

16th ALMALAUREA REPORT
ON GRADUATES' EMPLOYMENT CONDITIONS
Entrepreneurship and innovation:
the role played by graduates
by Andrea Cammelli and Francesco Ferrante

1. INTRODUCTION

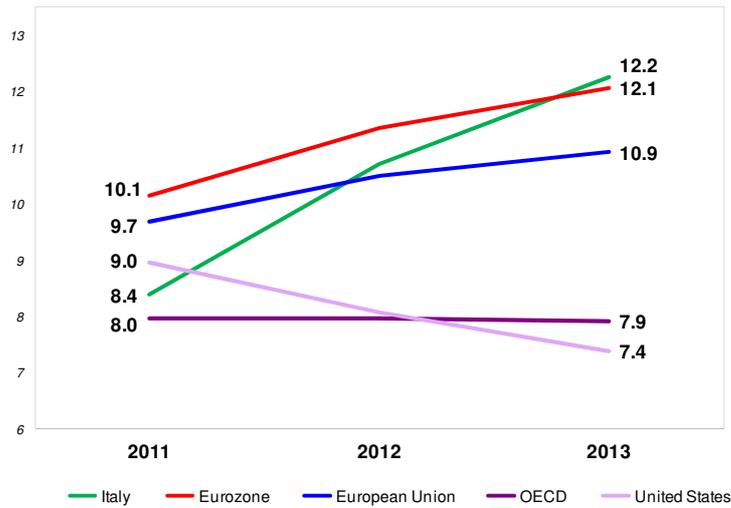
A presentation of the results of the 16th survey cannot but start with describing the context in which they are generated, i.e. the labour market of the OECD countries, Europe and Italy over the past year.

The recent, feeble signals of economic recovery¹, although encouraging, cannot wipe away a difficult year from the viewpoint of employment. Indeed, unemployment reached well over 12%, thus confirming its typical inertial trend during economic cycles. This difficult economic situation in Europe as well as in Italy is once again **taking its greatest toll on the weakest segments of the population, especially youths.**

The price that young people have to pay is particularly high because entering the labour market during a recessive phase produces persistent negative effects on one's entire job career. This consideration suggests that stronger measures be put in place: after all, in this respect as in many others, *prevention is better than a cure.*

¹ According to the OECD (OECD Economic Outlook Analysis and Forecast, OECD, 2013a), the Eurozone and Germany will grow by 1% and 1.7% respectively in 2014, whereas Italy's GDP is expected to grow a meagre 0.6% [0.7% as per the Bank of Italy's Economic Bulletin (Bank of Italy, 2014)]. This figure is not enough to trigger a decline in unemployment, which could reach 12.4% across the board. In addition, the recovery will not uniformly affect regions, business sectors and business types, as it will mainly involve northern Italian regions and bigger companies with stronger presence on international markets. However, recent turbulence in some emerging economies are putting even these modest recovery prospects for Europe and Italy at risk (speech by the Governor of the Bank of Italy, Ignazio Visco, at ASSIOM-FOREX, Rome, 8th February 2014).

Fig. 1 Unemployment rate in some OECD countries (percentage values)

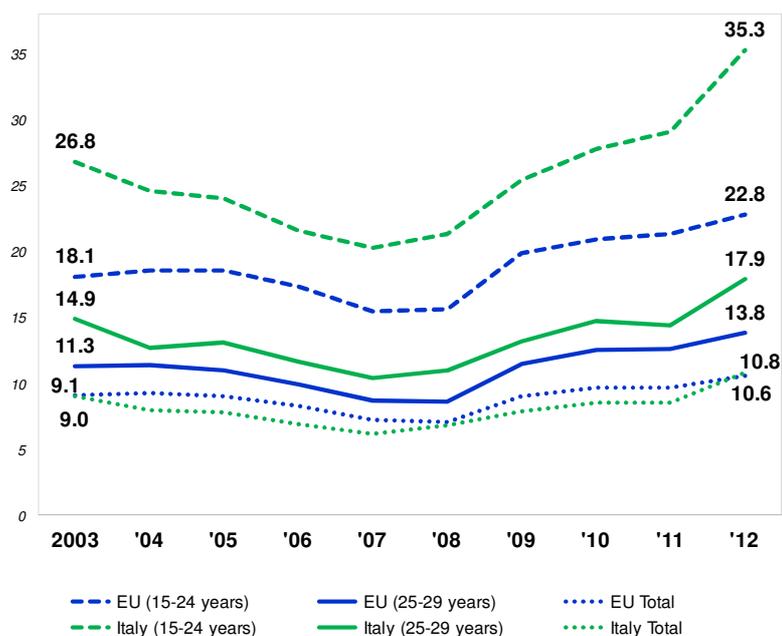


Source: OECD, Labour force statistics (OECD, 2014).

Compared to one year earlier, unemployment in Europe continued to grow in 2013 (*Fig. 1*), whereas the OECD and USA average data kept declining. This divergence was observed to be even bigger for Italy, where the unemployment rate surged from 8.4% to over 12% between 2011 and 2013.

The data on **unemployment rate by age and educational attainment** (*Fig. 2*) confirm that entry into the labour market is more difficult for Italian youths (graduates included) than it is in other countries. These difficulties have been exacerbated by the crisis but were already there before it broke out.

Fig. 2 Unemployment rate in Italy and in the EU by age group (percentage values)



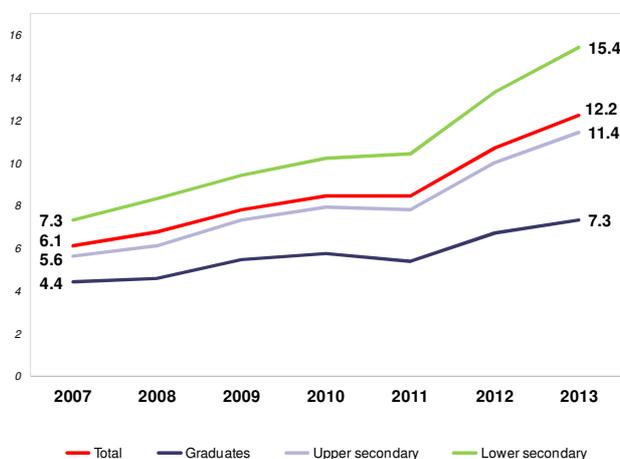
Source: ALMALAUREA elaboration on Eurostat data.

Yet, **graduates' employment conditions are at an advantage vis-à-vis secondary school-leaving certificate holders** throughout their working life, and even more so during crisis periods, as figures 3, 4 and 5 clearly show. This advantage affects recent graduates too². Unemployment figures during the

² The media (and not only them) usually make comparisons between recent graduates and recent secondary school-leaving certificate holders at same age. This is obviously misleading, as conditions should be compared at *same length of stay in the labour market*, as figure 4 suggests. In addition to that, "Secondary studies in Italy are among the longest in Europe, therefore Italian youths enrol later at university and consequently enter the labour market later than in other European countries. Among the 226,000+ graduates that completed their studies in the 64 ALMALAUREA member

crisis were seen to rise by 2.9 percentage points among graduates, 5.8 points among secondary school-leaving certificate holders, 6.5 points among recent graduates (i.e. graduates aged 25-34) and a whopping 14.8 points among recent secondary school-leaving certificate holders (aged 18-29). Workers with only compulsory education (incidentally, those who were most affected by the economic downturn) were left out of this analysis.

Fig. 3 Unemployment rate in Italy by educational attainment (percentage values)

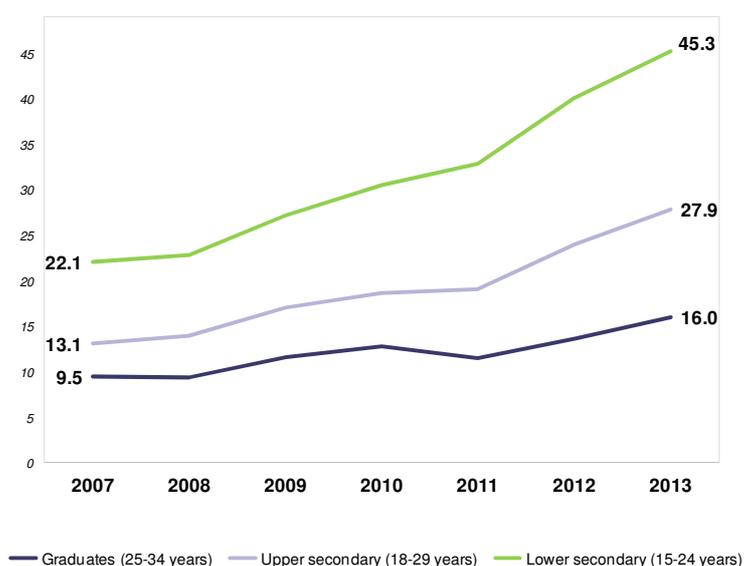


Source: ALMALAUREA elaboration on Istat data.

universities in 2012, the average age at graduation was observed to be 27 years, and reached almost 28 years among second-level graduates. Secondary school-leaving certificate holders' average age, on the other hand, is slightly over 19. This means that many graduates enter the labour market at nearly 28 years of age (it should not be forgotten that almost 60% of first-level graduates pursue further university training with a second-level degree course), whereas secondary school-leaving certificate holders start working between 19 and 20 years of age". (Speech published on the 21st of October 2013 in the news area of the portal www.almalaurea.it). This old average age at graduation is partly a consequence of enrolments at older-than-prescribed age, as one fourth of graduates enrolled in university almost two years above standard age.

In the 2007-2013 period, the gap between recent graduates' and recent secondary school-leaving certificate holders' unemployment rate soared from 3.6 percentage points in favour of the former to 11.9 points.

Fig. 4 Unemployment rate in Italy in the transition years to the labour market by educational attainment and age bracket (percentage values)

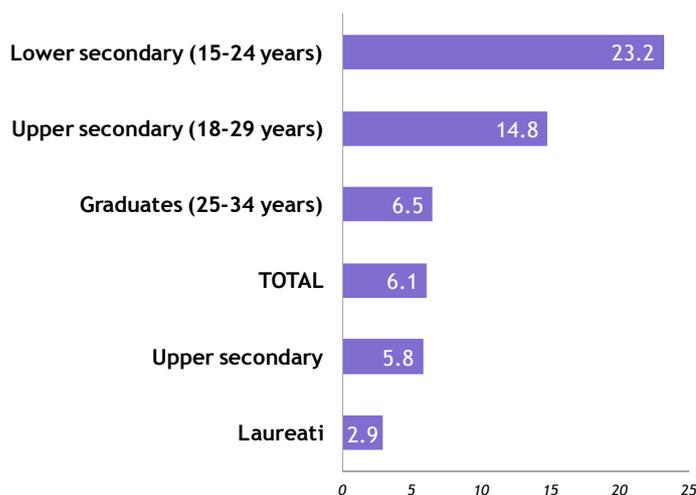


Source: ALMALAUREA elaboration on Istat data.

In the same period, long-term unemployment (i.e. over 12 months) was found to increase from 2.8% to 6.9%. On a separate note, the number of economically inactive people, especially the so-called NEETs (youths aged 15-29 who are not in education, employment or training) has reached a considerable scale. This phenomenon is partly caused by the discouragement effect of lengthy unemployment, and it deserves further consideration since it reflects the huge difficulties and mistrust experienced by young people when approaching a labour market that offers them few access opportunities. The share of economically **inactive people aged 15-34 years** grew by 2 percentage points (from 46 to

47.8%) over the past year, with differences based on geographical area, educational attainment and gender. However, a progressive convergence was found between the so-called “strong” groups (i.e. more educated people, people residing in northern Italy, and males) and those groups that have traditionally been “weak” in the labour market (i.e. less educated people, people living in southern regions of the country, and women). As for NEETs in particular, last year their share grew by 2 percentage points from 23.9 to 26%, which once more earns Italy an undesirable top position in this European ranking.

Fig. 5 Unemployment rate variation in Italy in the 2007-2013 period by educational attainment and age bracket (in percentage points)



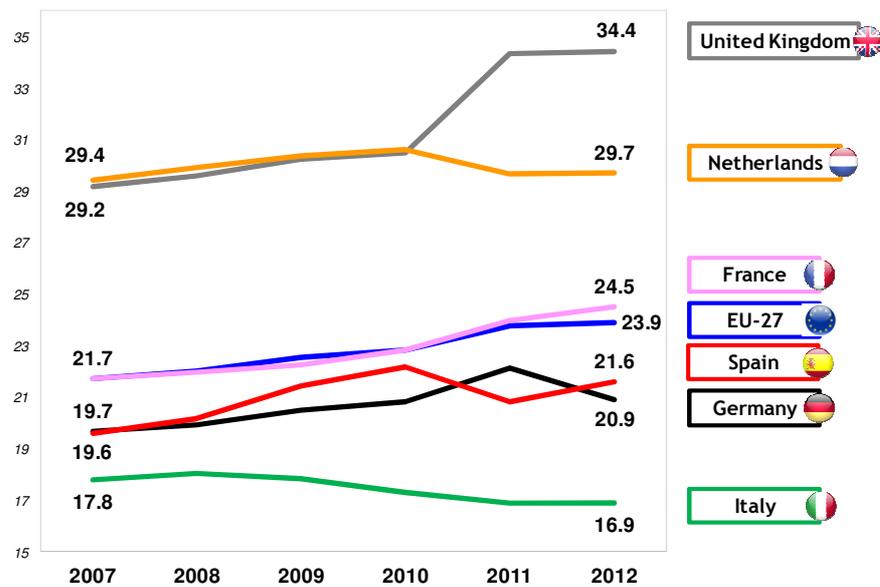
Source: ALMALAUREA elaboration on Istat data.

In a countertrend to the EU as a whole, Italy’s **population in highly qualified professions**³ was found to have stabilized at low

³ According to the international standard classification of occupations, highly qualified professions include: 1. Managers; 2. Professionals. In Italy, this classification is as follows: 1. Legislators, senior officials and managers;

levels after a very shallow start followed by a declining phase (Cammelli, 2012a). The gap with the EU average was as wide as seven percentage points in 2012 (Fig. 6).

Fig. 6 People in employment in highly qualified occupations* (percentage values)



*See note 3.

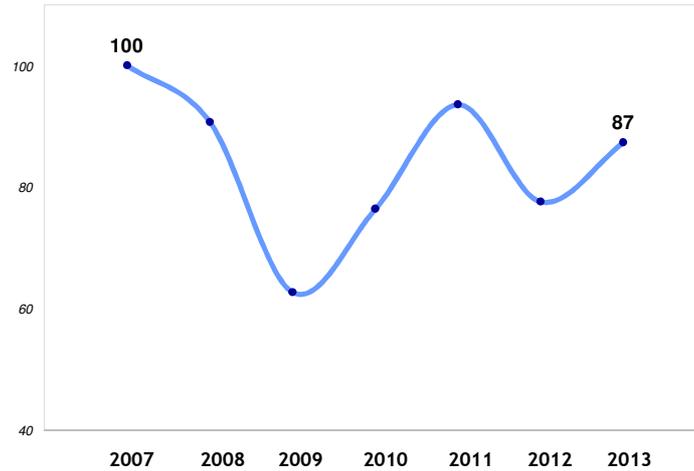
Source: ALMALAUREA elaboration on Eurostat data.

This trend was also affected by a decrease in investments per employee, unlike the main European economies, where this index grew in spite of the economic downturn⁴.

2. Intellectual, scientific and highly specialised professions. See www.istat.it/it/archivio/18132.

⁴ See the 15th ALMALAUREA Report on graduates' employment conditions, which was presented at the Conference held in Venice in March 2013 (AlmaLaurea, 2013).

Fig. 7 CVs from the ALMALAUREA databank provided to businesses (index numbers; 2007=100)



In the years straddling the crisis, the variation in the number of CVs that businesses sourced from the ALMALAUREA⁵ databank followed the same pattern observed in graduates' employment outcomes (Fig. 7).

