

15th ALMALAUREA REPORT ON
GRADUATES' EMPLOYMENT CONDITIONS
Investing on youth: If not now, when?
by Andrea Cammelli

1. INTRODUCTION

An analysis of graduates' employment conditions taking into account how human capital is exploited cannot overlook Italy's overall economic situation as well as the crisis which has hampered the growth of western countries for several years. Both in Italy and in Europe, the trends concerning employment and the real economy remain considerably negative. The stakeholders' expectations have not yet shifted to optimism either, thus hindering an upswing in investment and recruitments.

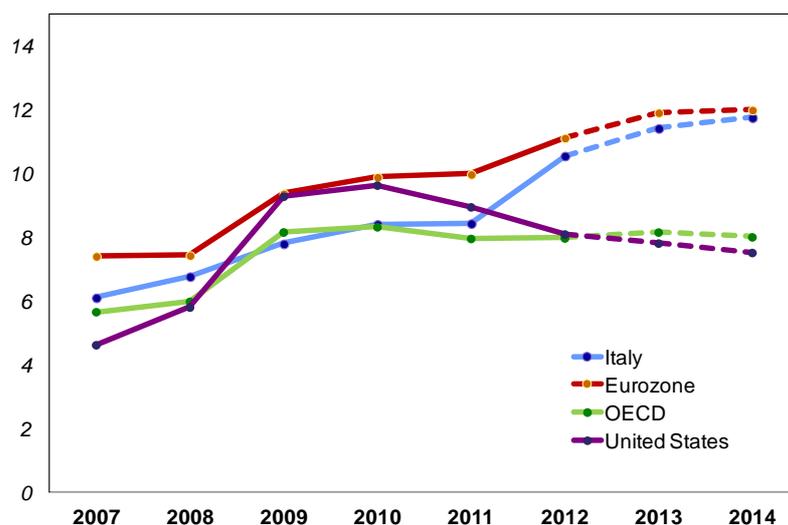
This persistently difficult economic situation in Europe is **taking its toll especially on the weakest segments of the population, i.e. youths¹**.

Young people are currently experiencing prolonged unemployment and unsatisfactory job market insertion, especially those from less favourite family backgrounds. These difficulties weigh down future employment and remuneration prospects, thus extending the consequences of the current crisis to the future. The resulting overall loss of well-being at individual and collective level grows, along with lingering employment difficulties.

Such long-term effects should induce governments to be more proactive in restoring confidence, and to lay the basis for economic recovery. Other countries have already been successful in doing so, and have obtained positive, tangible results in employment terms.

¹ According to the Economic Bulletin of the Bank of Italy (no. 71, January 2013) the picture is still bleak, and only at the end of 2013 will there be some recovery in the European and in particular in the Italian economy. Growth will remain feeble during 2014, when the unemployment rate will reach 12% due to a further increase in the number of young job seekers. According to the Italian Statistical Board, in January 2013 youth unemployment (i.e. in the 15-24 age group) peaked at 38.7% of the labour force in the same age bracket, and now accounts for 10.9% of the overall population of that age (ISTAT, 2013b).

Fig. 1 Unemployment in the OECD countries: 2007-2014 (percentage values)



Source: ALMALAUREA elaboration on OECD data

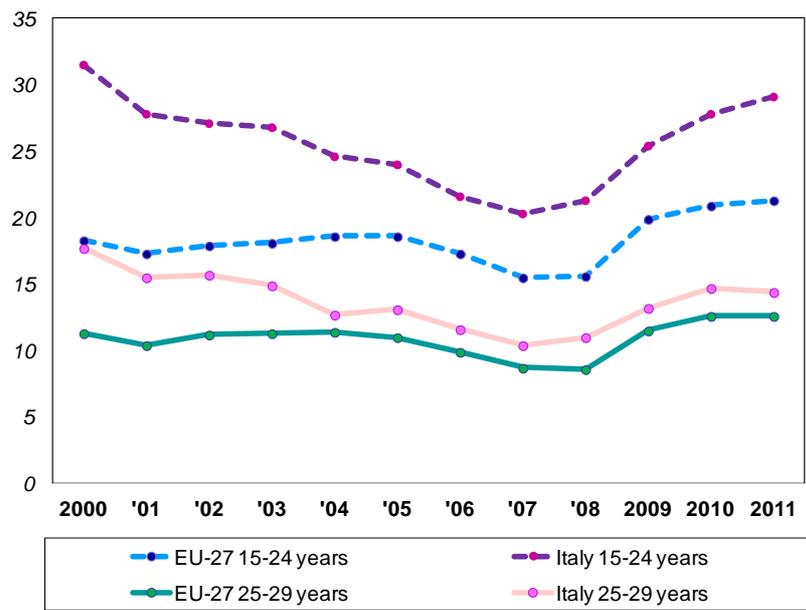
Over the past two years (2011-2012, Fig. 1) unemployment grew both in Europe and in Italy², whereas the OECD and USA average data showed a decline, thanks to the adoption of growth-fostering economic policies. Projections for 2013 and 2014 seem to confirm this divergence.

The data on **unemployment rate by age and educational qualification** confirm, on the one hand, 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. On the other hand, throughout an entire working life **a university degree** still

² In Italy, this growing unemployment rate is mainly attributable to an upsurge of employment supply. In turn, this is due to a pension reform (which reduced the number of available job positions) as well as to a higher number of young people seeking their first employment (ISTAT, 2013a), in spite of the remarkable demographic decline that has affected young age cohorts for the past 25 years.

proves to be a **worthwhile investment against unemployment**, albeit less effective than in other countries (Fig. 2 and 3).

