclical downward trend, the indicator still points to a structural mismatch between supply and demand of skills.

■ *Various reasons behind the mismatches.*

The Excelsior survey investigates the reason behind this mismatch by asking firms if the positions are difficult to fill mainly because of quantitative reasons (not enough candidates in the local job market) or qualitative ones (personal or professional characteristics of the candidates that do not satisfy the employer)<sup>12</sup>. Overall, as Graph 13 shows, firms believe that the reasons behind these mismatches are more related to qualitative aspects rather than quantitative ones. However, when considering only positions requiring tertiary education, the quantitative bottlenecks are more important than qualitative ones. Graphs 14 and 15 show that the most common factors underlying a quantitative bottleneck are the lack of people available or interested in the profession (52.2%) and the high demand for the specific type of profile (28.2%). Focusing on jobs requiring a tertiary education, the main explanation for a quantitative bottleneck is high demand (43.7%) which presumably leads to fierce competition between firms. Considering qualitative bottlenecks, in around 40% of all cases it is the lack of adequate education or training that underlies the inability to fill a position, followed by a lack of adequate experience or personal characteristics. The survey also reveals that firms demand specific work experience (i.e. experience in the relevant sector or job) for nearly 63% of jobs requiring tertiary education as compared with an average of 56.1% for all jobs. Moreover, firms report that in 2013 79% of the job openings requiring tertiary

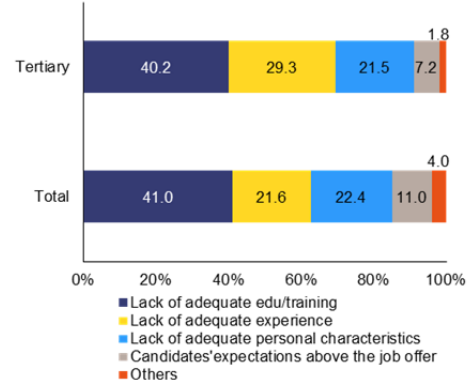
education needed further (internal or external) training (Graph 16). This percentage is much higher than the average for all educational groups (62%) signalling that the need for further training is particularly prevalent for positions requiring tertiary education. Firms intend to fill this training gap via pairing newly hired staff with senior employees (i.e. mentorship), internal training, and, to a minor extent, external training.

Graph 14: Quantitative reasons for the inability to fill a position , 2013



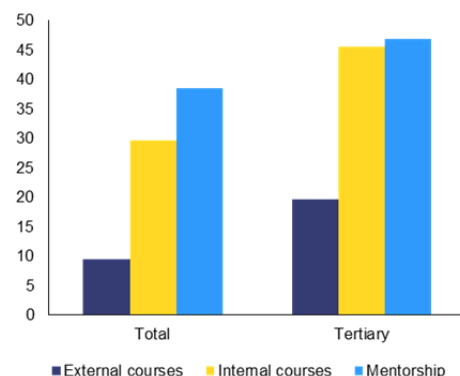
Source: Excelsior (2013)

Graph 15: Qualitative reasons for the inability to fill a position , 2013



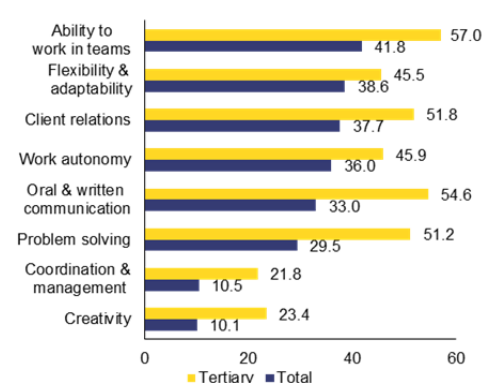
Source: Excelsior (2013)

Graph 16: New hiring in need of training as % of total new hiring, by type of training (2013)



Source: Excelsior (2013)

Graph 17: Soft-skills that firms consider highly important, as % of total new hiring (2013)



Source: Excelsior (2013)

■ Training needs and the importance of soft-skills.