Regrettably, this overall deteriorating context was once again reflected in the various aspects analysed in the latest ALMALAUREA survey on graduates' employment conditions, such as employment and unemployment rates, types of employment contract, remuneration, degree effectiveness, satisfaction level with the job held⁶, etc.

⁵ The ALMALAUREA databank was launched in 1994 and now includes nearly 2 million résumés of graduates from 64 Italian universities. Most of them have an English version and are frequently updated. Over the past ten years, more than 3,500,000 CVs were provided to Italian and foreign businesses working in both the private and the public sector, as well as to professional practices. This considerable figure is also attributable to the increase in the number of member universities (from 45 to 64) over the same period of time.

⁶ On the topic of satisfaction with the job held, see also (Capecchi, Iannario, & Piccolo, 2012).

What does Italy need, then, to revive and give hope to its youth? The economic downturn laid bare some structural bottlenecks that caused both the low growth observed over the past 15 years and the country's difficulties in attaining economic recovery after the acute recessive phase. These bottlenecks partly explain Italy's inability to innovate, become truly global and make the most of its human capital, and its resulting incapacity to reap the benefits of globalization and the single European currency. The other side of the coin is the **brain drain phenomenon that depleted the country's human capital endowment over the past years as well as its growth prospects.**

The main point made by the 16th ALMALAUREA Report on Graduates' employment conditions is the following: **economic policies and institutional reforms aimed at capitalising on Italy's human resources⁷ are needed to restart the country,** and its ruling class should urgently be reformed too. To this aim, along with traditional measures focused at supporting innovation, **graduate and academic entrepreneurship should be fostered,** and measures should be devised to promote the **reverse brain drain and the circulation of highly skilled human capital.** Indeed, the loss of human capital is a reversible phenomenon, and the **brain drain** might as well be converted into **brain circulation** by means of suitable attraction policies including, for instance, research support schemes and measures to **stimulate the creation of new businesses.**

The topic of human resources capitalization reaches well beyond the Italian borders and is a **crucial point in the debate over economic prospects in the Euro-Mediterranean area** too. These topics will be dealt with in greater detail in paragraph 1.3.

1.1. The survey on graduates' employment conditions

The 16th ALMALAUREA report on graduates' employment conditions confirmed the overall employment-related difficulties highlighted in the last reports. It should however be borne in mind that, with time from achievement of the qualification, all the employment-related factors under examination tend to improve, thus reaffirming that Italy's labour market is slow in terms of time-to-entry and exploitation of human capital. In addition,

⁷ On this same topic, see also the suggestions made by ALMALAUREA as early as in 2009 (Cammelli, 2009).

remuneration and employment conditions of graduates were observed to be still better than those of secondary school-leaving certificate holders. According to official data sources (ISTAT, 2013a; OECD, 2013a), to date, graduates enjoy a **13 percentage points** higher employment rate than secondary school-leaving certificate holders throughout their overall working life (76% versus 63%). The same data sources showed that higher education qualifications are also rewarding in terms of **earnings: in the 25-64 age group, graduates were seen to make 48% more** than secondary school-leaving certificate holders. This wage difference was in line with the one observed in France (+47%), whereas in the UK (+57%) and in Germany (+64%) it was much wider⁸.

The 2013 survey involved nearly **450,000 post-reform graduates** from all **64 member Universities** of the Consortium. **Response rates** were **very good**, reaching 86% among graduates interviewed one year on from degree completion, 80% three years on, and 75% five years on⁹.

This Report thoroughly went through all the employment-related aspects that ALMALAUREA has taken into consideration for sixteen years. Since the beginning, full details are available on the Consortium website, to allow broader dissemination and enable an external analysis of university performance, as well as to provide useful guidance to university students, graduates and young secondary school-leavers¹⁰. Data are broken down by several factors, from university to degree course. This disclosure also complies with the principle of transparency. This paper merely introduces the most significant aspects and brings them in a bigger picture, enabling comparability between purposely harmonized

⁸ Data concerning the United Kingdom and Germany refer to year 2011.

⁹ In order to obtain representative estimates of all Italian graduates, the results of the ALMALAUREA surveys on graduates' employment conditions underwent a statistical procedure called "re-proportioning".

¹⁰ Findings of ALMADIPLOMA surveys show that, at the end of their upper secondary studies, 45% of certificate holders would not choose their upper secondary school again. This is another good reason to seriously consider the introduction of a common two-year period in secondary schools, so as to provide better guidance on study choices after compulsory education (Checchi, 2010; Barone, 2012). Other available and effective programmes offering guidance on university studies are AlmaOriëntati (www.almaorientati.it) and UniverItaly (www.universityitaly.it).

populations¹¹. An overview of the main results is given in the next chapter, whereas the following ones feature in-depth reports of employment status by degree course type.

An analysis of the main employment-related factors showed that **graduates' employment conditions further deteriorated** over the last year. This was observed not only among recent graduates, whose employment outcomes tend to be poorer because of their small work experience, but also among their peers who graduated in less recent years.

Compared with the previous survey, **unemployment** was found to grow, with remarkable differences based on subject grouping, gender, and geographical area. **One year on** from graduation, unemployment was seen to exceed the 20% threshold, and reached 26.5% among first-level graduates (+4 percentage points over the previous survey), 23% among second-level graduates (+2 points compared to the 2012 survey), and 24% among single-cycle second-level degree holders (+ 4 points). **Three years on** from graduation, unemployment was found to shrink at 16% among first-level graduates, 12.5% among second-level graduates and 13% among single-cycle second-level degree holders, but these figures entail an increase between 2 and 4 percentage points compared to the previous survey. Among graduates interviewed at **five years** from degree completion, unemployment was remarkably lower, under 10% across the board (8% among first-level graduates, 8.5% among second-level ones, and 5% among single-cycle second-level degree holders). Compared to the previous survey, though, the above figures were up 2 percentage points among first-level graduates and +3 points among second-level ones, whereas they were virtually unchanged among single-cycle second-level graduates at -0.5 percentage points. This last figure was partially due to a variation in the breakdown of this cohort, where the share of law graduates further expanded.

On the other hand, graduates in **employment** (including those in remunerated training) **one year on** from graduation, albeit declining, were still approximately 66% of first-level graduates, 70% of their second-level colleagues and 57% of single-cycle second-level degree holders. It should not be forgotten that, in the latter group, employment levels were smaller because a larger

¹¹ Only graduates who did not subsequently enrol in another degree course were included in the "first-level graduates" cohort.

share was found to be engaged in non-remunerated training, especially law graduates. At **three years**, employment was found to increase and involve 80%, 82% and 76% of graduates respectively, while at **five years**, employment was close to 90% regardless of the degree course type.

Job security figures (i.e. permanent job contracts and actual self-employment) among recent graduates remained virtually unchanged compared to one year earlier, but a downward trend was observed when a longer time span was considered. **One year on** from completion of university studies, 41% of first-level graduates and 35% of second-level and single-cycle second-level ones reported having a stable employment. These figures remained substantially unchanged compared to the previous survey, but their breakdown changed, since the share of permanent job contracts fell whereas that of self-employment swelled, probably as a consequence of poor labour market propensity for graduate take-up. The **various types of flexible employment** were seen to be still very popular, but the most worrisome aspect found was the further, general growth in unregulated work activities. In some degree groupings, particularly those which are traditionally conducive to freelance activities, unregulated work seems to be a somewhat forced first step to enter the labour market. Job security levels too were generally observed to improve with time from degree completion. **Three years on** from graduation, job security was seen to rise and involve 58% of first-level graduates, 55.5% of second-level ones, and 59.5% of single-cycle second-level degree holders. At **five years**, these shares further increased, and reached almost 80% of first-level and single-cycle second-level graduates, and over 70% of second-level degree holders.

Monthly earnings at **one year** were found to be approximately 1,000 euros net on average. More specifically, remuneration was 1,003 euros (nominal value) for first-level graduates, 1,038 for second-level ones, and 970 for single-cycle second-level degree holders. Compared to the previous survey, earnings were found to be lower, especially when real remuneration (i.e. allowing for variations in purchasing power) was considered: -5.5% among first-level graduates, -3% among second-level ones, and -6.5% among single-cycle second-level graduates. Compared to 2008, recent graduates' real earnings plummeted by approximately 20% across the board. **Three years on** from graduation, monthly earnings were found to be approximately 1,200 euros among first-level and single-cycle second-level graduates, and a little more than 1,100 euros among

second-level degree holders, with a 2% to 4% fall in real terms compared to the previous survey. **Five years** after degree completion, net monthly earnings were slightly below 1,400 euros, with remarkable differences based on degree type, degree grouping, gender and geographical area. Compared to the previous survey, remuneration was seen to fall once again by 3% among first-level graduates, 5% among their second-level peers, and 11% among single-cycle second-level degree holders (but this is partly due to above-mentioned changes in the breakdown of this cohort by subject area).

The main indicators on young people's access to the labour market monitored by ALMALAUREA over the past 5 years showed a progressive worsening of graduates' employment conditions since the year 2000. In this respect, no appreciable difference was noted between first-level, second-level and pre-reform graduates, in spite of the commonplace belief that post-reform graduates, and first-level graduates in particular, may be less appreciated by employers. On the contrary, according to an estimate performed with an ad-hoc model (see chapter 2 for a more detailed explanation), **first-level graduates were more likely to be in employment** one year on from degree completion than their second-level colleagues, other things being equal.

This general deterioration of employment conditions affected graduates to a remarkably different extent according to their degree subject grouping, geographical area of residence, gender, and family background. This might be attributable to structural aspects resulting from little propensity to take up and make the most of graduates, in a framework of an economy that is reluctant to invest, innovate and grow. The characteristics of the human capital produced by the university system (which have been widely debated since the introduction of the university reform), and temporary economic factors linked to the recent crisis also play a part.

As in the past, this 16th Report features some in-depth analysis. In particular, this survey focuses on two topical matters for the future of Italy. The first one is graduate **entrepreneurship**. This topic is crucial in the debate on the role played by newly-established businesses in creating jobs and stimulating the country's economic recovery, and it is being given special consideration because of the observed increase in the share of self-employment among graduates.

At one year from degree completion, entrepreneurs were 1% of graduates in employment holding a second-level university

qualification¹² (i.e. those who pursued a second level degree and those who completed a single-cycle second-level degree course). Differences based on degree course groupings were observed, as self-employment was mostly found among graduates in agriculture, economics and statistics, and political and social sciences, with maximum shares of 2% across the board. Graduates who pursue an entrepreneurial career usually start off before completing their studies (22% of them were continuing in the same job held prior to graduation, versus an overall average of 16%) and plausibly work in family businesses; indeed, the share of graduates whose father was either an entrepreneur or a self-employed worker himself was higher than average in this graduate group. Partly as a result of this large share of graduates who were continuing on a previously held job, degree effectiveness (i.e. the index showing the *use of skills acquired during studies* and the *formal and substantive need for the qualification achieved for the purposes of the job carried out*) levels in this group were observed to be rather low: only 4 graduate entrepreneurs rated their degree as very effective or effective versus an average of 6 out of 10. This probably testifies to the fact that this graduate group leveraged their personal skills more than the knowledge gained at university to pursue their job. Such a modest effectiveness level also shows that Italian universities should try harder in order to offer both curricular and extracurricular activities aimed at developing entrepreneurial knowledge and skills.

In this graduate group, satisfaction with the job held was particularly high at 8.4 out of 10 as against an average of 7.5 for the overall graduate population in employment, in spite of rather lower remuneration than expected. Indeed, if one considers that this category of workers has to face higher employment risks, their earnings were found to be below 1,500 euros net per month only (as against a 1,375 euros average among the overall graduate population in employment), with a peak of nearly 1,600 among graduates from the economics and statistics grouping. These figures seem to suggest that graduates choose self-employment not only because of the remuneration prospects it offers, but also to enjoy greater independence and put themselves to the test (Parker, 2009; GEM, 2013).

¹² This percentage refers to the total of Italian graduates, and was calculated on the basis of a 77% overall employment share; the graduates holding a second-level qualification were 80,800 in 2008 (www.miur.it).

The second in-depth analysis focuses on graduates working **abroad**. This is another hot issue in Italy, given the current, expanding¹³ *brain drain* phenomenon that is depleting the country's human capital endowment as well as its growth prospects. With an ad-hoc web-based survey carried out in 2013, this Report can look with greater detail into the features of those highly educated youths who decided to move abroad in search for better employment prospects.

In particular, the analysis of study and employment data of second-level graduates at five years from degree completion seems to confirm that those who emigrate (6% of graduates with Italian citizenship in employment) have better study outcomes in terms of degree grade and time-to graduation, and can also boost better employment conditions. The graduates who were more frequently observed to move abroad are engineers (31% of those in employment abroad) and graduates from the political and social sciences group (15%), economics and statistics (13%), geobiology, sciences, and languages groups (7% for these latter groupings).

In their destination countries, second-level graduates were found to enjoy better levels of job security (58% versus 52% of those in employment in Italy), even though a considerable percentage was working under a non-standard contract (26.5% versus 12% of their peers working in Italy). As was to be expected, both earnings and degree effectiveness were seen to be higher abroad. Average wages were 2,215 euros¹⁴ net per month against 1,324 in Italy; as for effectiveness, 62% of graduates working abroad rated their degree as very effective or effective, while only 54.5% of non-expats did so.

It is therefore normal to find lack of adequate opportunities in Italy (38%) and having received an interesting job offer from a foreign company (24.5%) among the top reasons given by graduates for moving abroad. This *brain drain* seems to be only partially reversible, because as many as 42% of graduates in

¹³ Between 2009 and 2013, the share of second-level university degree holders interviewed one year on from graduation (for whom a significant historical series is available) who decided to move abroad increased from 3 to 5%.

¹⁴ It should be noted that these figures were not adjusted based on overall price levels in the various destination countries. However, specific in-depth analyses showed that the reported remuneration was a function of the cost of living in the foreign country of choice, among other factors.

employment abroad consider “very unlikely” that they will come back, at least in the next 5 years, and another 28.5% describe this event as “unlikely”. At the other end of the spectrum, only 11% of graduates were very optimistic and rated their comeback as very likely. The remaining 18.5% were undecided.

1.2. Relaunching the economy: the role played by graduates

The debate on actual human capital endowment in our country focuses on two topics mainly. The first one is the view that, within younger population cohorts, the share of Italian graduates is now roughly in line with the European average. Consequently, **the issue of Italy’s insufficient tertiary level education attainment should be considered as settled**. The second topic is the belief that the difficulties encountered by graduates (and young people in general) in entering the labour market are solely attributable to shortcomings in the country’s education system, particularly tertiary education.

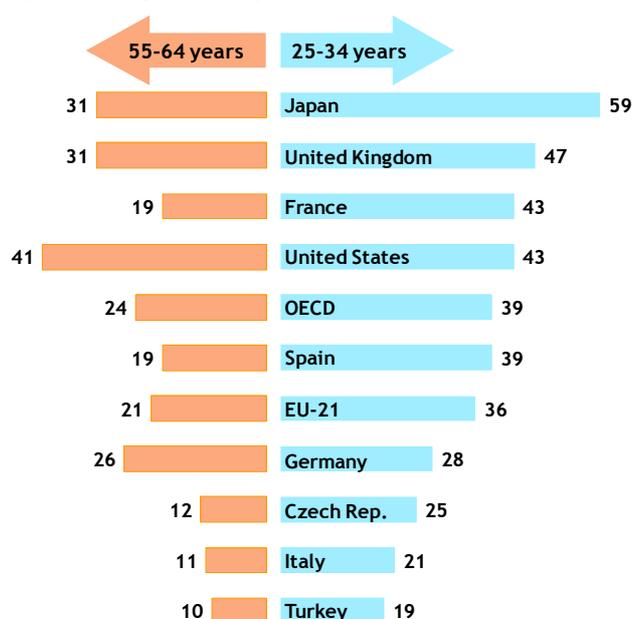
ALMALAUREA’s annual reports on the profile and employment conditions of Italian graduates have repeatedly dealt with these matters. Its conclusions partly differ from the views above, and are in line with data from official OECD and Eurostat documents as well as with the results obtained by several surveys on the characteristics of the country’s economy. These documents might help improving Italy’s capacities to make the most of its human capital, and will be briefly touched upon in the coming paragraphs.