Fig. 2 Unemployment in Europe by age: 2000-2011 (percentage values)



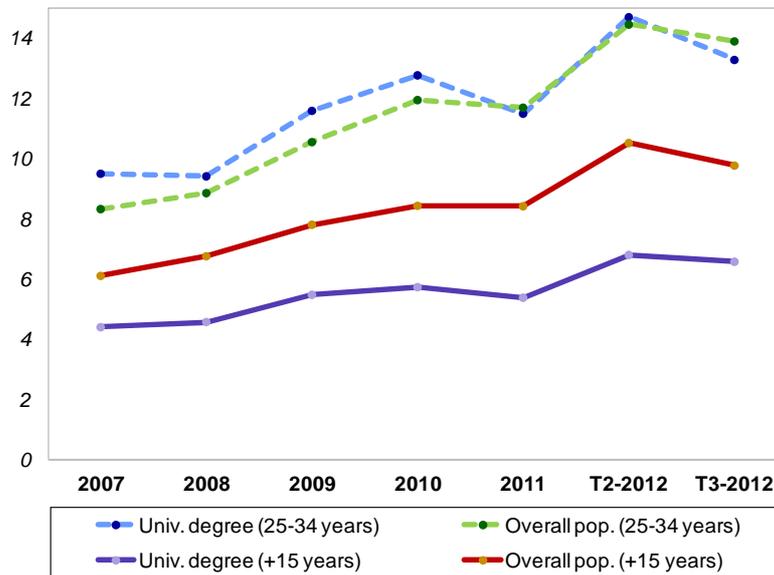
Source: ALMALAUREA elaboration on Eurostat data

According to the most recent statistics, in the 25-64 age bracket **graduates enjoy a 12 percentage points higher employment rate than people with upper secondary education**. Between 2007³ and the third quarter of 2012, unemployment rose by 67% among young people aged 25-34 and by 40% among graduates in the same age group. Within the overall population, unemployment grew by 60%, and only by 50% among graduates. This percentage increase in employment rate figures

³ In 2007, unemployment rate data were as follows: overall 6.1%; men 4.9% (in the 25-34 age bracket: 6.7%); women 7.9% (in the 25-34 age bracket: 10.5%); graduates 4.4% (in the 25-34 age bracket: 9.5%).

affected men (who were starting from a more favourable situation) more than women in both age groups. In the 25-34 group, unemployment rose by 87% among men and 49% among women, whereas in the 15+ age group it climbed by 81% among men and 40% among women (see www.istat.it).

Fig. 3 Unemployment in Italy by age and educational attainment: 2007-2012 (percentage values)



Source: ALMALAUREA elaboration on Istat data

The above data were confirmed by a Unioncamere - Excelsior survey (Unioncamere-Ministry of Labour, 2012b) on the demand for labour by Italian private businesses in 2012. According to this source, the **decline in the demand** for non-seasonal labour over 2011 **affected graduates to a lesser extent** (-33.1%) than secondary school-leaving certificate holders (-50.4%) or the overall population (-50.9%).

After reaching its peak in 2011 and the beginning of 2012, unemployment stabilised in the second and third quarters of 2012 (Fig. 3), especially for graduates. This trend, however, was not confirmed by recent data.

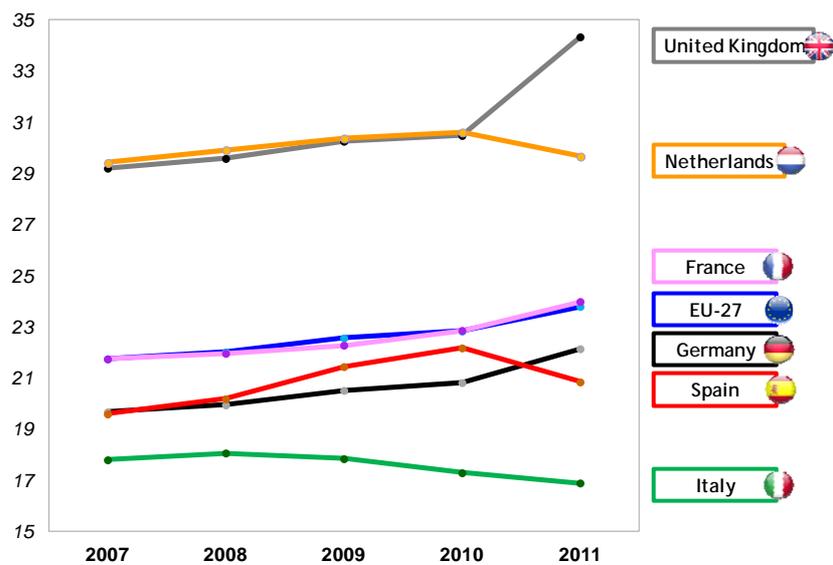
On a separate note, the phenomenon of economically inactive people, especially the so-called NEETs (youths aged 15-29 who are not in education, employment or training) has reached a considerable scale, and deserves further consideration since it reflects the huge difficulties and mistrust experienced by young people when approaching a labour market that offers them few opportunities for self-fulfilment. **Economically inactive people who are willing to work but do not actively seek employment** grew from 2.55 to 3.09 million between the 4th quarter of 2007 and the 3rd quarter of 2012 (+21%) and now make up 12.2% of the labour force. Differences were observed based on geographical area, age group, educational level and gender, but a progressive convergence was found between the so-called “strong” groups (i.e. more educated people, people residing in northern Italy, males in middle age groups) 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, youths, women).

As for NEETs (ISTAT, 2013a), in 2011 they accounted for 22.7% of the population in their age bracket (more than two million youths). This percentage ascended to 31.9% in southern Italy (35.7% in Sicily) and was particularly high among women (25.4% overall, 34.2% in southern areas). In this regard, **Italy’s position at the top of the European ranking** is particularly alarming, and the difference with the main European countries is striking (Germany 9.7%, France 14.5% and UK 15.5%).