Bigger firms signal more often the need for further training of the people they intend to hire compared with smaller firms, while there is no significant difference in this regard between the industrial and service sector. In addition to work experience and knowledge (i.e. hard skills), personal characteristics and abilities are becoming more important in the process of the professional and educational upgrading of jobs. The Excelsior database witnesses the importance which firms attach to these so-called "soft skills" such as ability to work in teams, flexibility and adaptability or communication. According to the 2013 survey, for almost 42% of the vacancies the ability to work in teams is highly important (Graph 17). For positions requiring a tertiary education, soft skills are more often considered to be highly important than for all jobs on average, and the order of importance of these skills changes.

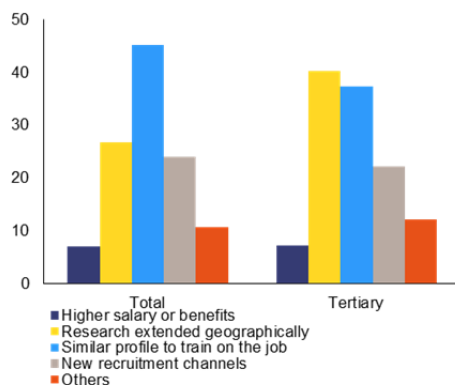
■ Features of the tertiary education system helps explaining the difficult transition.

These results seem to indicate that Italy's tertiary education system is not able to provide enough graduates in the most requested profiles or adequate training and skills to match labour demand. The features of the Italian tertiary education system described above may play a role in explaining these deficiencies: the absence of a vocationally-oriented sector, the relatively low share of work-based learning (where soft skills may be better acquired) also in secondary schools, a long duration of studies and a relatively large share of graduates in fields with more limited employment prospects (e.g. humanities and arts)<sup>13</sup>. This is compounded by weaknesses in the whole education system, which translates into

■ *Actions taken by firms to overcome hiring difficulties.*

comparatively lower basic skills of tertiary graduates, including soft skills.

Graph 18: **Actions taken by firms for positions that are difficult to fill (2013)**



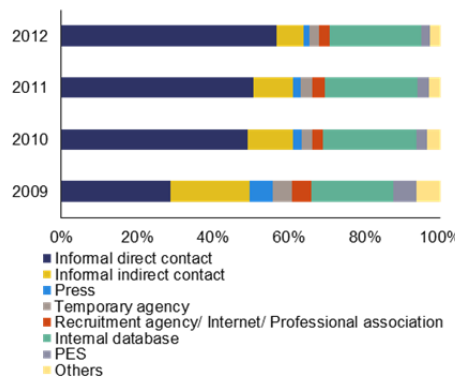
Source: Excelsior (2013)

Firms take different actions in response to these shortcomings. As shown in Graph 18, for almost half (45%) of the positions which are difficult to fill, firms hire a similar profile to the one requested and then provide training afterwards. However, for tertiary profiles, firms tend more often to extend first the geographical scope of their research (40.3%). It is interesting to note that firms opt for alternative recruitment channels only in around 25% of the positions that are difficult to fill.

■ *Recruitment channels: improving the transition from education to work.*

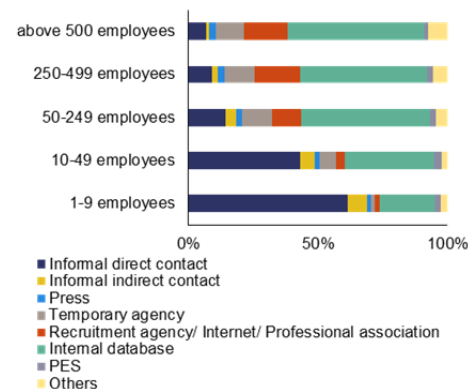
Looking in more detail into the most common recruitment channels, Italian firms show an increasing preference for informal channels of recruitment, i.e. direct knowledge of candidates as well as indirect knowledge through suppliers or acquaintances. According to the Excelsior survey, in 2012 around one third of firms used direct or indirect informal channels for recruiting their staff. This pattern remains similar across sectors. However, the recruitment channels vary significantly according to firm size. In particular, as size increases, firms tend to shift from informal channels to more formal ones such as internal recruitment processes and/or external ones (i.e. through recruitment agencies). The increasing use of informal channels since 2009 might be partially explained by the rise in unemployment that makes it easier for firms to find potential candidates.