The point for Italy being in line with the rest of Europe is seemingly supported by some OECD data on graduation rates of questionable interpretation.

However, it has already been suggested that, **if existing documents are correctly analysed (Fig. 8)**, the resulting picture is completely different, and **in year 2012 Italy is still at the bottom of the standings in terms of graduate shares both in the 55-64 age group** (in which the amount of graduates was mainly calculated decades ago) **and in the 25-34 age bracket**. The improvement observed among younger cohorts is indeed an improvement in absolute terms but not in comparative ones, because most of the countries that had started from a situation similar to ours have run faster¹⁵.

¹⁵ After all, according to the Italian Government itself (Governo Italiano, Documento di Economia e Finanza 2012, 2012), the expectations to

Fig. 8 Population with tertiary education by age bracket (percentage values)



Source: OECD, 2013 (ref. to year 2011).

The **spread of university-level education concerned above all women**. In the 25-64 age bracket, female graduates are 16% whereas male graduates only 13%; in the 30-34 age group, these shares are 25% and 16% respectively. The results

achieve the objective set by the European Commission (40% of graduates in the 30-34 age grouping) will be frustrated. More realistically, **our country might reach 26-27% at most**, according to the Government. The European Commission could do nothing but acknowledge this situation (European Commission, 2012). It is useless and sad to add that Italy, together with Romania, is therefore the country with the least ambitious objective, and that we are a long way away from the European average (AlmaLaurea, 2013).

achieved by women¹⁶ put Italy among the first countries in the OECD ranking of female graduation rates in certain technical and scientific subject groupings that have traditionally been the preserve of men, for instance engineering (OECD, 2013a). This figures are undoubtedly positive, but they collide with the gender-based gap in employment opportunities in favour of Italian men, and with women's consequently lower employment and higher unemployment rates.

In 2012 the following gender-based differences were observed: 24 percentage points in the employment rate (versus an OECD average of 15 points) and 1.8 percentage points in the unemployment rate (as against an OECD average of 0.2 points). An analysis of gender-related remuneration differences in the OECD countries corroborates the above data. Of course, in the **OECD countries** graduates enjoy much better remuneration than people with upper secondary education, but **gender differences** are smaller: **three percentage points** in favour of men. This difference is **seven-fold in Italy**¹⁷. The gender issue is also important in the debate over the mismatch between demand and supply of skills¹⁸ and, more specifically, in the debate over our

¹⁶ Italy's difficult access to the labour market might have played a role in women postponing their search for a job and attaining higher schooling levels. An analysis of the reasons why first-level graduates decided to enrol in a second-level degree seemed to confirm this point, as a greater share of women chose one of the following: 1. *having a second-level degree is necessary to find a job*; 2. *having a second-level degree improves the chances of employment*; 3. *I chose to enrol in a second-level degree because I could not find a job*.

¹⁷ In 2010, if a secondary school-leaving certificate holder (male or female) earned 100 throughout his/her working life (25-64 years), a male graduate in the OECD countries earned 160 and a female graduate 157. In Italy the gap is much larger, since a female graduate earns 42% more than a female secondary school-leaving certificate holder, and a male graduate 62% more.

¹⁸ The in-depth analysis featured in ALMALAUREA's surveys highlighted the **"better results achieved by women compared to their male colleagues** virtually across the board. These better results were observed not only in subject groups where women have traditionally outnumbered men and earned higher grades (for reasons that are impossible to analyse in detail in this document), but also in an increasingly wider range of subject groups" (Cammelli, 2012b), even in single-cycle second-level degrees. This undoubtedly positive result in training terms should however

economy's capacity to make the most of women's talents, in particular graduate women.

In summary, the most agreed-upon reports seem not to legitimize the emphasis with which some argue that the share of tertiary education qualification holders within the Italian population is no longer an issue. On the contrary, these reports suggest that investments are needed throughout the whole educational system from school to university, as well as in fixed assets (both tangible and intangible) after years of neglect. This is essential for the capitalisation of highly qualified human capital. It should also be borne in mind that adequate levels of investment in human capital are a *sine qua non* to make the most of investments in fixed assets and consequently raise its return and attractiveness. As several analysts pointed out, one of the reasons for Italy's poor growth rates over the past 15 years is its inability to take advantage of ICTs¹⁹ (Information and Communication Technologies).

The slow improvement in schooling levels within the Italian population can also be observed in the employment structure by educational attainment: disaggregate data yield an extremely worrisome picture because the small share of graduates among those in employment is not paired by a bigger share of upper secondary school-leaving certificate holders, but of workers holding only a lower secondary education qualification or even less (33.9% in Italy vs. 13.1% in Germany and a EU-27 average of 20.2%; *Tab.1*).

be looked at against the backdrop of **Italy's employment structure by gender, which tends to favour women less than men.**

¹⁹ Survey on the characteristics and development of Italy's industrial system, public sector businesses and energy companies, 10th Commission of the Lower House (Industry, Trade and Tourism). Report by Daniele Franco, Bank of Italy's Managing Director for Economic Research and International Relations, Rome, 26/09/2012.

Tab. 1 People in employment by educational attainment (row percentages)

Country/area	Tertiary education or higher	Upper secondary education	Compulsory education or lower
EU-27	31.0	48.9	20.2
United Kingdom	39.9	42.6	17.5
Spain	39.5	23.8	36.7
France	35.2	43.7	21.0
Germany	28.9	58.0	13.1
Italy	18.7	47.4	33.9

Source: ALMALAUREA elaboration on Eurostat data (ref. to year 2012).

Low schooling levels among people in employment are observed both in the private and in the public sector, especially the former, and are significantly reflected in the educational achievement of Italy's managers and ruling class, as was repeatedly pointed out in the past. According to Eurostat's data, for instance, in 2012 no less than **27.7% of Italian managers had only completed their compulsory education**²⁰, as against 13.3% in the EU-15 (average figure), 19.3% in Spain (whose low adult educational attainment and social and cultural characteristics are akin to Italy's) and 5.2% in Germany, a country that is often cited in comparisons with ours because the manufacturing sector has a similarly important role (*Tab. 2*). In that same year, the share of graduate managers in Italy was less than half the European average.

²⁰ Compared to 2010, these figures improved in all countries.

Tab. 2 *Managers in employment by educational attainment (row percentages)*

Country/area	Tertiary education or higher	Upper secondary education	Compulsory education or lower
EU-27	53.2	35.7	11.1
EU-15	51.8	34.9	13.3
France	63.7	27.2	9.0
Spain	58.3	22.4	19.3
United Kingdom	51.6	35.3	13.2
Germany	51.2	43.7	5.2
Italy	24.5	47.8	27.7

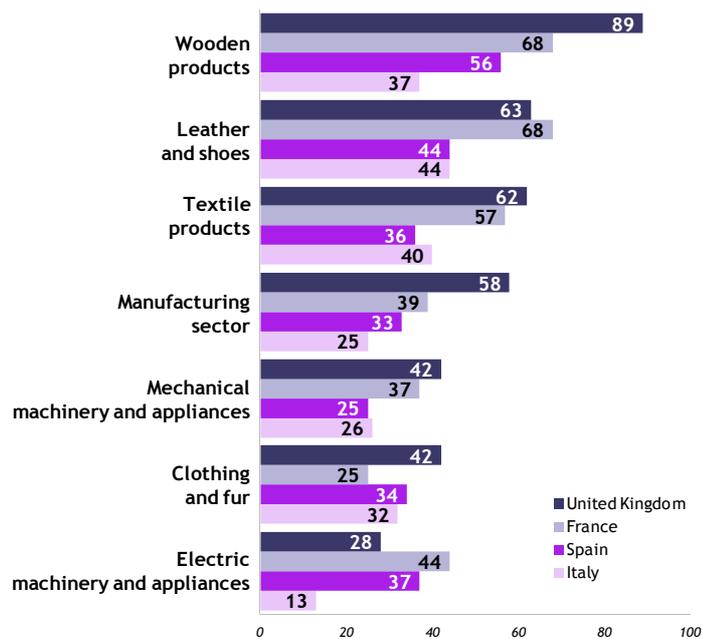
Source: ALMALAUREA elaboration on Eurostat data (ref. to year 2012).

As was already pointed out in other documents, this feature of Italian employment, together with other typical traits of the country's business sector, has remarkably negative effects on the economic system's demand for human capital as well as on the capacity to fully exploit it²¹ (Cammelli, 2012a; Schivardi & Torrini, 2011; Bugamelli, Cannari, Lotti, & Magri, 2012).

An Excelsior survey on expected new recruitments further reaffirmed the hypothesis that, in this period of crisis, inadequate graduate take-up and poor exploitation of knowledge have to do with the characteristics of businesses, among other things. Indeed, the survey highlighted that the propensity to take up graduates increases significantly as the dimensions of businesses and their level of internationalisation and innovativeness grow.

²¹ According to the OECD PIAAC survey (OECD, 2013a), poor basic skills among adults partly depend on the fact that these skills are not properly maintained during one's working life, for instance through learning. This, in turn, depends on the extent to which they are used at work, both in the public and in the private sector.

Fig. 9 Average dimensions of businesses based on number of employees (total manufacture plus some sectors of "Made in Italy"; Germany = 100)



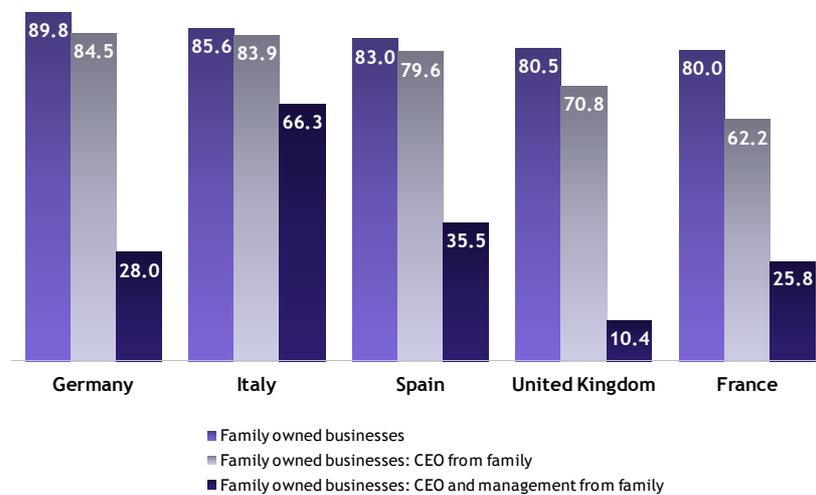
Source: ALMALAUREA elaboration on data found in Bugamelli, Cannari, Lotti and Magri, 2012.

As was already pointed out in previous ALMALAUREA reports, some studies clearly showed that the **characteristics of the Italian business sector**²² (in particular the **small dimensions** of its enterprises, Fig. 9) **tend to be associated with poorer capacities to make the most of human capital, worse innovation outcomes and lower internationalisation levels.** According to recent estimates, among family-owned businesses,

²² These characteristics include: prevalence of non-managerial, **family-based business management**, organisational structures **rarely relying on delegation of managerial functions or incentive pay**, together with the already-mentioned **low educational attainment found among entrepreneurs and managers.**

the share of family-managed ones is 66.3% in Italy, as against 35.5% in Spain and 28% in Germany (Fig. 10). Incidentally, in Germany the share of family-controlled businesses is higher than in Italy (Bugamelli, Cannari, Lotti, & Magri, 2012).

Fig. 10 Family-owned and family-managed businesses (percentage values)



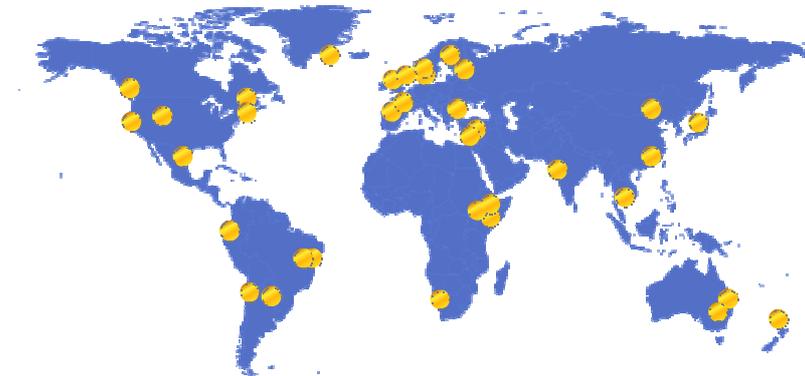
Source: Bugamelli, Cannari, Lotti and Magri, 2012.

Therefore, another conclusion can be drawn from the analysis and interpretation of available data: Italian graduates' difficulties in accessing the labour market and their poor capitalisation do not solely depend on factors related to the supply side (such as quality of education and the mismatch between graduates' skills and those required by the labour market), which nevertheless need correcting. In fact, a large part of the Italian economic system is still not ready for the above-mentioned capitalisation because of the inadequate technological specialisation, dimensions, managing styles and internationalisation of its businesses. This situation is not sustainable for the Italian economy. The country's business sector needs an overhaul, and **new businesses set up by graduates** might give a precious contribution to it. In this regard,

several econometric studies highlighted that entrepreneurs' educational attainment is one of the variables with the most positive influence on business performance (Parker, 2009). In addition to that, since the propensity to take up graduates was found to increase significantly with the educational attainment of entrepreneurs (Schivardi & Torrini, 2011), **having a larger share of graduate entrepreneurs might trigger a virtuous circle and foster the capitalisation of highly skilled human capital.**

Recent studies on new businesses yield a discouraging picture, though, as **propensity to set up a new company in Italy has fallen and is now significantly lower than in other European countries.** This trend is coupled by a waning tendency of the index that measures the **perceived existence of exploitable business opportunities**, as well as by higher fears of failure (GEM, 2013). Besides, Italy is still absent from the world map of entrepreneurial ecosystems attracting startups (*Fig. 11*) where several African and Asian emerging countries are included (The Economist, Special report, 18 January 2014).

Fig. 11 Acknowledged entrepreneurial ecosystems



Source: ALMALAUREA elaboration on data found in The Economist, Special report, 18th January 2014.

The idea endorsed by this Report, i.e. that **the country's educational attainment level must be raised** by promoting **access to tertiary education**, among other things, calls for **better guidance to university training** with the aim of promoting enrolment in degree courses that could prop up the

country's growth. Therefore, **work experience during one's studies (for instance, through quality internships) must be better capitalised at all levels**, the internal and external effectiveness of the university system should be developed, and **access to vocational training should be boosted by improving the quality of existing training options and widening the range of post-secondary education courses on offer**. The above strategies pursue the same objective and should be supported by adequate funding.

The ongoing debate on the reform of education and university, which goes hand in hand with the issue of real demand for graduates in Italy, also focused on the so-called *mismatch*, i.e. the divergence between the characteristics of human capital available and those required by businesses. Several surveys, including ALMALAUREA's²³, showed that a **mismatch** exists but **do not support the view that the situation in Italy is significantly different than in other countries** (European Commission, 2010)²⁴. On the contrary, according to OECD documents, in Italy a lower than average prevalence of the two main forms of mismatch²⁵ (i.e. over- and under-qualification for one's tasks²⁶) was observed.

²³ ALMALAUREA (various years).

²⁴ A Eurobarometer survey (which was referred to also in previous Reports on Graduates' Employment Conditions) involving human resources managers from over 7,000 companies with more than 50 employees showed that 89% of interviewees (85% of Italian respondents) thought that the degree holders they had hired in the past 3-5 years had the skills required to accomplish their tasks. In confirmation of this, Italian companies were found to hire foreign graduates to a much lower extent (18%) compared to the European average (27%) (Ferrante, McGuinness, & Sloane, 2010; Gasperoni, Pessato, & Ralli, 2012).