The latest ALMALAUREA report on graduates’ employment conditions (Cammelli, 2012a) showed that, even though starting from very low levels already in 2004, Italy’s **population in highly qualified professions⁴ further decreased** between 2008 and 2010. This trend had been observed in previous years too, but was a countertrend compared to the EU as a whole.

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

Fig. 4 Share of people in employment in highly qualified occupations* (percentage values)



*See note 4.

Source: ALMALAUREA elaboration on Eurostat data

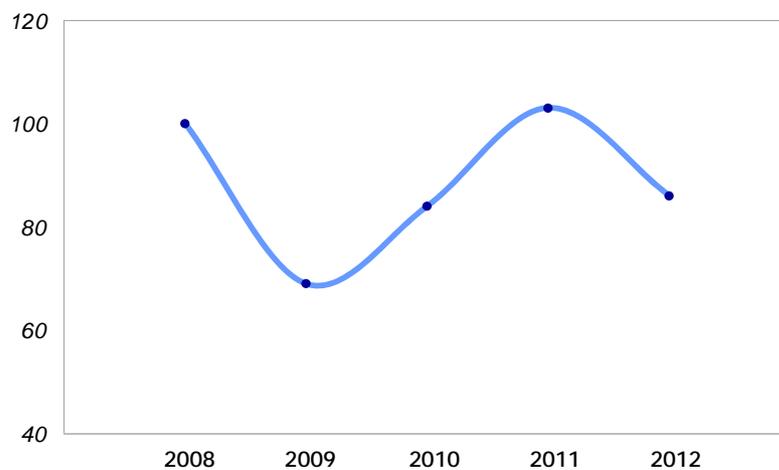
This feature, which is also relating to the negative trend of investments on fixed assets⁵, found confirmation in 2011 too, thus

⁵ "The data on the changes of Italy's employment structure between 2004 and 2010, together with those on investments in fixed assets (capital goods such as plants, machinery and buildings) for the same period, and the projections of these data for 2012 and 2013 offer an interesting explanation for the causes of negative trends affecting highly qualified employment, as well as grounds for concern over the future [...]. OECD data on private investments in fixed assets seem to confirm there is a link between employment trends and the behaviours and strategies adopted by companies which are not growth-oriented or inclined to fully exploit their human capital. In the 2004-2008 period, investments in capital goods grew, on average, by 0.9% in Italy as opposed to 4% in the EU-27 and 4.9% in the OECD countries. Expected rates of capital accumulation for 2012 and 2013 confirm the above differences, with an average value close to 0 for Italy as against +1.8% in the EU and +3.8% in the OECD countries" (Cammelli, 2013).

enlarging the gap with the European average (*Fig. 4*) from 4 percentage points in 2008 to 6.9 in 2011.

An even more negative picture is bound to emerge if one considers, as will be shown in the following pages, that the percentage of graduates in the category “legislators, senior officials and managers” is comparatively very limited.

Fig. 5 CV's obtained by businesses from the ALMALAUREA databank (2008=100)



Source: ALMALAUREA

The basic labour market trends affecting graduates found confirmation in the trend of the demand for CVs from the ALMALAUREA databank (*Fig. 5*)⁶.

Regrettably, this overall difficult situation found confirmation, once again, in the various aspects analysed in the latest ALMALAUREA survey on graduates' employment conditions, such as employment and unemployment rates, types of employment contract,

⁶ The ALMALAUREA databank was launched in 1994 and now includes 1.740.000 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 from both the private and the public sector, as well as to professional practices.

remuneration, degree effectiveness, satisfaction level with the job held⁷, etc.

1.1. Survey on graduates' employment conditions: for the first time, data on employment of second-level graduates at five years from graduation are available

The 15th ALMALAUREA report on graduates' employment conditions confirmed that the overall situation remains difficult. This had already been highlighted in previous Reports, since the first symptoms of such difficulties were observed at the beginning of the new millennium. The 2012 survey involved over **400,000 post-reform graduates from all 64 member Universities** of the Consortium.

For the first time, this survey included second-level graduates interviewed five years on from completion of their studies. This allowed drawing a more complete and updated picture of recent labour market trends, but it also helped assessing the effectiveness of the degree courses reforms. **Response rates were very high**, and reached 86% among graduates interviewed one year on from degree completion, 80% three years on, and 77% five years on⁸.

This Report thoroughly **went through all the employment-related aspects** that ALMALAUREA has taken into consideration for fifteen years. Since the beginning, full details are available on the (recently renovated) Consortium website, to allow broader dissemination and enable an **external analysis of university performance**, as well as to provide useful **guidance to young secondary school-leaving certificate holders**⁹. Data are broken

⁷ As regards satisfaction levels with the job held, see also the in-depth analysis presented by Piccolo at the conference "Investing in young people: if not now, when?", Venice, 12th of March 2013.

⁸ 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". See box 4, § 3.2.

⁹ Findings of AlmaDiploma surveys show that, at the end of their upper secondary studies, 44% of certificate holders would not choose their upper secondary school again. One year after achieving their certificate, this percentage was seen to be four points lower. This is another good reason to seriously consider the introduction of a common two-year period in upper secondary schools, so as to provide youths with better guidance on study choices after compulsory education (Cecchi, 2010; Barone, 2012). Other available and effective programmes offering guidance on university studies

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 populations¹⁰. 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, who tend to be weaker in employment terms because of their small work experience, but also among their peers who graduated in less recent years. Indeed, a comparison with previous findings showed that employment conditions were generally worse, both at one and three years on from graduation.