Graph 19: **Recruitment channels of Italian firms (2012)**



Source: Excelsior (2013)

Graph 20: **Recruitment channels of Italian firms, by firm size (2012)**



Source: Excelsior (2013)

It is striking that firms seldom resort to public employment services (PES): the share of Italian firms to use PES as its main recruitment channel has further fallen, from 6% in 2009 to 2% in 2012. Italy's public expenditure on labour market policies is significantly biased towards passive labour market policies (e.g. wage supplementation schemes and unemployment benefits), ultimately resulting in very low public expenditure on PES and job-search assistance. It is also worth noting that there are large regional disparities in the quality of services provided by PES. Concerning recruitment channels, the Excelsior survey also indicates that, similarly to PES, private placement agencies are only used by a limited share of Italian firms which has furthermore also fallen over time (from 10% in 2009 to 5% in 2012). This suggests that Italian firms, notably SMEs, are reluctant to outsource recruitment or to use formal channels (e.g. internet, press). These patterns cannot but limit firms' ability to find the best candidates, ultimately hindering an efficient allocation of human resources across the territory.

## Conclusion

This analysis provides some evidence of a mismatch between the skills provided by the Italian tertiary education system and those required by firms. The analyses of both the supply of and the demand for tertiary graduates in Italy points to two main problems: (i) shortage of graduates in the most demanded profiles; (ii) inadequate graduates' skills or work experience. Inefficient matching channels in the labour market compound these problems. For instance, the limited use of public employment services by employers hinders their ability to function as effective intermediaries.

Some policy measures may help address these shortcomings, as recommended in recent years by the Commission and Council in the context of the Europe 2020 strategy (Council of the European Union 2013, 2014). Proper career and counselling services could steer students towards the education profiles most requested by the labour market. Strengthening vocationally-oriented tertiary education would ease transition from education to work by providing relevant training and work experience to tertiary students. Last but not least, reinforcing the coordination and performance of public employment services would facilitate and ameliorate the matching process.

## References

- AlmaLaurea (2014), Condizione occupazionale dei laureati. XVI Indagine 2013, [https://www.almalaurea.it/sites/almalaurea.it/files/docs/universita/occupazione/occupazione12/almalaurea\\_indagine2013.pdf](https://www.almalaurea.it/sites/almalaurea.it/files/docs/universita/occupazione/occupazione12/almalaurea_indagine2013.pdf)
- ANVUR (2014), Rapporto sullo stato del sistema universitario e della ricerca 2013, [http://www.anvur.org/attachments/article/644/Rapporto%20ANVUR%202013\\_UNIVERSITA%20e%20RICERCA\\_integrale.pdf](http://www.anvur.org/attachments/article/644/Rapporto%20ANVUR%202013_UNIVERSITA%20e%20RICERCA_integrale.pdf)
- Bergamante F., Marocco M. (2014), Lo stato dei Servizi pubblici per l'impiego in Europa: tendenze, conferme e sorprese, Isfol Occasional Paper, 13/2014
- Council of the European Union (2013), Council recommendation of 9 July 2013 on the National Reform Programme 2013 of Italy and delivering a Council opinion on the Stability Programme of Italy, 2012-2017
- Council of the European Union (2014), Council recommendation of 8 July 2014 on the National Reform Programme 2014 of Italy and delivering a Council opinion on the Stability Programme of Italy, 2014
- Hanushek E. A., Schwerdt G., Wiederhold S., Woessmann L. (2015), Returns to Skills around the World: Evidence from PIAAC, *European Economic Review*, 73, January 2015, pp. 103-130
- European Commission (2013), The Survey of Adult Skills (PIAAC): Implications for education and training policies in Europe, Directorate-General for Education and Culture
- ISFOL (2013), Le competenze per vivere e lavorare oggi. Principali evidenze dall'Indagine PIAAC, Collana Isfol Research Paper
- Ministry of Labour and social policy, Indagine sui servizi per l'impiego 2013 – Rapporto di monitoraggio, [http://www.cliclavoro.gov.it/Barometro-Del-Lavoro/Documents/Rapporto\\_monitoraggio\\_SPI\\_2013.pdf](http://www.cliclavoro.gov.it/Barometro-Del-Lavoro/Documents/Rapporto_monitoraggio_SPI_2013.pdf)
- OECD (2013a), OECD Skills Outlook 2013: First Results from the Survey of Adult Skills, <http://skills.oecd.org/skillsoutlook.html>
- OECD (2013b), Education at a Glance 2013. OECD indicators, [http://www.oecd.org/edu/eag2013%20\(eng\)--FINAL%2020%20June%202013.pdf](http://www.oecd.org/edu/eag2013%20(eng)--FINAL%2020%20June%202013.pdf)
- Rosolia A., Torrini R. (2007), The generation gap: relative earning of young and old workers in Italy, Bank of Italy Working Papers, No. 639
- Unioncamere (2013), La domanda di professioni e di formazione delle imprese italiane. [http://excelsior.unioncamere.net/images/pubblicazioni2013/excelsior\\_2013\\_fabbisogni\\_occupazionali\\_formativi.pdf](http://excelsior.unioncamere.net/images/pubblicazioni2013/excelsior_2013_fabbisogni_occupazionali_formativi.pdf)