²⁵ The terminology used to define the concept of mismatch is rich and includes reference to the forms of excess or lack of qualifications/training as well as the divergence between the qualifications/training required by businesses and those held by workers. *Vertical mismatch* is the divergence (either because there is an excess or a shortage of one of the two) between the worker's schooling/educational *attainment* and the one required for a particular job. *Horizontal mismatch* is the disparity between the *type* of training/knowledge held by the worker and the one needed for the tasks s/he performs.

²⁶ This conclusion is supported by the fact that, according to this report, Italy has a much lower-than-average incidence of severe over- and under-qualification (OECD, 2011).

The scant supply of graduates in technical and scientific subject areas, **especially IT engineers**, is of significant importance within the debate on mismatch. Once again, indirect evidence does not support the theory that the problem resides in the training system. Indeed, an excess demand for graduates in IT engineering **would cause their average remuneration to increase**, whereas the data seem to suggest the opposite, as real earnings for these graduates were seen to fall by 7% between 2008 and 2013, according to ALMALAUREA surveys. Remuneration for second-level graduates from these degree courses was observed to be 1,356 euros one year on from degree completion - that is, 31% more than the average earnings for second-level graduates overall at one year from graduation.

More generally speaking, available data seem to challenge the commonplace belief that the breakdown of graduates by subject grouping is conditioned by self-referential choices made by the university system. For instance, the **share of enrolments in humanities and education sciences**, where an excess of supply is often denounced, was **19% in Italy** in 2010 versus an OECD average of 21% and **23% in Germany** (OECD, 2012)²⁷. This does not mean that international standards must be taken as a benchmark, but that family choices and university strategies so far do not differ much from the situation in the most developed countries.

In fact, the mismatch between human capital supply and demand is a commonly found characteristic, almost natural in some respects, within the dichotomy education systems – labour market. This is demonstrated by the attention this topic is given abroad too, even by international bodies dealing with training such as CEDEFOP²⁸. Such a phenomenon inevitably worsens during crisis periods, especially if they last long.

Then, *is a problem shared a problem halved?* Obviously not, but it is useful to make **comparisons based on objective data**

²⁷ The share of enrolments in the engineering grouping was 15%, in line with the OECD and Euro-21 average, and only 1 percentage point less than the German datum. In the other degree subject groupings, enrolment shares in Italy were roughly in line (a little higher or a little lower) with average data.

²⁸ To further reaffirm that mismatch is an international and not a purely domestic issue, The Economist (issue 8th December 2012) too dealt with this topic in an article titled "The great mismatch. Skills shortages are getting worse even as youth unemployment reaches record highs".

instead of subjective impressions or perceptions, and the **complexity of the matter should be acknowledged**. Indeed, a mismatch is not always attributable to “pathological” causes, and it should be considered a feature of labour markets like the Italian one, where **time-to-entry is long, modes of access are not always straightforward, recruiting and career-building mechanisms are opaque and businesses rarely provide training to new recruits**. The long time needed by Italian graduates to access the labour market and start being fully capitalised on is made worse by the length of secondary studies (among the longest in Europe). This is why the **wage gap between graduates and secondary school-leaving certificate holders**, which still favours the former to the extent of 48% throughout one’s entire working life, is only 22% in the 25-34 age bracket (as against an OECD average of 40%) and rockets to 68% in the 55-64 age group (versus an OECD average of 73%). This further testifies to the **ageing of Italian society**, a society that is **reluctant to bring about necessary changes**, where elderliness and seniority prevail over knowledge (OECD, 2013a).

The relationship between school/university and the labour market is inherently complex, prone to mismatches by its very nature, and more or less smooth according to the effectiveness of the transition channels between the two. If these channels are effective, information flows without interruptions and in both ways. **But this depends on the quality of schools, universities and guidance services, as well as on the technological and organisational development of the business sector**²⁹, and therefore on the possibility to find common ground between the two³⁰.

The fact that businesses are finding it difficult to procure labour for some jobs seems to have more to do with inadequate information, friction within labour markets, high costs of

²⁹ Some best practices and few good examples of interaction are not enough to fill the gap between these two worlds. On both sides, a leading attitude and the capacity to disseminate experiences across the board are pivotal.

³⁰ The wider the technological and organizational gap is between domestic economy and the knowledge frontier, the harder it is to find common ground or match needs. Indeed, university strategies cannot but aim at this frontier, trying to get as close as possible to it and contribute to defining it. If universities gave this objective up, they should be harshly criticised and put back on the right track.

geographical mobility, and ineffective recruitment channels and tools, than with structural lack of supply.

Regrettably, in this domain too Italy seems to suffer from a condition that, if taken to the extreme, is conducive to the widespread corruption practices that were recently denounced by the EU institutions³¹: a strong propensity to prefer personal relationships and “informal” recruiting systems (family, friends, social networks) over formal ones (recruiting agencies, public employment services, and data banks). This clearly translates into selection criteria which are not always merit-based or transparent, as well as into ineffective capitalisation of human capital. Incidentally, these are among the causes that pushed many young graduates to leave the country. In the light of the above-mentioned problems, the ALMALAUREA Consortium was founded twenty years ago and set up a progressively increasing graduate CV databank that now includes almost 2 million résumés. However, in order to foster the matching of demand and supply and start addressing the above-mentioned distortions, making reliable, updated and low-cost information available to everyone (i.e. what ALMALAUREA has helped doing so far) is not enough. This information should also be endorsed and supported by institutional stakeholders such as individual Universities, MIUR (the Ministry of University and Research), the Ministry of Labour, the Ministry of Foreign Affairs, and ANVUR (the agency that assesses the quality of universities and research in Italy). For some unknown reasons, it seemingly does not happen with due conviction.

The idea that Italy has reached the rest of Europe in terms of tertiary education spread goes hand in hand with the one that **all available resources should be devoted to boosting professionally-oriented secondary and post-secondary courses**. This approach can be agreed with only partially, because strengthening professionally-oriented training cannot and should not mean giving up the promotion of “general” university training, at least in first-level degree courses, in line with what other countries are doing³². This caters to the expected higher demand for flexibility and **learning capabilities throughout one’s**

³¹ COM 2014 38 final, annex 12.

³² If training is oriented towards early specialisation of workers, cross-sectoral mobility and market adjustments during phases of change are hindered, as some types of employment demonstrate (Lamo, Messina, & Wasmer, 2006 e 2010).

working life. Therefore, the training system should provide all workers, regardless of their studies, with an adequate mix of general and job-specific skills, in order to make reskilling possible over time. Other advantages of such a mix are greater flexibility and adaptability of workers throughout the economic cycle and during production adjustment periods³³.

This is why, even more than in the past, **universities cannot** adopt a short-term strategy and **set up their course offering based on contemporary demands only.** On the contrary, they should provide solid theoretical and practical training that caters to the needs of highly-qualified professions³⁴: “Today, schools need to prepare students for jobs that have not yet been created, to use technologies that have not yet been invented, to solve problems that we do not yet know will arise” (Andreas Schleicher, head of the Indicators and Analysis Division of the OECD Directorate for Education; Schleicher, 2011).

As was pointed out in the previous Report, **the meaning of OECD statistics should be reconsidered** also in this regard. The data on the percentage of graduates in Europe show that the picture is diverse, partly due to the existence of two different degree types: those mainly focusing on theory, or conducive to research activities or highly specialised professions (5A), and those providing vocational, professionally-oriented practical skills (5B)³⁵. While in Italy 5B-type degree courses only concern 1% of the population³⁶, in other countries this share is remarkably higher: 10% in the OECD countries (average figure), 11% in the USA, 16% in Spain and Switzerland, 12% in the UK, and 14% in Germany. How many Italian graduates are classified as type 5A but could and should be grouped under 5B instead?

³³ In this regard, some authors (Hanushek, Woessmann, & Zhang, 2011) demonstrated that there is a trade-off between employability when first accessing the labour market and employability throughout one’s working life based on the type of training received, as professionally-oriented training models boost employability when one first enters the labour market, but reduce it in later stages of one’s working life.

³⁴ Obviously the need for higher university training is not justified by the future needs of the labour market only, but also by the needs of cultural development and social emancipation voiced by the civil society.

³⁵ The ISCED classification was recently amended; see www.uis.unesco.org/Education/Documents/isced-37c-fos-review-222729e.pdf.

³⁶ This figure is in fact a rounding up; the actual value is 0.52%.

According to ALMALAUREA simulations, if the degree course classification were fine-tuned by taking into account graduate employability at the end of their first-level studies, **the share of graduates in 5B-type degree courses would increase remarkably from 1% to 8.9%**. This figure is of course far from the German percentage (14%) but roughly in line with the OECD average (10%).

Tab.3. *First-level degree courses included in the 5A type that could be re-categorised as 5B* (absolute values and row percentages)*

Degree courses	Graduates 2012 (Source: MIUR)	In employment at one year (source: AlmaLaurea)
Rehabilitation professions	4,153	79.6
Motor and sports sciences	3,624	63.1
Healthcare professions, nursing and obstetrics	13,017	61.7
IT sciences and technologies	2,223	60.7
Education and training sciences	7,710	57.0
Legal services	2,117	54.4
Administration and organisational sciences	1,821	54.2
Geography	211	54.1
Technical healthcare professions	3,306	51.6
Preventive healthcare professions	816	51.1
Total first-level degree courses that could be re-categorised as 5B	38,998	60.9
Total first-level graduates 2012	169,426	41.3
Total graduates 2012	296,000	

*The order of the above degree courses depends on the share of graduates in employment one year on from graduation. According to the international classification, 5B-type degree courses provide professionally-oriented, technical and practical skills that can immediately be used on the labour market.

As anticipated above, the **ALMALAUREA comparative data** on first-level graduates' employment, unemployment and remuneration seem to corroborate this finding and **debunk the belief that first-level degree courses provide few career opportunities because they are not professionally-oriented**. Contrary to what one might expect, 5B-type degree courses are not only to be found in the technical-scientific area (*Tab. 3*). Unfortunately, though, the data also seem to reaffirm that **our country finds it difficult to make the most of its better qualified human capital, i.e. second-level graduates**.

If the table 1 and the ISFOL forecasts for 2015 (ISFOL, 2011) on the supply of labour with undergraduate educational attainment are correct, then it is implausible to think that there are not enough youths willing to work in crafts or specialised technical and manual jobs because too many enrol in “general” degree courses or in secondary studies conducive to them. **Unlike** what happens in other European countries, **in the coming years the vast majority of job seekers in Italy will still be people with only compulsory or upper secondary education.** Therefore, it is imperative to strengthen apprenticeships and provide quality training to those who still do not go further than compulsory education (sometimes because they drop out, or because of lacking student support policies), or to those who choose professionally-oriented secondary schools.

It is often said that graduates lack job experience. In the post-reform university, **traineeships/internships involve a large share of graduates** and frequently receive positive feedback concerning the quality of the work experiences carried out (Campobasso, Citterio, & Nardoni, 2009). More than 56 percent³⁷ of recent graduates **now complement their studies with an internship**, usually performed in a company, accredited for the purposes of degree course completion. This clearly reaffirms the fruitful cooperation between the most responsive segments of the academic, business, and professional worlds (Cammelli, 2012b). Elaborations made on ALMALAUREA data confirm that curricular internships are an important tool for young people to approach the labour market. One year after completion of their studies, graduates (both first-level and second-level) who had performed an internship were found to be **14% more likely to be in employment** compared to those who had not³⁸. All the curricula should include and make the most of quality internships combining theoretical knowledge with practical know-how. The so-called **cross-disciplinary or soft skills** have now become a central topic within the debate on the mismatch between supply and demand for skills, and graduates are involved to a large extent. Universities and teachers should undoubtedly devote more efforts in developing teaching methods aimed at strengthening these crucial skills for the labour market. ALMALAUREA is well aware of the importance of

³⁷ It should not be forgotten that this share was below 10% before the University reform.

³⁸ See § 2.2.

this matter, therefore it kicked off a joint research project to investigate it. The preliminary results of this study were presented in Genoa last autumn. However, it should be borne in mind that cross-disciplinary skills **need to be developed during primary and above all secondary education**³⁹, as universities cannot duly accomplish this task. Indeed, teachers can use the teaching methods needed to develop those skills only if certain basic conditions are met, that is, if classrooms are equipped with adequate tools and if teachers can work with small groups of students. These features are seldom to be found in fundamental courses taught in first-level degree programmes.

1.3. Some observations on ALMALAUREA's activities

The objective of the ALMALAUREA Consortium over the past twenty years has been improving the internal and external effectiveness of the university system and promoting graduate access to the labour market.

This objective has been pursued by producing comprehensive, high-quality, timely and reliable documents such as the Graduate Profile, which is published four months after the end of each academic year, and the Survey on Graduates' Employment Conditions, that is issued one, three and five years after the end of each year. This information is meant to be used by universities, families, businesses, and policy makers. In addition to that, the Consortium created a databank with almost 2 million CVs that expands by almost 80,000 résumés every year.

Then, ALMALAUREA extended its reach into secondary schools with the project ALMADIPLOMA, which involves 400 upper secondary schools and has led to the setting up of a databank including 250,000 CVs that grows by 50,000 units every year, as well as with the guidance project called AlmaOrientati. The interest raised by the Consortium's operating model and the endorsement it received from foreign institutions led the way for internationalisation, as will be explained in greater detail below.

³⁹ "According to an ALMALAUREA survey on the profile of teacher-graduates [...], only 15% of graduates from the class of 2002 interviewed five years on from degree completion had no IT skills, i.e. were not familiar with any IT tool. Among graduates who worked as teachers, though, the percentage of those who had no IT skills ascended to 25%. The average number of IT tools that graduates were familiar with was 3.2 among those who did not work as teachers and only 2.3 among teachers" (Cammelli & Gasperoni, 2012).

According to an estimate by Bagues and Sylos Labini⁴⁰, the benefits produced by ALMALAUREA's activities can be quantified as follows: at three years from completion of their studies, graduates from universities which are members to the Consortium were found to be more likely to have a job (+3 percentage points), earn more (+3%) and to show higher satisfaction levels with their job than graduates who had studied in other universities (Bagues & Sylos Labini, 2009).

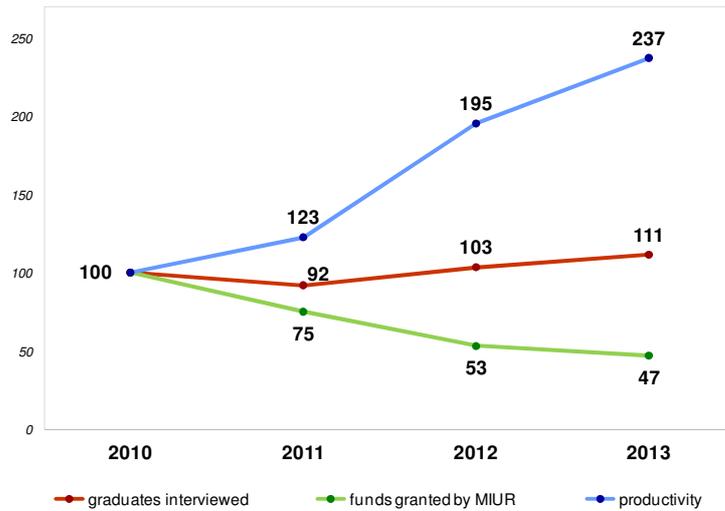
If the most recent data on employment rate and average earnings at three years from graduation are used (i.e., 71% and 14,300 euros per year respectively), and a conservative estimate⁴¹ of one third of the increase in employment and remuneration levels calculated by Bagues and Labini is assumed, the overall remuneration gain for a single graduate cohort⁴² would be 52,084 million euros in total. In turn, if a 20% tax rate were applied to this additional income, the national revenue service would benefit from more tax returns to the extent of 13,021 million euros. In addition to these monetary advantages, higher satisfaction levels would be recorded among those in employment because of the better remunerations they would enjoy, and businesses would benefit from greater productivity too.