Compared with the previous survey, **unemployment was found to be higher** in all the population segments under examination, with remarkable differences based on degree course grouping, gender, and geographical area (as will be better explained in subsequent chapters). **One year on from graduation**, unemployment was found to grow by 3.5 percentage points among first-level graduates, 1 point among second-level graduates, and 2 points among single-cycle second-level degree holders. This means that unemployment exceeded 20% in each of the three cohorts under study. **Three years on** from completion of studies, unemployment was up 2.5 percentage points among first-level graduates, 1 point among their second-level colleagues and 3 points among single-cycle second-level graduates; the threshold of 10% was surpassed across the board. Although the above results may be partially affected by the changes in the breakdown of the cohorts over time (for instance, law graduates have traditionally had high unemployment levels, and they make up a growing share of single-cycle second-level graduates), those findings were generally confirmed at degree course, geographical area of residence, and gender level, thus reaffirming the already mentioned increased difficulties encountered by graduates.

are AlmaOriëntati (www.almalaurea.it/lau/orientamento) and UniversItaly (www.universitaly.it).

¹⁰ Only graduates who did not subsequently enrol in another degree course were considered as "first-level graduates".

However, it should be noted that **unemployment at five years** from degree completion **was almost natural** at 6% in spite of the crisis.

On the other hand, graduates in employment (including those in remunerated training) one year on from graduation, albeit decreasing, were approximately 70% of first-level graduates, 72% of second-level graduates and 60% of single-cycle second-level degree holders. It should not be forgotten that, in the latter group, employment levels were lower because a larger share was found to be engaged in non-remunerated training, especially law graduates. **At five years, employment was close to 90%** regardless of the degree course group.

With the only exception of second-level graduates interviewed one year on from degree completion, **job security** figures too (i.e. permanent job contracts or actual self employment) **shrank** compared to previous surveys carried out one and three years after graduation. Conversely, the **various types of flexible employment swelled**. What is more worrisome, though, is the general increase in unregulated work activities, especially among recent graduates. 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** were generally observed to **improve between one and five years** from degree completion, and indeed reached 7 out of 10 of those in employment (among first-level graduates this figure was almost 8 out of 10).

Monthly **earnings at one year** were usually found to be a little more than 1,000 euros net. More specifically, remunerations were 1,049 euros (nominal value) for first-level graduates, 1,059 for their second-level peers, and 1,024 for single-cycle second-level degree holders. Compared to the previous survey, nominal earnings were found to be **lower**: -5% among first-level graduates, -2.5% among single-cycle second-level graduates, and -2% among second-level graduates¹¹. Against this backdrop, a more discouraging picture was bound to emerge when real earnings (i.e. allowing for variations in purchasing power) were considered. Indeed, real earnings lost as much as 8% among first-level graduates, and 5% among second-level and single-cycle second-level degree holders.

¹¹ On remuneration disparities, see also the in-depth analysis presented by Binassi and Conti at the conference "Investing in young people: if not now, when?", Venice, 12th of March 2013.

When the four-year period 2008-2012 was analysed, real earnings were found to shrink by 16-18% in all three degree types.

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 1,200 euros for all cohorts, but the above mentioned decrease was confirmed in all groups except second-level graduates. **Three years on** from graduation, monthly earnings were found to be approximately 1,200 euros, with a 7-9% fall compared to the previous survey. **Five years** after degree completion, net monthly earnings were nearly 1,400 euros, with remarkable differences based on degree type, degree grouping, gender and geographical area.

The **main indicators** on young people's **access to the labour market** monitored by ALMALAUREA over the **past 15 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, are 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.

Nonetheless, **remuneration and employment conditions of graduates were still better than those of people with upper secondary education**. According to official data sources (ISTAT, 2012a; OECD, 2012b), to date, graduates have enjoyed an **over 12 percentage points** higher employment rate than secondary school-leaving certificate holders throughout their overall working life (76.6% versus 64.2%). The same data sources showed that higher education qualifications are also rewarding in terms of **earnings: in the 25-64 age group**, graduates' wages proved **50% higher** than those of secondary school-leaving certificate holders. This wage difference was in line with the one observed in France (+47%), whereas in the UK (+65%) and in Germany (+68%) it has become much wider.

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 worsening scenario 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.

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, but **basically effective** in the **long run**¹².

As in the past, this 15th Report features some in-depth analysis of the factors affecting graduates' satisfaction with the job held; inequality and social mobility; and effectiveness of the university qualification as a tool to access the labour market.

1.2. How can we weather the crisis? The role of youth and human capital

The **debate on actual human capital endowment** in our country is stoking the view that, within younger population cohorts, the share of Italian graduates is now roughly in line with the European average, and that **the issue of Italy's insufficient tertiary level education attainment should consequently be considered as settled**.

ALMALAUREA'S annual reports on the profile and employment conditions of Italian graduates have repeatedly dealt with this matter, and have reached different conclusions, which are in line with data from official OECD and Eurostat documents (Cammelli, 2009).

Box 1. Graduate endowment: Is Italy at European level or does it rank last?

The share of people with university-level education (tertiary education) within a population can be measured by using two ratios (or rates).

The first one concerns the amount of graduates, and counts the number of graduates of a certain age (irrespective of the year in which the university qualification was achieved)

¹² In this regard, see the paragraph of following chapter on the mismatch between human capital supply and demand throughout one's working life.

compared to the population of the same age. The second concerns graduate flows and counts the number of people who achieved their academic degree in a certain year, irrespective of their age, compared to the overall population of the corresponding age.

The OECD suggests two different approaches to the latter method (which is, incidentally, the basis for the argument that Italy has reached a satisfactory number of graduates). One is called “net rates” and is based on the sum of age-specific graduation rates (which, in turn, represent the ratio between graduates of a certain age who graduated in a specific year and the resident population of the same age in that same year), whereas the other is called “gross rates” and calculates the ratio between the people who graduated in a certain year, irrespective of their age, and the population at the typical age of graduation.