<sup>1</sup> The economic crisis had a similar impact on the employment rates of tertiary and upper secondary graduates aged 25-29, as both decreased by around 11 pps between 2008 and 2013. Concerning the gender gap in employment, there is no significant difference for people with tertiary attainment, while for people with upper secondary education the male employment rate is 14 pps higher.

<sup>2</sup> The unemployment pattern of 25-29 year-olds is similar: the unemployment rate of tertiary graduates is higher than that of upper secondary graduates and lower than that of lower secondary graduates.

<sup>3</sup> People aged 20-34 having left education between 1 and 3 years before the reference year.

<sup>4</sup> The share of the population aged 30-34 years who have successfully completed university or university-like (tertiary-level) education with an education level ISCED 5 or 6.

<sup>5</sup> Aged 25-64.

<sup>6</sup> The Europe 2020 strategy set an EU-level target of 40% for the tertiary attainment rate of 30-34 year-olds by 2020. Italy set its national target at 26-27%.

<sup>7</sup> The cumulative time to complete also the second cycle of tertiary education (2 additional statutory years) is 7.1 years on average.

<sup>8</sup> The chart only shows EU countries with available data on completion rate. Data for BE refer to Flanders only.

<sup>9</sup> The so-called "Excelsior" database gathers information on current hiring and training needs of firms over the next 12 months. Data are collected by Unioncamere, the association of Italian chambers of commerce, on a yearly basis through a survey covering a sample of one thousand firms in all sectors, of all firm's size and from all Italian regions.

<sup>10</sup> An important caveat to bear in mind, though, is that the composition of the demand for graduates in the Excelsior database is structurally different from the supply of graduates since the survey does not include professional services and the public administration, which both absorb a considerable number of graduates.

<sup>11</sup> Looking at other indicators of skill mismatch, evidences of Italy's less favourable position compared to other countries gets however more nuanced. According to the Talent Shortage Survey 2014 conducted by Manpower Group, the percentage of employers having difficulty filling jobs in Italy is broadly in line with the global average one (34% vs. 36% respectively).

<sup>12</sup> Quantitative and qualitative explanations can be two sides of the same coin as if there are not enough candidates, the one remaining for hiring on the markets are bound to be the less competent and therefore deemed inadequate. Or in other words, if firms receive enough application but the pool of eligible candidates is still not developed enough, firms may have the illusion that there is no quantitative problem and only qualitative issue.

<sup>13</sup> AlmaLaurea (2014) shows that in Italy people who studied humanities have the lowest employment rates among recent tertiary graduates.