⁴⁰ This estimate was based on the increase in overall remuneration, which was in turn attributable to a higher number of graduates in employment and to better earnings per graduate.

⁴¹ This choice was made because the employment-related advantages for ALMALAUREA graduates might be partly offset by worse employment outcomes among non-ALMALAUREA ones. However, it is reasonable to assume that the net effect of an improved matching between graduate demand and supply is positive. On the same topic, see also the work of Christopher Pissarides, Peter Diamond and Dale Mortensen, who were awarded the Nobel prize in Economic Sciences in 2010.

⁴² If we assume that these advantages last for more than one year, and since Bagues and Sylos Labini's estimates are based on employment outcomes three years on from degree completion, their actual extent should be multiplied by the number of years during which that these advantages produce an effect on the graduate cohort under investigation. For example, if an employment-related advantage entailing higher employment rate and remuneration levels were 3% for the first period, 2% for the second and 1% for the third, and then disappeared, the resulting comprehensive yearly advantage would be 308,298 million euros for graduates, and 77,074 million euros for the revenue service.

Fig. 12 *ALMALAUREA: Funds granted by MIUR, graduates involved in the Employment Conditions survey, and productivity rate of public resources allocated (index numbers; 2010 = 100)*



Regrettably, in spite of the undeniable benefits of ALMALAUREA’s growing activities for the various stakeholders they cater to, the resources it was granted by the Ministry of University and Research (MIUR) did not increase, but rather reduced considerably.

If, on the one hand, this testifies to an unparalleled increase in productivity rates, on the other, a 53% cut in nominal terms (56% in real ones) in the funds allocated by the MIUR (from 1.5 million euros to 700,000) between 2010 and 2013 seriously risk jeopardizing the Consortium’s operational capabilities.

Fig. 12 clearly shows the figures of the matter described above: the number of people interviewed in the surveys on

graduates' employment conditions⁴³, the financial resources granted by the Ministry, and the relation between the two⁴⁴.

Internationalisation within ALMALAUREA

In **2004** ALMALAUREA started an international joint project with 21 research centres to monitor **graduates' employment conditions in 12 countries in Europe and Latin America**. After the first international experimental project called EAL-NET, which was carried out **in Europe** in collaboration with the **Maastricht, Paris-Est, Warsaw and Budapest universities**, another international project called GrInsA (Graduate's Insertion and Assessment as tools for Moroccan Higher Education Governance and Management), funded by the European Commission under the TEMPUS programme, was started. This experimental work aimed at setting up a graduates' data bank like ALMALAUREA's in the Moroccan universities of Meknes, Oujda, Marrakech, and El Jadida. This initiative is ALMALAUREA's contribution to the Euro-Mediterranean cooperation; the Union for the Mediterranean and the World Bank (Center for Mediterranean Integration) also gave their support.

In **July 2012, the European Union approved** and financed **three projects for the period 2013-2015**; in two of them ALMALAUREA was involved as coordinator and in one as partner.

In **Armenia**, the project HEN-GEAR (Higher Education Network for Human Capital Assessment and Graduate Employability) will be carried out in collaboration with the Armenian Ministries of Education and Labour, the Association of Student Unions, the Armenian Quality Agency, the Union of Manufacturers, and eight Armenian universities willing to set up a graduate databank for their university system. The aim of this project is twofold: obtaining data for governmental bodies and developing innovative tools to foster graduates' employment.

⁴³ This figure is a measure (or *proxy*) of ALMALAUREA's volume of activity, which is achieved by means of its surveys and the corresponding statistical information flow to the public.

⁴⁴ The datum concerning revenues coming from universities to partly cover survey costs was not shown because these costs per student remained unchanged in nominal terms. The datum concerning the number of interviews is an underestimation of the information and service volumes provided, because it does not include all the other services offered by the Consortium, nor those of the other projects carried out in the same years, such as ALMADIPLOMA.

In **Morocco** and **Tunisia** a project called ISLAH (Instrument at Support of Labour market and Higher Education) was executed thanks to the support and active cooperation of the Ministries of University and Research of both countries, the Tunisian Ministry of Labour, the Confédération Marocaine des Entrepreneurs and the Moroccan Instance National d'Evaluation. This collaboration was started in 2010 with the GrInsA project and now includes seven Moroccan universities that will be joined by four Tunisian ones. Under this project, two national Observatories will be set up, among other things, to monitor the higher education system, market labour access and market labour needs. At trans-national level, those observatories will cooperate with ALMALAUREA to promote the matching of supply and demand for labour as well as graduate mobility abroad and in the Mediterranean area.

In **Serbia, Bosnia, Croatia** and **Montenegro** the ADRIA-HUB (Bridge technical differences and social suspicions contributing to transform the Adriatic area in a stable hub for a sustainable technological development) project is aimed at fostering innovativeness within SME's in Italy and in the Balkan area also by searching and recruiting highly qualified human resources. In addition, this promotes closer continuous cooperation between trade associations, businesses, research centres and universities on topics such as innovation requirements, technology transfer, graduate employability, reforms of degree courses and their management. This will be accomplished through an integrated set of services that will help SME's find the professionals they need in the ALMALAUREA databank.

The actual and potential role that ALMALAUREA might play in these domains was also acknowledged by the World Bank, whose Director of Education, Elizabeth King, invited the Consortium to present its model in Washington during an international seminar in June 2013.

1.4. Conclusions

The foreword to the Report presented in Venice last year ended with the following statement: "In order to weather the crisis, Italy needs young people more than young people need Italy". Young people have all their life in front of them and are therefore full of energy and motivation: these are essential ingredients for the much-needed change in this period of economic downturn and crisis of values. **Against this backdrop, it is imperative to revert the current custom of favouring elderliness and seniority over knowledge and skills.**

This matter is more topical than ever, and bears connection to two subjects of in-depth analysis in this paper: the much-needed measures to support graduate entrepreneurship, and the policies to revert the brain drain in order to relaunch the country's economy and give hope to its youths.

The topic of entrepreneurship has become more and more important with the recognition of the role played by the birth and development of new businesses (especially the most innovative ones in high-tech sectors) in creating jobs and generating new products and services. For the above reasons, entrepreneurship is nowadays seen as one of the main drivers of economic growth, not only in developed countries, but also on those that opened up to global markets over the past twenty years.

Enterprises need venture capital and highly qualified human capital, the latter being particularly true for Italy. This is why the above-mentioned support measures should include entrepreneurship education, venture capital development, a more widespread presence of *business angels*⁴⁵, and business incubators and accelerators. Several universities have already, although belatedly, put some curricular and extra-curricular initiatives in place to start filling in the entrepreneurship education gap.

It is therefore necessary not only to attract those graduates who moved abroad, but also to retain them by offering better employment prospects in terms of remuneration and job quality. To retain and attract the most qualified graduates, i.e. those who work in universities and research centres, it is imperative to revert the current trend of reducing public and private funding to research.

⁴⁵ *Venture capital* and *business angels* provide risk capital and managerial consulting to new businesses.

Meritocracy in itself is not enough to convince the best talents to stay. Indeed, why should a young and talented person remain in Italy, even if his/her merits were duly acknowledged, when better remuneration, career prospects and employment conditions can be found abroad?

Graduate emigration entails a remarkable transfer of knowledge to the country of destination. The depletion of future growth prospects caused by one-directional migration of qualified people calls for immediate action. In the light of the foregoing, graduate entrepreneurship and the reverse brain drain can both be fostered with specific measures aimed at attracting young graduates who went abroad to set up their own businesses.

However, ad-hoc measures should not divert attention from the overall situation of human capital endowment and capitalisation in Italy.

The data and elaborations shown herein confirm that Italy has **not yet reached the European share** of graduates in the 30-34 age bracket, especially among men. The partial upswing observed in graduate shares among younger population cohorts is only partially comforting, because **what is really beneficial to a country's well-being**, in conditions of equally good learning outcomes, **is the average educational attainment of its population** as a whole⁴⁶, not that of its youth. The **gap** between Italy and its current and potential competitors might persist or even get wider, partly due to ongoing **demographic trends** and the fact that **fewer employment opportunities are being offered to women**. This, in turn, could have a negative impact on the country's dynamism and entrepreneurship⁴⁷.

⁴⁶ In this regard, it is worth noting that the development level of a country and its capacity to generate long-term growth do not depend only on the educational level of those who are actively involved in the production of goods and services, but also of those who are economically inactive or unemployed, because they take part in civil life activities such as consuming, voting, etc.

⁴⁷ Faini and Sapir's words, written in 2005, are still as true as ever, despite some recent improvement (Faini & Sapir, 2005): "An analysis of human capital endowment highlighted that the gap between Italy and the other industrialised countries not only is far from being bridged, but has somewhat increased. In such conditions, it is useless to call for support to the growth of new economic sectors relying more heavily on human capital, such as high-tech, if education is not decisively boosted at all levels".

The graduate gap with other countries is not offset by higher shares of upper secondary school-leaving certificate holders, but by larger proportions of workers with only compulsory education or lower. This finds confirmation in the breakdown by educational level of Italy's managers and executives. Therefore, in order to **improve the country's educational attainment, an increment of both graduates and upper secondary school-leaving certificate holders is needed**. Incidentally, the latter is also a *sine qua non* for the former. The fact that, still today, **only 30% of youths aged nineteen enrol at university** is no help.

Education has many benefits that should encourage investing on it, as it improves not only productivity, but also the quality of one's personal and collective life. For example, higher educational attainment levels were observed to be related to better health conditions, higher satisfaction levels, more active participation in democratic life, and smaller prevalence of socially deviant behaviour (OECD, 2013a).

The main argument of those who believe that the **number of Italian graduates is acceptable or even excessive** is that the supply of human capital should be moulded on current economic needs. Paradoxically, though, **this would result in the need to scale down the supply of women labour and female access to universities, because there are fewer women than men in the Italian labour market, especially in executive and managerial roles**⁴⁸. Such a choice would obviously be a countertrend to the other countries.

Raising the schooling levels of families is essential to creating knowledge and is only made possible by the education system. Therefore, improving the quality of learning in schools and raising the country's educational attainment are like-purposed, and would also promote access and achievement in secondary and tertiary education. Data on **dropout and enrolment trends (the latter having fallen by 17.5% over the past nine years)** should be analysed under different perspectives. As was repeatedly mentioned, the descent of university enrolments "is due to the combined effect of the **demographic decline**, the fall in **older-student enrolment** [...] a particularly substantial phenomenon in the years immediately following the start of the reform), as well as

⁴⁸ According to the data available, this would also lead many families, regardless of their income, to accept that their children only pursue compulsory schooling or vocational secondary studies.

the **deterioration of graduates' employment conditions**. In addition to that, a growing number of students is of foreign origins; many **families** are finding it more and more **difficult** to bear the direct and indirect costs of university education, and **student support policies are still lacking**". Fighting school and university dropout is therefore a priority for the country because it might contribute to improving social mobility too.

The issue of low educational attainment among the adult population is linked to the issue of poor exploitation of the skills acquired at school and university in the labour market. As was already mentioned, this exploitation might be impaired by employers' attainment levels, both in the private and in the public sector.

Indeed, in Italy, more than in the most developed OECD countries, young people's socioeconomic background still has a considerable impact on their training and employment opportunities, and fostering university enrolment basically entails focusing on the sons and daughters of parents without university education. ALMALAUREA's reports have repeatedly pointed out that a remarkable proportion of graduates come from families in which the parents have no tertiary degree. Since the university reform was implemented, at the beginning of the new millennium, this phenomenon has understandably increased, and in 2012, 75% of first-level graduates were the children of non-graduate parents. This helps explaining the considerable social selection that can still be observed among first-level graduates who decide to enrol in a second-level degree, i.e. a type of degree that typically provides access to freelance activities and offers better employment opportunities. It is not a coincidence that the share of second-level graduates whose parents have no university qualification falls to 70%. This is further confirmed by the analysis of the social background of single-cycle second-level graduates (medicine and surgery, law, etc): in this group, the sons and daughters of non-graduate parents are only 53%.

These social selection mechanisms have deeper implications, since one's expectations on employment opportunities bear an influence on one's motivation to study hard as well as on one's choices concerning secondary education. These, in turn, have considerable repercussions on one's propensity to pursue further studies, and on the outcomes of such studies in terms of dropout, time-to-graduation, etc.

What's more, as was previously mentioned, these mechanisms might be exacerbated, or rather find new contexts for application,

as a consequence of the **growing presence of foreign students** (or children of foreign parents) in Italian schools. In the 2011/12 school year, non-Italians were 6.2% (164,500 people in total) of those who were attending the fifth year of upper secondary school, that is, potential new enrolments at university. The sons and daughters of immigrants are at a considerable disadvantage (other conditions being equal) compared to Italian students in terms of learning achievements, because they lack familiarity with our schooling system, curricular contents and language; in addition to that, they have greater difficulties with socialization and integration through educational institutions. Foreigners are also more likely to take longer to complete their studies, drop out, repeat school years, choose fallback options, achieve unsatisfactory or fair results, and consequently tend to opt for secondary schools that less frequently lead to tertiary studies, such as vocational, professional, and, to a lesser extent, technical secondary schools. As their number is bound to increase, the share of school leavers passing to higher education is likely to decline.

ALMALAUREA has devoted special attention to the topic of **social mobility** for several years (Cammelli, 2008; Chiesi, 2008). An analysis included in the previous Report (AlmaLaurea, 2013) confirmed and further explained the **direct correlation between parents' educational attainment and work experience on one hand, and the degree courses that graduates chose to enrol in, particularly those that have traditionally provided better employment prospects**. A high consistency level (to such an extent that would lead to suspects of **genetics** being involved) appears to exist between the two, and although it might be seen as almost traditional and physiological for single-cycle second-level degrees leading to the liberal professions (like medicine or law) it was not equally predictable for other degree courses. The share of graduates whose parents hold a university qualification is larger than average among second-level graduates in the law, engineering, scientific, humanities and architecture groupings.

A student's motivation to study hard and continue beyond compulsory education depends above all on social advancement and employment prospects (especially for women), as well as on the social standing of his/her family of origin, as was already mentioned. In the absence of economic and industrial policies aimed at supporting propensity to capitalise on knowledge within the country's economy and society at large, the actions implemented in the education sector risk being poorly effective,

and might even increase the (already considerable) *brain drain* phenomenon, as was explained in previous paragraphs.

Indeed, several authors have pointed out that a vicious circle exists whereby Italy could be caught in a low-growth trap: because of its structure and specialisation, our country's economy requires little human capital, thus causing its revenues to remain low, and therefore preventing families from investing on education and training. To release the country from this vicious circle, which has been undermining our well-being for several years, it is necessary to adopt an approach based on broad strategies producing effects on both supply and demand for employment and human capital, so as to speed up the shift to a knowledge-based economy.

Indeed, **time is running out**. Newly industrialised countries are strengthening their presence in economic sectors in which our country used to be competitive at unprecedented speed, and are now approaching high-technology productions. The same is now happening in the area of new businesses with high growth potential: the formation of ecosystems all over the world bolstering the creation of innovative businesses is revolutionizing economic geography as we know it, but these ecosystems still have not taken much root in Italy.

The topic of resources allocated to education and training is not incidental to these issues, and funds granted to university and research are much lower in Italy compared to international standards⁴⁹. Paradoxically, according to OECD estimates, if the net yearly value of a graduate (i.e. the net social benefits produced by a university degree) is 100 on OECD countries overall, in Italy it ascends to 161⁵⁰!