The information content of these two indicators is particularly interesting because both of them, in spite of being substantially different, appear in the table including historical series of graduation rates by country (table A3.2 of the OECD 2012 document); as will be better explained later on, neither of the two is immune from defects or criticism.

The flow indicator type (gross versus net) used by the OECD is based on the information provided by each country¹³. The adoption of two indicators and the changes that took place in several countries over time resulted in a break in the historical series of graduation rates by country because no harmonization procedure was in place; comparisons over time are therefore impossible.

As regards gross flow rates, it is rather difficult to interpret the ratio between graduates who achieved their academic certification in a certain year and the population at the typical age of graduation in that same year. The heterogeneous nature of the numerator compared to the denominator makes the interpretation of the result ambiguous. What’s more, even if such interpretation was clear, that ratio could not be easily compared over space and time. Besides, it could be higher than 100%, at least in theory.

As for net rates, it is a mistake to calculate a synthetic

¹³ Until year 2004, the flow rates calculated by the OECD were gross.

indicator for any country by summing up age-specific rates, as in this way it is even more likely to obtain rates which are higher than 100%.

Indeed, if an overall graduation rate is to be obtained from age-specific rates, a duly weighted average value should be calculated instead of making a sum. According to the latest OECD document referring to year 2010, the net flow rate for Italy is 31.5%, whereas if a weighted average of age-specific graduation rates was calculated, the result would be 1.4%! Paradoxically, according to the OECD, nearly one Italian out of three graduated in 2010 only, whereas the real percentage (in terms of new graduate flow rates versus the overall population) is a little higher than one in a hundred. A trivial example can further clarify the point. Given 2 ages at graduation called age A and age B, in a certain year, let us suppose that graduates aged A are 100 in number and those aged B are 400, whereas the population aged A is 1,000 and the population aged B is 10,000. In this example, age-specific rates are 10% and 4% respectively, so their sum is 14%, whereas the ratio between the total amount of graduates (500) and the total population (11,000) is 4.5%! One more example: if a country had a graduation rate of 33% in each of three hypothetical age groups, the sum of those three age groupings only would yield the amazing result that 100% of the population graduated in one year in that country!

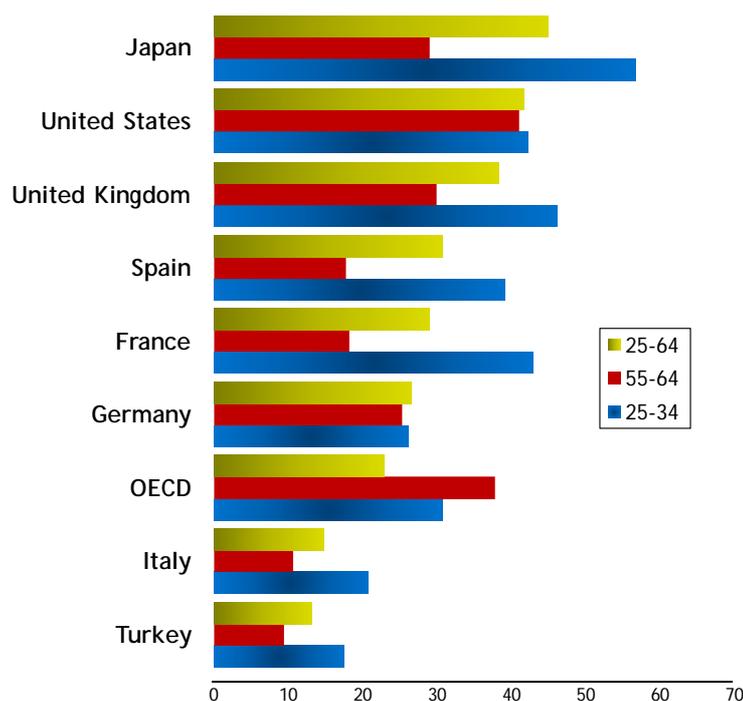
The above considerations highlight the risks of using flow indicators (both net and gross) unwarily. At the same time, they corroborate the reliability of documents based on indicators of amount, which are widely used at international level to assess the spread and growth of tertiary level education and allocate the private and public resources it needs.

If the development of tertiary education in Italy is analysed, contrasting results are obtained according to the indicators used. If the amounts rate (i.e. the indicator most widely agreed upon at international level) is considered, Italy ranks last, whereas if flow rates are used (which, as was shown above, are flawed and contestable) no major causes for concern are observed and Italy is in line with the most advanced countries.

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. Therefore, a more in-depth analysis of this issue was deemed necessary to settle and clarify it for good, hopefully.

If existing **documents are correctly analysed** (*Fig. 6*), the resulting picture is completely different, and **Italy finds itself at the bottom of the standings in terms of graduate shares in year 2010 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 faster. Indeed, according to the Italian Government itself (Governo Italiano, Documento di Economia e Finanza 2012), the hopes to achieve the **objective set by the European Commission for 2020 (40% of graduates in the 30-34 age grouping)** will be frustrated. More realistically, **our country's result might be 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 that hit the least ambitious objective, and that we are a long way away from the European average (Cammelli, di Francia, Ferrante, & Filippucci, 2012).

Fig. 6 Graduates compared to the overall population in some OECD countries: 2010 (percentage values)



Source: OECD, 2012

However, the **spread of university-level education concerned above all women**. In the 30-34 age bracket, the graduation rate is 25% among them and only 16% among their male counterparts. The results achieved by women¹⁴ put Italy

¹⁴ 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*.

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, 2012b).

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

In 2012 the following gender-based differences were observed: 20.9 percentage points in the participation rate¹⁵ and 19.7 percentage points in the employment rate. An analysis of gender-related remuneration differences in the OECD countries corroborates the above data. Of course, in the **OECD countries** graduates enjoy a much higher 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**¹⁶. The gender issue is also important in the debate over the mismatch between demand and supply of skills.