⁴⁹ Let us assume that the cost of a graduate in 2009 (43,218 USD before the cuts approved by recent governments) was 100. In conditions of equal purchasing power, a Spanish graduate would cost 182, a German one 207, and a Swedish one 239 (OECD, 2012). It should be noted that the alleged case for lavishly high university current expenses, in particular those for teaching staff, is not confirmed by OECD data. The former make up 90.8% of total expenditure in Italy; this share is smaller than the EU-21 average (91%) and the OECD average (91.2%). The latter represent 35.9% of current expenses, which is considerably lower than the EU-21 average (42.7%) and the OECD average (41.6%). In the UK, a country that is often quoted as a positive example, those percentages are 94.9% and 43.1% respectively.

⁵⁰ According to a well-established methodology, this assessment is based on the present net benefits (cost borne for each graduate, cost net of tax of

The **issue of resources** goes hand in hand with that of the **criteria used for their distribution**. **Reward criteria** based on the assessment of internal and external effectiveness of universities **should only be employed to allocate additional resources** supplementing the standard system requirements. Then, there are remarkable differences between Italian geographical areas and their contextual features; these differences have an impact on the quality of students who enrol at local universities as well as on graduate employment opportunities. For this reason, the internal and external effectiveness indicators used to **assess universities** should be determined all other things being equal, that is, **as a function of the "added value" criterion**, as illustrated in the OECD *Ahelo* project⁵¹. An exploratory study by ALMALAUREA showed that the relative standings of Italian universities would be radically different if such an adjustment were adopted and universities were classified based on their contribution to graduate employability. Therefore, if reward-based parameters such as graduate employment rate are to be used to allocate resources, these parameters should be duly corrected in order to reward or punish those who most deserve it.

Currently, though, the conditions are inadequate to proceed on this path or even to make evaluations as such⁵², because this would call for availability of reliable data on graduates' outcomes in plentiful amounts, in standardised forms and in a timely manner. This information is **available in the above described form only for the universities participating in the ALMALAUREA Consortium**, which covers almost 80% of Italian graduates. Therefore, the conditions to perform **assessments based on appropriate methods** must be created urgently. ALMALAUREA had volunteered long ago to this task, and offered its proven, long-standing experience on domestic and international

the foregone earnings of a graduate during his/her university studies, revenues from income tax, revenues from social security contributions, benefits coming from the effects of having a degree in terms of lower unemployment rates) for a male graduate (see OECD, 2013a, p.135).

⁵¹ After an experimental survey focused on Engineering degree courses, whose results were presented at the 13th ALMALAUREA Conference on Graduates' Profile (held in Alghero in May 2011), in September 2012 an in-depth study on this matter, called "Quality at enrolment and graduate outcomes within engineering degree courses", was submitted to the Ministry. The study was carried out by Cisia, Cineca and ALMALAUREA.

⁵² Of course, the matter of accreditation is partly different.

projects (incidentally, such experience was legally acknowledged by means of the Ministerial Decree (DM) dated April 30, 2004, and the DM dated December 23, 2010), but to no avail, yet.

The next Government and the new political system that will hopefully be created through institutional reform will have to face an unavoidable challenge: providing the university system with effective resources and tools, in order to boost its internal and external effectiveness and therefore contribute to a better future for the country and its youth.

2. LABOUR MARKET TRENDS

2.1. Graduates and the labour market

As is well-known, the ongoing crisis (ISTAT, 2013b; CENSIS, 2013) “has eroded the capacity for resistance of families and businesses, created widespread social unease, caused expectations to fall sharply, and triggered a radical change of consumer behaviour” (CNEL, 2013). Against this backdrop, assessing the employment conditions of young people, especially those with higher educational attainment, is of paramount importance. Such an assessment is hindered by the many reforms of curricula undertaken in succession, which make it difficult to identify the effects of temporary and structural factors, thus impairing interpretation of results. These pages will anyway try to provide an overview of the situation, despite some difficulties and limitations. For a thorough analysis of the various aspects and degree types under study, as well as for the definitions and method employed, the reader is will be referred to subsequent chapters.

The main indicators used to monitor graduate employment conditions and make comparisons over the past six years confirmed, as anticipated, the difficulties observed in the labour market in recent years. With time from graduation, though, employment conditions were still observed to improve considerably.

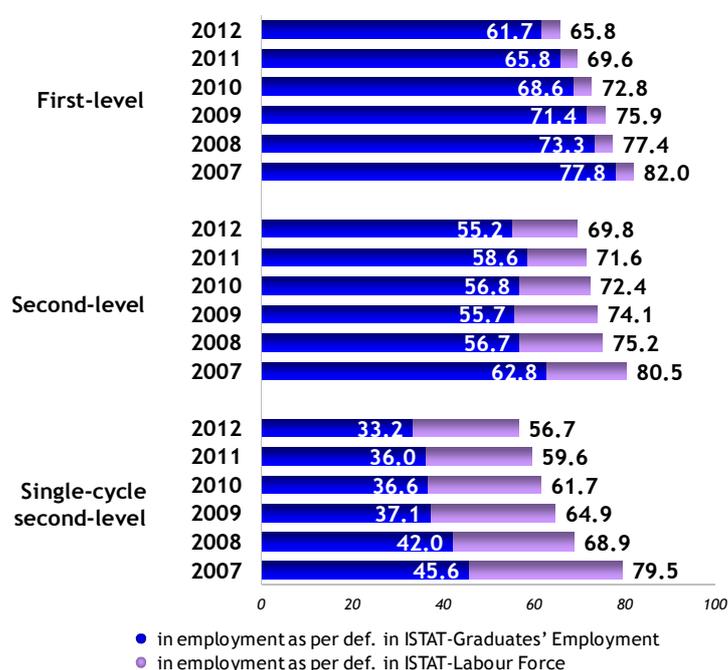
Initial impact on the labour market: employment outcomes one year on from graduation

Any assessment of the labour market’s willingness to take up post-reform graduates, as well as any assessment of the latest labour market trends, must take into account the complex range of training offerings available. It should not be forgotten that a comparison is made between graduate populations that differ in their objectives, training, time-to-graduation, and age at graduation.

For instance, the percentage of graduates continuing their studies after achieving their degree differs within the various populations under study, therefore a *direct* comparison of employment status would especially penalise first-level graduates, because most of them choose to continue their studies with a second-level degree, thereby postponing their entry into the labour market. This deferred entry by first-level graduates was confirmed by the fact that about 62% of them were found to be either in jobs or in search of employment (labour force) as opposed to 90.5% of

second-level graduates and 75% of single-cycle second-level ones⁵³.

Fig. 13 Graduates 2012-2007 interviewed one year on from graduation: Employment rate by degree course type. A comparison with the definition adopted by the Italian Statistical Board ISTAT in its Labour Force Survey (percentage values)



Note: the first-level graduates group includes only graduates who did not enrol in another degree course. Years of graduation 2005 and 2006 not included.

⁵³ Findings set out in these pages do not take into account graduates from the degree course in Primary Schooling sciences due to the small number of graduates in this area and the special features of this grouping. More details on this degree course will be provided in Chapter 7.

For the above reasons, all rigorous, in-depth analysis aimed at monitoring the labour market's response only took into consideration those first-level graduates who were not enrolled in another degree course. The employment rate for this subgroup at one year from graduation was seen to be 62%, i.e. more than among their second-level peers, whose employment levels were 55% for post-reform second-level graduates and 33% for their single-cycle counterparts. The above figures were down by 4, 3, and 3 percentage points respectively compared to the previous survey (*Fig. 13*).

However, this was the result of two types of factors. On one hand, the share of those who were already working at graduation was larger among first-level graduates (43%) than among second-level (36%) or single-cycle second-level ones (20%). This higher prevalence gives first-level graduates an advantage in employment terms. On the other hand, many second-level graduates (33% of post-reform ones and 61.5% of single-cycle second-level degree holders) were engaged in further training, whereas first-level graduates rarely did so (17%). Postgraduate training generally took the form of traineeships, apprenticeships, doctoral research or internships in companies for second-level graduates, while single-cycle second-level graduates were usually busy with traineeships, apprenticeships and postgraduate schools. The employment performance of the populations under consideration (especially second-level graduates) improved considerably when the definition of employment rate found in the Italian Statistical Board (ISTAT)'s Labour Force Survey was adopted, as this definition considers as employed also those who are engaged in remunerated training. More specifically, the employment rate of first-level graduates one year on from completion of studies jumped to 66%, 4 percentage points less than their second-level colleagues (70%) but a good 9 points more than single-cycle second-level graduates (57%). As will be better explained later, single-cycle second-level degree holders were still at a disadvantage in this comparison because they were frequently found to be engaged in non-remunerated training.

In comparison to previous surveys carried out one year on from graduation, the labour market's propensity for graduate take-up was seen to slow down even further, and to a remarkable extent, for all degree courses under examination and regardless of employment conditions at graduation. The employment rate as defined in the Labour force survey fell by almost 4 percentage points among first-level graduates over the past year (-16 points compared to 2008) and by 2 points among second-level degree

holders (-11 points as against 2008). The employment rate among single-cycle second-level graduates shrank by 3 percentage points as against one year earlier (with a whopping -23 points compared to the 2008 survey). Single-cycle second-level degree holders are a very peculiar group, not only because their employment levels were lower than their colleagues', but also because the percentage of those who were engaged in remunerated training was found to decline sharply over the past few years. This was partly due to a different breakdown by subject area: in the period under consideration, the number of law school graduates soared from 5% of graduates from the 2007 class to 42% in 2012, and this grouping had the lowest employment rate coupled with a high percentage of job seekers (37%).

When the analysis was confined only to those graduates who were not in employment at the time of graduation (57% of first-level graduates, 64% of second-level ones and 80% of single-cycle second-level degree holders), the decline in employment rate levels was found to be even steeper. Over the past year, the labour market's propensity for graduate take-up slowed down by 4 percentage points among first- and second-level graduates, and by 2 points among their single-cycle second-level colleagues.

Unemployment rate figures (which, as regards first-level graduates, were only referred to those who did not pursue further studies, as already explained above) were essentially in line with the above considerations (*Fig. 14*). Among first-level degree holders, unemployment hit 26.5%, almost 4 percentage points more than among their second-level colleagues.

In comparison to the previous survey, a further unemployment rate growth was observed in all degree types. This could be quantified in almost 4 percentage points for first-level graduates and single-cycle second-level ones (+15 percentage points as against the 2008 survey in both cohorts), and +2 points for second-level graduates (+12 points over the past 5 years). A slowdown in the take-up of graduates was observed, despite some differences, in most subject areas and in all degree types under investigation.

Fig. 14 Graduates 2012-2007 interviewed one year on from graduation: Unemployment rate by degree course type (as per def. in ISTAT – Labour Force; percentage values)



Note: the first-level graduates group includes only graduates who did not enrol in another degree course. Years of graduation 2005 and 2006 not included.

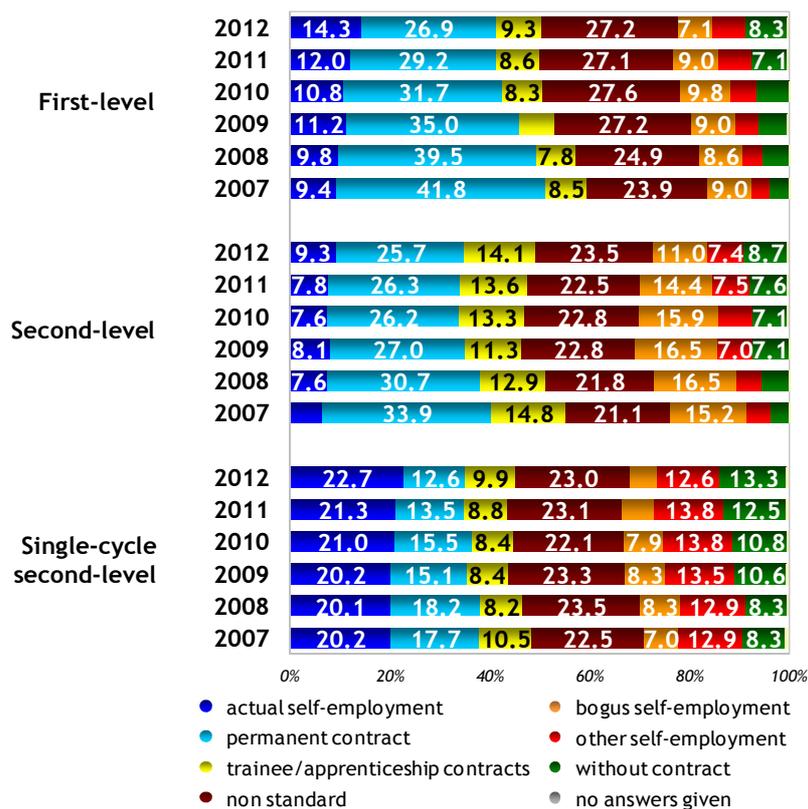
An analysis of the type of employment found confirmed the increased difficulties faced by post-reform graduates during the past few years. Job security twelve months on from graduation (Fig. 15), which was an already rather low indicator, was seen to remain virtually unchanged in all degree course types under study compared to the previous survey. This is the result of a slight decline in the share of permanent employment contracts (between 0.6% among second-level graduates and over 2 points among first-level ones) combined with a similarly slight rise of self-employment (between a little more than one percentage point among single-

cycle second-level graduates to over 2 points among their first-level colleagues). In the latest graduate population under study, job security levels were 41% among single-cycle graduates, and 35% among both post-reform and single-cycle second-level degree holders. Compared to the 2008 survey, job security was observed to fall considerably among first-level graduates (-10 percentage points) and second-level ones (-5 points), but only by 3 points among single-cycle second-level degree holders. The above figures were mainly attributable to the plummeting share of permanent employment contracts, which fell by 15 percentage points among first-level graduates, 8 points among post-reform second-level graduates and 5 points among single-cycle second-level degree holders.

It can be argued, at least for some graduate categories, that the answer to the decline in subordinate permanent employment was the set-up of self-employed activities, namely businesses. This topical matter will be the subject of specific, thorough analysis in this Report.

What is particularly worrisome, though, is that the general decrease in job security levels over the past five years was associated with a remarkable increase in unregulated work activities (+5 percentage points across the board). Non-standard employment contracts too were seen to further ascend, especially among first-level graduates. This could be quantified in +3 percentage points for this graduate subgroup as against +2 points among second-level ones; no substantial difference was observed in this indicator among single-cycle second-level degree holders. Occasional collaboration contracts went up 3 percentage points among first- and second-level degree holders, and remained roughly unchanged among single-cycle second-level graduates.

Fig. 15 Graduates 2012-2007 in employment one year on from graduation: type of employment by degree course type (percentage values)

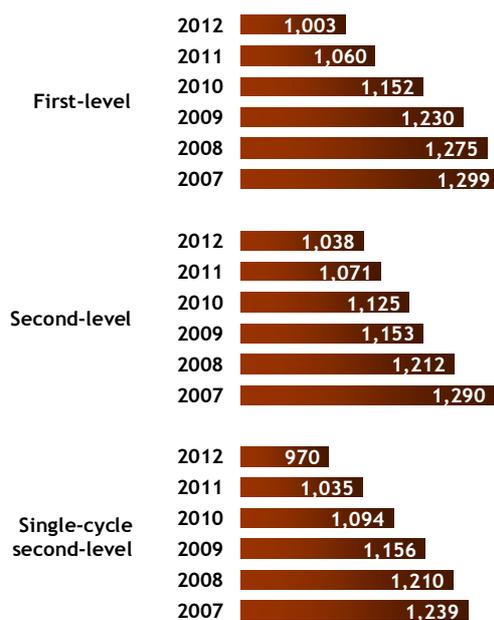


Note: the first-level graduates group includes only graduates who did not enrol in another degree course. Years of graduation 2005 and 2006 not included.

Monthly earnings at one year were usually found to be approximately 1,000 euros net. More specifically, remuneration was 1,003 euros (nominal value) for first-level graduates, 1,038 for second-level ones, and 970 for single-cycle second-level degree holders (Fig. 16).