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 low share of graduates among those in employment is not paired by a higher share of upper secondary school-leaving certificate holders, but of workers holding only a lower secondary education qualification or even less (35.8% in Italy vs. 13.5% in Germany and a EU27 average of 22%; *Tab. 1*).

¹⁵ The participation rate is the ratio between the labour force (employed + unemployed) and the population of working age, whereas the employment rate is the ratio between those in employment and the population of working age.

¹⁶ 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.

Tab. 1 *People in employment in 2010 by educational attainment (percentage values)*

Country/area	Compulsory education or lower	Upper secondary education	Terziary education or higher
United Kingdom	18.1	44.6	37.2
Spain	39.4	23.8	36.8
Sweden	16.4	49.8	33.7
Switzerland	16.6	49.9	33.5
France	22.6	44.2	33.1
Germany	13.5	58.6	27.9
Greece	33.6	39.2	27.2
Italy	35.8	46.6	17.6
EU-27	22.0	48.9	29.1

Source: ALMALAUREA elaboration on Eurostat data

The **slow improvement in schooling levels among people in employment concerns both the private and the public sector**, especially the former, and is significantly reflected in the educational levels of Italy's managers and ruling class. According to Eurostat's data¹⁷, for instance, in 2010 no less than **37% of Italian managers had only completed their compulsory education**¹⁸, as against 19% in the EU-15 (average figure) and 7% in Germany,

¹⁷ See note 4.

¹⁸ As a consequence, a remarkable share of recent graduates was recruited by a colleague with a much lower educational qualification than him/her, and his/her capitalisation depends on this colleague. This situation might bring about the same consequences as if, in a hospital, an experienced manager holding a lower secondary school-leaving certificate could take decisions on how to assess and make the most of a recently recruited, new graduate immunologist. In this regard, Schivardi e Torrini showed that, **in conditions of equal production sector and business dimensions, a graduate entrepreneur hires three times as many graduates compared to one without tertiary education** (Schivardi & Torrini, 2011).

a country that is often cited in comparisons with ours because the manufacturing sector has a similarly important role (*Tab. 2*).

Tab. 2 Managers in employment in 2010 by educational attainment (percentage values)

Country/area	Compulsory education or lower	Terziary education or higher
EU-27	16.1	44.1
EU-15	18.6	42.5
Germany	6.8	44.2
Italy	37.5	14.7

Source: ALMALAUREA elaboration on Eurostat data

This information calls for a reconsideration of the share of those in employment in highly qualified professions under the perspective of actual take-up of workers with high educational qualifications (see *Fig. 4*). 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 it (Cammelli, 2011 and 2012a; Schivardi & Torrini, 2011; Bugamelli, Cannari, Lotti, & Magri, 2012).

In this period of crisis, the Excelsior survey on expected new recruitments by Italian private companies for 2012 further reaffirmed the hypothesis that inadequate graduate take-up and poor exploitation of knowledge have to do with the characteristics of businesses. Out of 407,000 expected recruitments, graduates were seen to be 14.5% whereas workers without any specific training made up a whopping 32.3%. The **propensity to take up graduates** was found to **increase significantly as the dimensions of businesses and their level of internationalisation and innovativeness grow** (*Tab. 3*).

Tab. 3 *Businesses' propensity to hire graduates in 2012 (percentage values)*

Type of business	Expected graduate recruitments
Businesses with 1-9 employees	8.2
Businesses with 10-49 employees	14.1
Businesses with 50 employees or more	41.0
Businesses dealing with export	22.7
Businesses dealing with innovation (product or process)	22.3
Overall businesses	14.5

Source: ALMALAUREA elaboration on Unioncamere - Excelsior data

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).

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

Another conclusion can be drawn from the analysis and correct interpretation of available statistical data: a large part of the Italian economic system is still not ready to the above-mentioned capitalisation because of the technological specialisation, dimensions, managing styles and internationalisation of its businesses.

In the post-reform university, **traineeships/internships involve a large share of graduates** and often receive positive feedback concerning the quality of the work experiences carried out (Campobasso, Citterio, & Nardoni, 2009). **More than 55 percent** of recent graduates now complement their studies with an **internship**, usually performed in a company, accredited for the purposes of degree course completion (this figure is over three times the number of the internships performed before the reform was implemented). 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 studies, graduates (both first-level and second-level) who had performed an internship were found to be **12% more likely to be in employment** compared to those who had not²⁰. All the curricula should include and fully exploit quality internships combining theoretical knowledge with practical know-how.

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 fostering enrolment in degree courses that could prop up the country's growth. In addition to that, **work experience during one's studies (for instance, through quality internships) must be encouraged 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**. The above strategies pursue the same objective and should be supported by means of adequate funding.

of Italy's Managing Director for Economic Research and International Relations, Rome, 26/09/2012.

²⁰ See § 2.2.

The ongoing debate on the reform of education and university, as well as that on actual demand for graduates in Italy, also focused on the point of the so-called *mismatch*, that is, the divergence between the characteristics of human capital available and those required by businesses. Several surveys, including ALMALAUREA's²¹, show that a **mismatch** exists but **do not prove that the situation in Italy is significantly different than in other countries** (European Commission, 2010)²². On the contrary, according to OECD documents, in Italy a lower than average prevalence of the two main forms of mismatch²³ (i.e. over- and underqualification for one's tasks²⁴) was observed.

On a domestic level, findings from the Bank of Italy survey on household income and wealth suggest that the prevalence of the various forms of mismatch is not very high throughout Italians'

²¹ More specifically, the ALMALAUREA surveys analyse the effectiveness of the degree for the job held by graduates. An in-depth study on this topic was presented by Cimini and Girotti at the Conference "Investing in young people: if not now, when?", Venice, 12th of March 2013. This work analysed the factors affecting degree effectiveness and highlighted the pivotal role of the completed degree course. For instance, the share of single-cycle second-level graduates interviewed five years on from graduation who thought that their degree was very effective or fairly effective ranged between 99% among graduates in medicine and 80% among architects.