Compared to the previous survey, nominal earnings were found to shrink by 4% among first-level graduates, 2% among second-level ones, and 5% among single-cycle second-level degree holders. Against this backdrop, a more discouraging picture was bound to emerge when real earnings (i.e. allowing for variations in purchasing power) were considered (OECD, 2013b; Eurostat, 2012). Indeed, real earnings lost as much as 5% among first-level graduates, 3% among their second-level colleagues, and 6% among single-cycle second-level degree holders. When the five-year period 2008-2013 was considered, real earnings were observed to be 20% lower in all three degree course types.

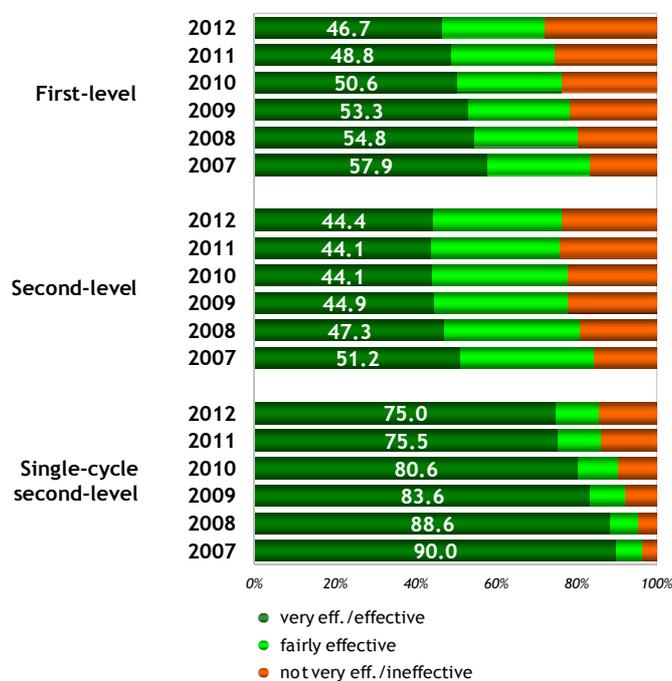
Fig. 16 Graduates 2012-2007 in employment one year on from graduation: Net monthly earnings by degree course type (revaluated based on the Italian Statistical Board ISTAT's consumer price indices; average values in euros)



Note: the first-level graduates group includes only graduates who did not enrol in another degree course.
Years of graduation 2005 and 2006 not included.

When the analysis was restricted to full-time workers who had started working after graduation, average monthly earnings were seen to be higher at almost 1,150 euros for all cohorts, and the drop in real earnings was found to be halved, but the loss of purchasing power among younger graduate generations was confirmed.

Fig. 17 Graduates 2012-2007 in employment one year on from graduation: Degree effectiveness by degree course type (percentage values)



Note: the first-level graduates group includes only graduates who did not enrol in another degree course. Years of graduation 2005 and 2006 not included.

Degree effectiveness levels were observed to remain virtually unchanged compared to the previous year's survey. Having a degree was considered at least *effective* (that is, either *very effective* or *effective*) by 47% of first-level degree holders (almost 2

percentage points less than in 2012) and by 44% of second-level graduates (with no difference compared to one year before; *Fig. 17*).

Peak effectiveness levels (75%, roughly unchanged vis-à-vis one year earlier) were reported by single-cycle second-level graduates. This remarkably good finding is understandable given the very special nature of these degree courses. Once again, though, when degree effectiveness results were compared to those observed in 2008, a considerable decline was seen across the board which can be quantified in -11 percentage points among first-level graduates, -7 points among second-level ones, and -15 points among single-cycle second-level degree holders. When the two aspects making up the effectiveness index (that is, the extent to which the skills acquired at university are used for one's job, and the formal and substantial need for the completed degree in one's employment) were considered separately, the above findings were confirmed.

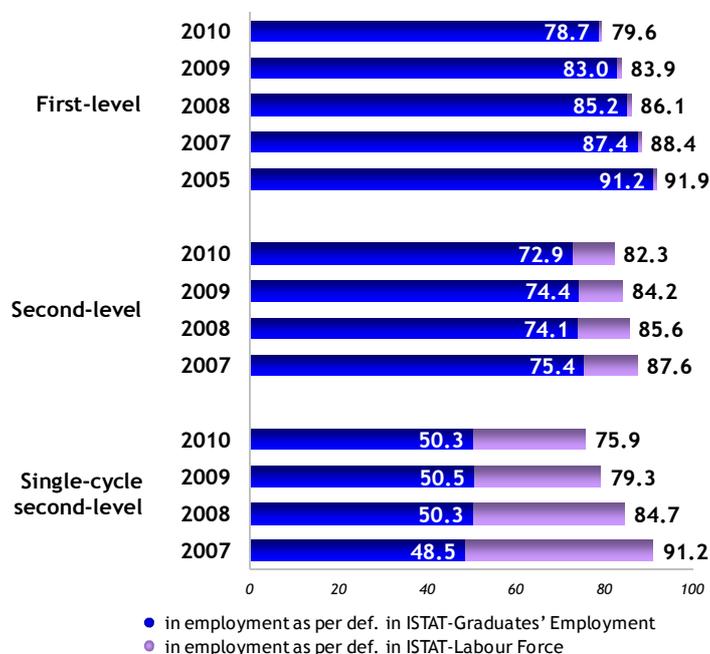
Medium-term labour market trends: employment outcomes three and five years on from graduation

In recent years, the growing difficulties encountered by young people, including new graduates, have inevitably been felt by older graduates too, even though it should be underlined that, with time from graduation, employment figures were seen to improve considerably. This can be better understood by examining employment outcomes of post-reform second-level graduates interviewed at three and five years from degree completion. First-level graduates were also interviewed three and five years on from achievement of their qualification. These additional studies provided an even clearer picture of the multi-faceted situation of Italian graduates. These lines merely introduce the most significant findings concerning first-level graduates who did not enrol in another degree course. Their employment outcomes in the first five years from graduation were good not only in terms of employment rate (slightly below 90% at five years from graduation), but also of job security (78% at five years) and earnings (1,358 euros net per month). In comparison to the previous survey, the above indicators were found to be declining (employment rate: -2 percentage points, remuneration: -3% in real terms) or to remain unchanged (job security). When the observation period was extended, though, findings yielded a bleaker picture. Compared to the 2010 survey, employment levels were seen to decrease by 5 percentage points,

job security by 6 points, and earnings were found to shrink by over 10% (from 1,517 to 1,358 euros).

73% of second-level graduates interviewed three years after completion of their studies were found to be in employment. This figure was 1.5 percentage points lower than one year earlier, and 2.5 points less than in 2010; *Fig. 18*).

Fig. 18 Graduates 2010-2005 interviewed three years on from graduation: Employment rate by degree course type. A comparison with the definition adopted by the Italian Statistical Board ISTAT in its Labour Force Survey (percentage values)



Note: the first-level graduates group includes only graduates who did not enrol in another degree course. For the year of graduation 2006 data were not collected.

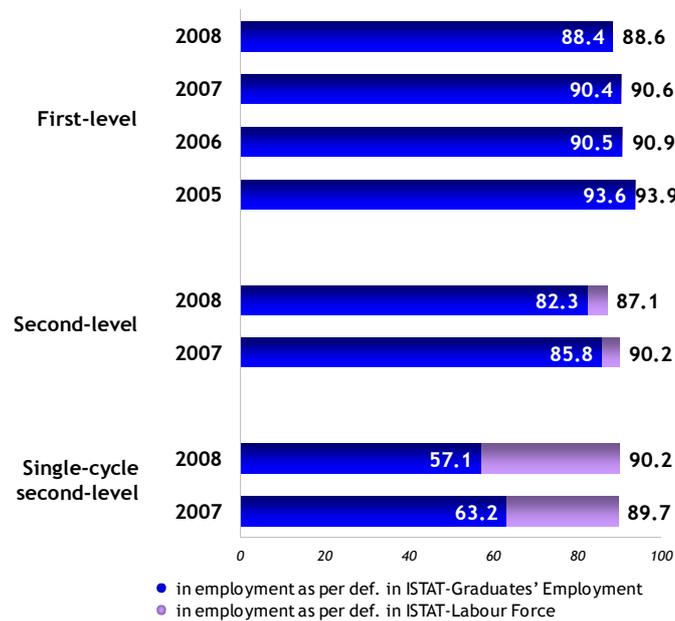
Single-cycle second-level graduates required specific considerations, because, as was repeatedly pointed out, they were often pursuing further mandatory training (sometimes

remunerated) in order to be entitled to carry on professional freelance activities. At three years from graduation, only half of this population was seen to be in employment (in line with the 2012 and 2011 surveys). When the definition of employment adopted by the Italian Statistical Board ISTAT in its Labour Force survey was used (which considers as employed also those who are engaged in remunerated training), single-cycle second-level graduates' employment outcomes were seen to improve considerably, as their employment rate reached 76% (this share hit as high as 82% among second-level graduates). Compared to one year earlier, employment among single-cycle second-level graduates was seen to shrink by 3 percentage points, but the share of law graduates increased, thus altering the breakdown of this cohort.

Unemployment was found to involve nearly 13% of second-level degree holders (approximately +2 percentage points among post-reform second-level graduates, and +3 points among single-cycle second-level ones as against the previous survey). But it should not be forgotten that graduate employment outcomes were seen to generally improve between one and three years on from degree completion. For example, unemployment among graduates from the class of 2010 was seen to fall by over 7 percentage points for second-level graduates, and by 6 points for their single-cycle colleagues.

The second survey carried out on second-level graduates at five years from degree completion helped completing and expanding the findings from last year's survey. Within the first five years from degree completion, as many as 82% of second-level graduates were seen to find an employment, this figure being over 3 percentage points less than in the previous year's survey. Employment levels were found to be a little lower among single-cycle second-level degree holders at 57% (-6 percentage points as against the 2012 survey on graduates from the class of 2007), but 33% of them were still engaged in remunerated training (*Fig. 19*).

Fig. 19 Graduates 2008-2005 interviewed five years on from graduation: Employment rate by degree course type. A comparison with the definition adopted by the Italian Statistical Board ISTAT in its Labour Force Survey (percentage values)

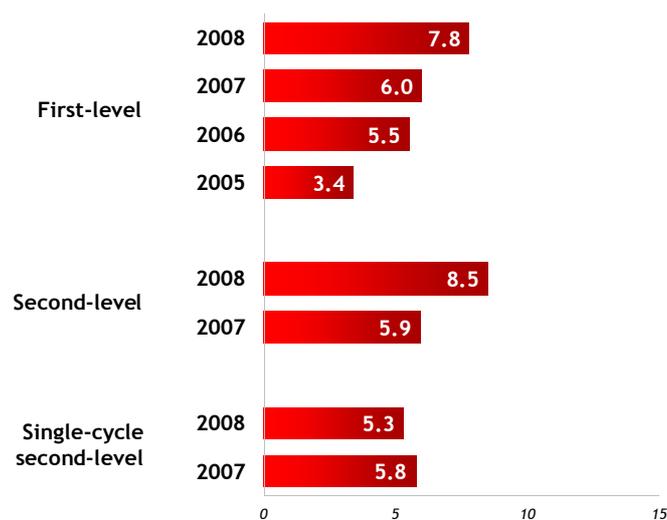


Note: the first-level graduates group includes only graduates who did not enrol in another degree course.

When those were considered as in jobs (that is, when the definition of employment given by the Italian Statistical Board ISTAT in its Labour Force Survey was adopted), the employment gap between post-reform and single-cycle second-level graduates was seen to fall considerably, as the respective employment rates at five years were 87% and 90%. In parallel, unemployment was observed to be higher among the former (at 8.5%, almost 3 percentage points more than in 2012) than among the latter (only 5%, unchanged as against the previous year).

Once again, the labour market's propensity to take up graduates proved good with time from graduation (*Fig. 20*). Between one and five years from completion of their studies, second-level graduates from the class of 2008 were observed to raise their employment levels by 12 percentage points (from 75% to the already mentioned 87%) and cut their unemployment rate by half (from 16% to 8.5%). Similar data were found among single-cycle second-level degree holders. The improvement in employment conditions was even more remarkable for the latter, as their employment rate swelled by 21 percentage points (from 69% to 90%) while their unemployment rate went down to one third (from 14% to 5%).

Fig. 20 Graduates 2008-2005 interviewed five years on from graduation: Unemployment rate by degree course type (as per def. in ISTAT – Labour Force; percentage values)



Note: the first-level graduates group includes only graduates who did not enrol in another degree course.

Employability was generally confirmed to increase with attainment level. Indeed, people with higher education are better able to respond to labour market changes, because they possess more suitable cultural and professional tools. In this respect, the Council of Europe recently adopted a new indicator: the percentage

of graduates and secondary school-leaving certificate holders (aged 20-34) in employment among those who completed their studies during the three years prior to being interviewed⁵⁴ (ISTAT, 2013b). Employment levels among degree holders were found to be over 15 percentage points higher than among people with upper secondary education (66 vs. 51%). This was also reflected in the better earnings enjoyed by the more qualified (OECD, 2013a). In the 25-34 age bracket, graduates' income in 2009 was found to be 22% higher than that of upper secondary school-leaving certificate holders. The pay difference recorded in Italy was smaller than the one observed in France and Germany (+42% in both countries), or in the UK (+53%)⁵⁵, but this is largely attributable to Italy's slower time-to entry and capitalization of skills, as well as to the fact that seniority is the main factor affecting remuneration levels in this country. Indeed, it is worth repeating that graduates enjoy better employment outcomes over their entire working life compared to secondary school-leaving certificate holders.

Other elements are worth considering, though. For instance, job security was observed to involve 55.5% of second-level graduates three years on from graduation, as against 34% one year on. This finding was seen to grow slightly (+1 percentage point) compared to one year earlier, but was nonetheless 7 points lower than in the 2010 survey. The job security figure was mainly attributable to subordinate permanent employment contracts, as self-employment was seen to be relatively uncommon among second-level degree holders because of the very nature of this population. Among single-cycle second-level graduates too, job security levels were seen to rise between one and three years from degree completion from 36.5% to 59.5% (a little more than in last year's survey, but almost 2 points less than in 2010). In this case, those with a secure job position were more often in actual self-employment, as single-cycle second-level degree courses tend to be conducive to this type of employment.

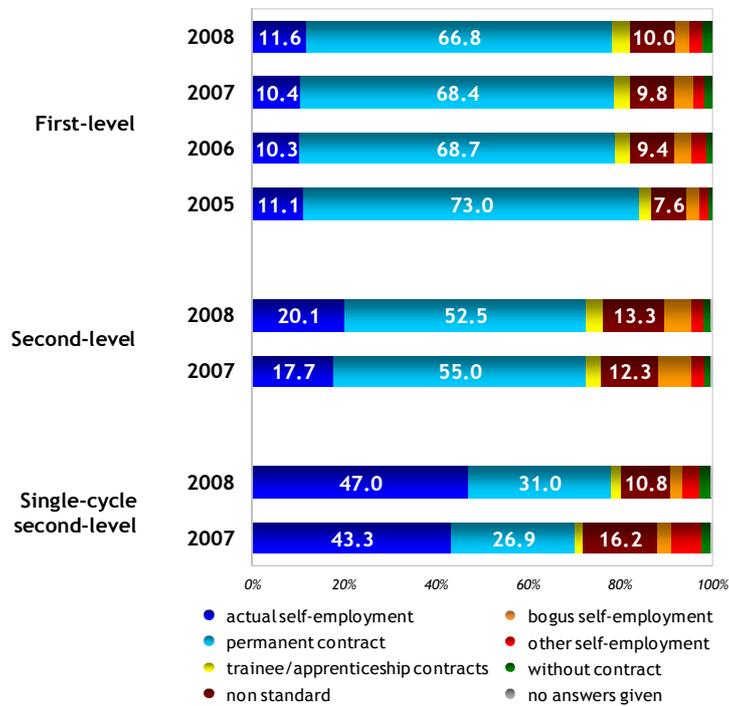
Extending the observation period to five years after graduation provided better insight into the positive progress of job security levels (*Fig. 21*). Among second-level graduates from the class of

⁵⁴ This indicator yields the employment rate of the population aged 20-34 that achieved a secondary or tertiary qualification one, two or three years before being interviewed, and that was not pursuing further training at the time of the survey.