²² 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).

²³ 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.

²⁴ This conclusion is supported by the fact that, according to this report, Italy has a much lower-than-average incidence of severe over- and underqualification (OECD, 2011).

working life, and it is lower among graduates than among upper secondary school-leaving certificate holders²⁵.

Indirect evidence of the fact that graduates are not particularly affected by mismatch can also be found in the latest Excelsior survey on expected new recruitments for 2012. According to this document, the share of respondents stating that they had had **difficulties in procuring labour for some jobs** because candidates were not suitable was **lower** than average when candidates were **graduates compared to secondary school-leaving certificate holders**.

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 CEDEFOP²⁶ in recent times. 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** instead of subjective impressions or perceptions, and **the complexity of the matter should be acknowledged**. Indeed, 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**. Because of the long time needed to access the labour market and capitalise on graduates, coupled with the length of secondary studies (which are among the longest in Europe), the **wage gap between graduates and secondary school-leaving certificate holders**, which ascends to 50% throughout one’s entire working life, is only 9% in the 25-34 age bracket (as against an OECD average of 37%) and almost doubles the average Italian figure hitting 96% in the 55-64 age group

²⁵ The incidence was found to be below 10% for each of the different forms of mismatch except for horizontal mismatch among secondary school-leaving certificate holders, where it ascended to 15%.

²⁶ To further reaffirm that mismatch is an international and not a purely domestic issue, The Economist (issue 8th December 2012) also dealt with this topic in an article titled “The great mismatch. Skills shortages are getting worse even as youth unemployment reaches record highs”.

(versus an OECD average of 67%). 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, 2012a).

The relationship between school/university and 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**²⁷, and therefore on the possibility to find common ground between the two²⁸. The commonplace belief that the training offering should only be determined as a function of the current demand for skills from the economic system is at odds with the Italian business sector which, due to external factors mainly, does not represent a virtuous reference point when it comes to defining the training needs of a developed society. As was already pointed out in previous ALMALAUREA reports, some studies clearly showed that the **characteristics of the Italian business sector (small dimensions of businesses, prevalence of family-owned 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) tend to be associated with poorer capacities to make the most of human capital, worse innovation outcomes and lower internationalisation levels** (Bugamelli, Cannari, Lotti, & Magri, 2012).

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

²⁷ 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.

²⁸ 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, as it happened when the alleged low quality of their scientific production was denounced.

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 decrease by 9% between 2008 and 2012, according to ALMALAUREA surveys. One year on from degree completion, remuneration for second-level graduates from these degree courses were observed to be 1,342 euros (that is, 27% more than the average earnings for second-level graduates overall at one year from graduation).

More generally speaking, statistical 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, 2012b)²⁹. 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.

The fact that businesses are finding it difficult to procure labour for some jobs seems to have to do more with inadequate information, friction within labour markets³⁰, high costs of geographical mobility, and ineffective recruitment channels and tools, than with structural lack of supply. In the light of the above-mentioned problems, the ALMALAUREA Consortium set up a graduate CV databank that now includes over 1,700,000 résumés.

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

²⁹ The share of enrolments in the engineering grouping was 15%, in line with the OECD and Euro-21 average, and only 1 percentage point lower 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.

³⁰ Because of the importance of this matter, in 2010 the Nobel Prize was awarded to Peter A. Diamond, Dale T. Mortensen, and Christopher A. Pissarides, the economists who thoroughly studied it.

mean giving up the promotion of entry into “general” university training, at least in first-level degree courses, in line with what other countries are doing³¹. This caters to the expected higher demand for flexibility and **learning capabilities throughout one’s 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 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 periods³².

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 professions³³: “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). **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)³⁴. While in Italy 5B-type

³¹ 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).

³² 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.

³³ 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.

³⁴ “The first dimension to be considered is the distinction between the programmes which are theoretically based/research preparatory (history, philosophy, mathematics, etc.) or giving access to professions with high skills requirements (e.g., medicine, dentistry, architecture, etc.), and those

degree courses only concern 1% of the population³⁵, in other countries this share is remarkably higher: 10% in the OECD (average figure), 11% in the USA, 16% in Spain and Switzerland, 12% in the UK, and 14% in Germany.

How many Italian degree courses are classified as type 5A but should be grouped under 5B instead? The international classification seems not to take into due account the reasons for which first-level degree courses were introduced and considers them just like second-level ones; on the contrary, degrees in healthcare professions awarded by Medicine and Surgery faculties are a perfect example of first-level degree courses that should be included in the 5B type but are categorised as 5A.

By means of a simulation, ALMALAUREA has tried to understand if there are any first-level degree courses that should be classified as 5B³⁶. **The criterion used to detect professionally-oriented first-level degree courses** was the **actual employability of graduates one year on from completion of studies, not the description of degree courses**. To obtain an estimate, data from the ALMALAUREA survey carried out in 2011 on the employment conditions of students who graduated in 2010 were used³⁷.

programmes which are practical/technical/occupationally specific. To facilitate the presentation, the first type will be called 5A, the second, 5B." (UNESCO, 1997).

³⁵ This figure is in fact a rounding up; the actual value is 0.52%.

³⁶ This simulation was not aimed at identifying specific degree courses that are incorrectly categorised, but at obtaining an estimate of the current magnitude of incorrect categorisations (Cammelli, 2013).