⁵⁵ Data concerning Germany and the United Kingdom refer to year 2011.

2008, the proportion of those who were holding a secure employment grew by a remarkable 35 percentage points between one and five years from degree completion, from 38% to 73% of those in jobs. Among their single-cycle counterparts, this increase was +40 points over the same period, from 38% at one year to 78% at five years from graduation.

Fig. 21 Graduates 2008-2005 in employment five years on from graduation: type of employment by degree course type (percentage values)



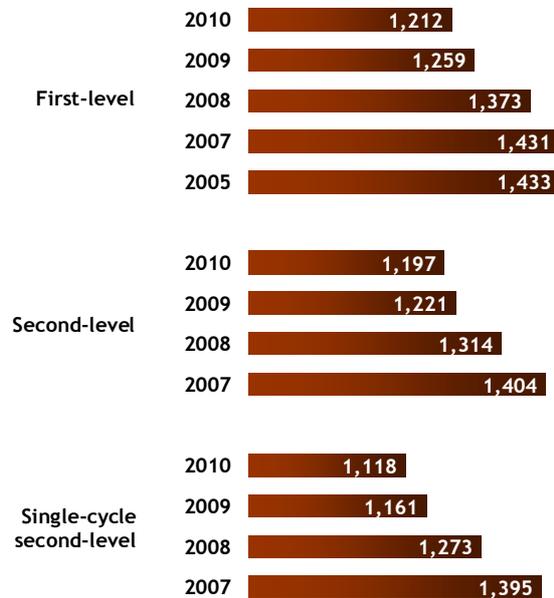
Note: the first-level graduates group includes only graduates who did not enrol in another degree course.

The same observations made on graduates three years on from degree completion apply to graduates five years on from termination of their studies too: permanent employment contracts were mostly found among post-reform second-level graduates,

whereas self-employment was mainly a prerogative of single-cycle second-level degree holders.

The downside was remuneration, since wages at three years from graduation were seen to lose purchasing power. Albeit nominally in excess of 1,200 euros among second-level graduates, real earnings fell by approximately 15% over the past four years, and by 2% only in the past year (*Fig. 22*).

Fig. 22 Graduates 2010-2005 in employment three years on from graduation: Net monthly earnings by degree course type (revaluated based on the Italian Statistical Board ISTAT's consumer price indices; average values in euros)



Note: the first-level graduates group includes only graduates who did not enrol in another degree course.

For the year of graduation 2006 data were not collected.

The same holds true for single-cycle second-level graduates, whose monthly earnings were seen to be generally lower at slightly above 1,100 euros net three years on from degree completion; this

amount is 4% less than in the previous survey and 20% less than in 2010.

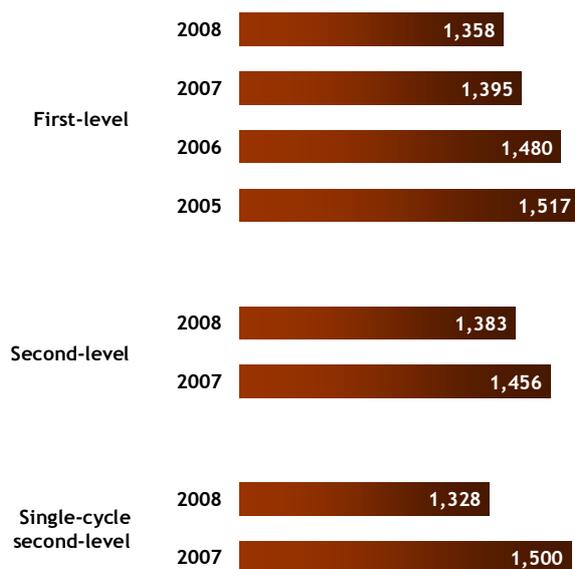
The above findings were also confirmed when only **full-time** workers who took **on their current job after completion of their studies** were considered.

Between one and three years from graduation, remuneration levels were seen to climb by 6% in real terms among post-reform second-level graduates, and by only 2% among their single-cycle peers. The latter finding might be attributable to the fact that a considerable proportion of single-cycle second-level graduates had to complete postgraduate training, thus postponing their entry into the labour market. Indeed, when the analysis was restricted to those single-cycle second-level graduates who reported being in jobs both at one and three years from graduation, real wages were found to grow by 14.5%.

An analysis of remuneration **five years** on from degree completion confirmed the above trends (*Fig. 23*). Net monthly wages five years after graduation were found to be nearly 1,400 euros among second-level graduates and a little less than 1,350 euros among their single-cycle peers. An analysis of remuneration data over time for these graduate cohorts showed that their wages climbed between one and five years from degree completion by 14% among post-reform second-level graduates and by 10% among their single-cycle colleagues in real terms.

Another crucial factor to be considered when trying to sketch out a picture (albeit concise) of second-level graduates' entry into the labour market is **consistency between the studies completed and the work activity carried out**. As regards the use graduates make of the skills acquired during their studies, and the formal or substantive need for an academic qualification to be eligible for recruitment, half of second-level graduates reported that their degree was *very effective* or *effective*. This figure was slightly lower than in the 2010 survey at three years from graduation. Nevertheless, effectiveness levels were seen to rise (by 6 percentage points) between one and three years from achievement of the qualification in the population under study. Single-cycle second-level graduates proved once more to be a peculiar cohort, as their reported effectiveness levels hit 85% among those in employment at three years from graduation; this figure was 4 percentage points higher than among the same graduate population at one year from degree completion, but fell by 6 percentage points compared to the 2010 survey at three years.

Fig. 23 Graduates 2008-2005 in employment five years on from graduation: Net monthly earnings by degree course type (revaluated based on the Italian Statistical Board ISTAT's consumer price indices; average values in euros)



Note: the first-level graduates group includes only graduates who did not enrol in another degree course.

Five years on from degree completion, effectiveness was seen to ascend even more (Fig. 24), as 55% of second-level graduates stated that their degree was *very effective* or *effective* for their job (this finding is in line with the previous survey, and 8 points higher as against when those graduates were interviewed one year after achieving their qualification), whereas as many as 90% of single-cycle second-level graduates were of the same opinion (-3 points compared to the 2012 survey, and only one point and a half more than the result observed at one year; these were mainly graduates in medicine from the class of 2008).

When the two components of the effectiveness index (i.e. the extent to which the skills learnt at university are used for one's job, and the need for the degree in one's employment) were analysed separately, similar trends were observed. Better consistency levels

between the degree course completed and the employment achieved were seen among single-cycle second-level graduates, as the two indicators above show. This is obviously due to the fact that these degree courses normally lead to professional freelance activities, which have stricter formal requirements compared to the ones reported by post-reform second-level graduates. In this regard too, however, time proved to be beneficial for graduates, because an increase in both components of the effectiveness index was observed between one, three and five years on from graduation.

Fig. 24 Graduates 2008-2005 in employment five years on from graduation: Degree effectiveness by degree course type (percentage values)



Note: the first-level graduates group includes only graduates who did not enrol in another degree course.

2.2. A highly diversified picture

Remarkable differences were observed in the above mentioned employment outcomes within all degree course types under study. For instance, disparities were seen between men and women, and

between graduates living in northern and southern Italy. Perhaps even more significant differences were found in connection with the chosen subject area. These disparities prove how much more complex and nuanced is the situation on the ground than is commonly believed. This is a feature that aggregate data do not evidence (ILO, 2011).

As in last year's survey, in order to get a bird's eye view of the various factors having an influence on graduate employment outcomes, a specific model of statistical analysis was employed⁵⁶. Only graduates from the 2012 class interviewed one year on from degree completion were considered. The analysis focused on first-level graduates who did not pursue further studies, as well as on second-level graduates. As was explained in the previous Report, the above populations were chosen for the following reasons: first of all, these graduate subgroups are keener on entering the labour market straight away. Unlike them, single-cycle second-level graduates need to complete some post-graduate training (postgraduate schools, apprenticeship, traineeship, etc.) before being entitled to pursue freelance activities, whereas first-level graduates who decide to enrol in a second-level degree course feature employment outcomes which are completely different from those of their colleagues who prefer to exploit their degree on the labour market immediately. Indeed, those who choose to pursue further university studies normally consider this as their main activity in terms of both time and resources; therefore, when they find employment, they tend to engage in occasional jobs allowing them to combine work and study. The second reason for choosing to focus on graduates at one year from graduation is that this time span allows better monitoring of all the elements that might affect employment outcomes. The model was used to analyse the likelihood of being in employment according to the "standard" ALMALAUREA definition, which leaves out those who are engaged in remunerated training. In order to better understand cause-effect relationships, the following graduate populations were excluded from the analysis because of their peculiar training and employment outcomes: graduates who were already in employment at graduation, those living abroad, and graduates from the defence and security grouping.

⁵⁶ A logistic regression model combined with a scoring technique were used to compare the effects of each covariate.

This year's analysis too was aimed at investigating the impact of first-level and second-level degrees on graduates' modes of entry into the labour market as well as on the outcome of such entry, all other things being equal. It is worth pointing out that this research work is uninformative, because the two populations under study, as was seen before, are extremely different in terms of social and economic family background, degree course undertaken, and academic and professional outlooks.

The analysis looked into several factors concerning the social and demographic background of graduates under investigation (such as gender, parents' educational attainment, and geographical area of residence) as well as their pre-university studies (secondary school chosen and final grade achieved). Other factors considered were pertinent to the academic degree achieved (type of degree, subject grouping, geographical area in which the university was located, examination grades, time-to-graduation, work-related mobility) and to experience and skills developed during one's studies (accredited traineeships/internships, work or study abroad experiences, knowledge of IT tools, knowledge of foreign languages). Then, attention was paid to graduates' aspirations and propensities on the eve of graduation (intention to pursue further studies, willingness to accept travels, expectations on the job they were searching for in terms of job security, remuneration and career prospects, consistency with one's studies, acquisition of professional skills, consistency with one's cultural interests, job autonomy, spare time).

The first result yielded by analysing the data in *Tab 4*⁵⁷ (listing only those variables that proved significant) is that the factor most affecting one's likelihood to find employment is the degree course

⁵⁷ The table only shows those variables that bear significant effects on one's likelihood to be in employment one year on from graduation. For each of them, a reference option was taken and shown in brackets after the name of the variable. The coefficient *b*'s of the corresponding variable were calculated as a function of the reference option. If a coefficient is higher than 0, the variable has a positive effect on one's likelihood of being in jobs; if it is lower than 0, its effect is negative. For ease of reference, the column $\exp(b)$ is provided where values above 1 indicate a positive effect on one's likelihood of being in employment. For example, in the column $\exp(b)$ the value of the variable *traineeship during studies* is 1.142. This means that graduates who had completed a traineeship during their university years were found to be 14% more likely to be in employment than those who had not.

chosen. Other things being equal, graduates from the engineering, healthcare professions, physical education, and sciences subject groupings were seen to be favoured. On the contrary, their colleagues from the law, psychology, and geo-biology groupings were at a disadvantage. First-level degrees were found to have the best employment prospects one year on from graduation, all other aspects being equal. Even if this result was taken with due caution, and the impact of this variable on graduates' employment outcomes was generally modest, this datum is nonetheless surprising and calls into question some commonplace assumptions.

Gender-related and above all geographical differences proved once again to be significant; *ceteris paribus*, men and graduates who were living or had studied in northern Italy were seen to have better outcomes.

Although the social and cultural background was not seen to have a remarkable effect *per se* on employment likelihood, it is nevertheless true that it fosters propensities and expectations concerning training and employment; because of these, graduates may choose to defer their entry into the labour market and wait for better employment opportunities. Indeed, in conditions of equal employment expectations, those graduates coming from culturally privileged families where at least one parent had a university qualification were found to have lower employment rates one year on from completion of their studies.

Individual examination grades did play a crucial role in granting better employment prospects (in the analysis of this factor, the relative distribution by university and degree course type was taken into account). On the contrary, secondary school-leaving grades did not. Complying with the set timeframe for graduation was found to have an even greater positive effect on likelihood of being in employment, because graduates enter the labour market at a younger age if they graduate within the allocated time. Consequently, these graduates' expectations and willingness to accept contract provisions are probably more in line with what employers seek. This hypothesis finds confirmation in how companies use the ALMALAUREA databank to search and select their personnel, as employers tend to be more interested in graduate age than their final grade. Unfortunately, this model could not focus on graduate age specifically, because this variable is markedly different in the two populations under examination.

Previous work experience, as well as certain skills developed during one's university studies, were seen to positively influence likelihood to find employment. Other things being equal, factors

such as work experience (of any kind), knowledge of foreign languages (English and German), traineeships/internships carried out during one's studies, and study experiences abroad were observed to boost the likelihood of being in employment one year on from achieving one's degree. IT skills, on the contrary, did not prove significant, possibly because they are commonly found in graduates nowadays.

Tab. 4 First- and second-level graduates: An assessment of employment outcomes one year on from graduation (binary logistic regression model estimating their likelihood of being in employment)

	<i>b</i>	<i>Exp(b)</i>
Grouping (law = 0)		
Agriculture	1.043	2.838
Architecture	1.004	2.728
Chemistry-pharmacology	0.919	2.507
Economics-statistics	0.936	2.551
Physical education	1.416	4.119
Geo-biology	0.539	1.714
Engineering	1.824	6.197
Teaching	1.172	3.230
Humanities	0.693	2.001
Languages	1.127	3.087
Medicine (healthcare prof.)	1.775	5.902
Political and social sciences	0.759	2.136
Psychology	0.460	1.583
Sciences	1.391	4.020
Degree course type (second-level degree = 0)		
First-level	0.232	1.261
Gender (female = 0)		
Male	0.093	1.098
Having at least one graduate parent (yes = 0)		
No	0.083	1.087
Geographical area of residence (South = 0)		
North	0.349	1.418
Centre	0.195	1.215
Geographical area of university (South = 0)		
North	0.397	1.488
Centre	0.224	1.251
Type of upper secondary school (other = 0)		
"Liceo" or technical school*	0.071	1.073
Examination grades (lower than median = 0)		
Greater than or equal to median value	0.062	1.064
Time-to-graduation (within 1 year above set time = 0)		
2-3 years above set time	-0.189	0.828
4 or more years above set time	-0.353	0.703
Spoken English (fair at most = 0)		
At least good	0.082	1.086

(to be continued)

(continued) Tab.4 First- and second-level graduates: An assessment of employment outcomes one year on from graduation (binary logistic regression model estimating their likelihood of being in employment)

	<i>b</i>	<i>Exp(b)</i>
Spoken German (fair at most = 0)		
At least good	0.230	1.258
Traineeship during studies (no = 0)		
Yes	0.133	1.142
Study abroad experience (no = 0)		
Yes, any type	0.086	1.089
Work experience during studies (none = 0)		
Working student	0.422	1.525
Studying worker	0.511	1.667
Willingness to accept travels (no = 0)		
Yes	0.199	1.220
Expectations: career prospects (no = 0)		
Yes	0.075	1.078
Expectations: job security (no = 0)		
Yes	-0.095	0.909
Expectations: acquisition of professional skills (no = 0)		
Yes	0.149	1.161
Expectations: consistency with cultural interests (no = 0)		
Yes*	-0.050	0.951
Expectations: spare time (no = 0)		
Yes	-0.128	0.880
Intention to pursue further studies (yes = 0)		
No	0.429	1.536
Constant	-2.886	0.056

Note: Accurate classification rate was 64%.

Unless otherwise indicated, parameters were found to be significant with <0.01 .

* parameter found to be significant with $p < 0.05$.

Finally, willingness to accept work-related mobility, and more specifically business travels (irrespective of their frequency) was found to have positive effects on employment prospects.

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