³⁷ For each first-level degree course, the number of graduates from the 2010 class who, one year on from completion of their studies, had not enrolled in a second-level degree course (irrespective of their employment status when they obtained their degree) was calculated. Then, a threshold was established concerning the percentage of graduates who had not enrolled in a second-level degree course. If that threshold was exceeded, the respective degree course was considered as technical and practical, i.e. predominantly professionally-oriented (type 5B). The threshold was calculated by summing up the median percentage and 0.5 times the root mean square difference from the median. This choice was made because of the shape and the high variability of the distribution. This operation, which is obviously a mere simulation, was based on the following assumption: the higher the number of first-level graduates who do not pursue further studies is, the more likely it is that they believe they have a university qualification which is suitable to enter the labour market. Of course the threshold adopted is questionable; however, if the threshold was raised by adding 1 time the root mean square

The results of the simulation were good, as the degree courses detected actually seemed to have an approach that is typical of the 5B category (*Tab. 4*). The **results of this simulation are not negligible**. According to it, the share of **graduates in 5B-type degree courses increases remarkably from 1% to 8.9%**, which is of course far from the German percentage (14%) but roughly in line with the OECD average (10%).

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. 4*). 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 young people working 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 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.

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.

difference from the median, a common set of degree courses was found (10 out of 18) that corresponded to the last 10 shown in table 4.

Tab. 4 First-level degree courses included in the 5A type that could be re-categorised as 5B*

Degree courses	Graduates 2010 (Source: Miur)
Administration and organisational sciences	1,809
Animal husbandry sciences and technologies	436
Geography	311
Motor and sports sciences	3,205
Sociology	2,368
Communication sciences	7,488
Legal services	1,466
Education and training sciences	7,658
IT sciences and technologies	2,675
Social services	2,756
Pharmaceutical sciences and technologies	1,053
Industrial design	2,120
Figurative arts; music; performing arts and fashion studies	2,664
Tourism sciences	1,859
Technical healthcare professions	3,492
Preventive healthcare professions	943
Rehabilitation professions	4,695
Healthcare professions, nursing and obstetrics	10,579
Total first-level degree courses that could be re-categorised as 5B	57,577
Total graduates 2010	165,263

*The order of the above degree courses depends on the share of first-level graduates who were found not to be enrolled in a second-level degree course 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.

However, it should be borne in mind that these skills **need to be developed during primary and above all secondary education**³⁸, as universities cannot take on this task. Besides,

³⁸ "According to an ALMALAUREA survey on the profile of teacher-graduates [...], only 15% of graduates from the class of 2002 interviewed five years on

teachers can fully exploit the above mentioned teaching methods only if certain basic conditions are met, that is, if they can use classrooms equipped with the necessary tools and if they are working with small groups of students. These features are seldom to be found in fundamental courses taught in first-level degree programmes.

1.3. Internationalisation within ALMALAUREA

On an international level, in **2004** ALMALAUREA started a 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.

Last July 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.

In **Morocco and Tunisia** a project called ISLAH (Instrument at Support of Labour market and Higher Education) was executed

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).

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'Évaluation. 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 ALMALAUREA³⁹ databank.

1.4. Conclusions

In order to weather the crisis, Italy needs young people more than young people need Italy. Unfortunately, due to the **demographic decline**, the number of youths aged nineteen shrank by 37% over the last 25 years. 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.

Investing in youth requires at least the following three things (Visco, 2011 and 2013): empowering young people in **collective decisions**; **investing in their future** by allocating **more resources to their training**; and above all, reverting the current custom of **favouring** elderliness and seniority over **knowledge**

³⁹ See www.almalaurea.it/sites/almalaurea.it/files/docs/info/al-19-anni-di-attivita.pdf.

and skills. As was pointed out, the long time needed to capitalise on graduates causes the Italian remuneration gap between graduates and upper secondary school-leaving certificate holders to be much lower (albeit remarkable) than in other OECD countries among recent graduates, and very much higher among workers approaching their retirement age. 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**⁴⁰, in conditions of equally good learning outcomes, is the **average educational attainment of its population** as a whole⁴¹, 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 dynamism⁴².

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 having completed only compulsory education or lower secondary studies. 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 **increase** of both **graduates** and **upper secondary school-leaving certificate holders** is needed.

⁴⁰ Education contributes to a country's well-being because it also has a positive impact on the quality of institutions and of politics as a government tool (Botero, Ponce, & Shleifer, 2012).

⁴¹ 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.

⁴² Faini and Sapir's words, written in 2005, are still as true as ever, despite some recent improvement: "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" (Faini & Sapir, 2005).

Incidentally, the latter is also a *sine qua non* for the former. Today **only 30% of youths aged nineteen enrolls at university.**

We are living in a world in which borders are increasingly permeable, especially from an economic point of view, therefore no country can afford reducing its commitment to higher education. Being capable of producing new knowledge as well as applying and improving other people's ideas or techniques is more and more important, also because products, technologies, and knowledge itself now become obsolete very soon, thus exacerbating competition. Research and innovation have consequently achieved a paramount role in economy, and global competition in this area requires high level competencies and human skills not only to be technological leaders, but also followers.

Another reason why higher investments in this sector should be encouraged is that the benefits of education have repercussions not only on economy and the labour market, but also on the quality of individual and collective life. For example, higher attainment levels were observed to be relating to better health conditions and satisfaction levels, more active participation in democratic life, and lower prevalence of socially deviant behaviour (OECD, 2012b; for an overview of available evidence, see Education at a Glance, 2012).

The main argument of those who believe that the **number of Italian graduates is acceptable or even too high** 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**⁴³.

Improving the quality of learning outcomes in school programmes should go hand in hand with raising the country's educational attainment, and would also promote enrolments and achievement levels in secondary and tertiary education. Data on **dropout** and **enrolment trends** should be analysed under different perspectives. As was repeatedly mentioned, the descent of university enrolments (-17.5% over the past nine years) "is due to the combined effect of the **demographic decline**, the fall in **older-student** enrolment in university ([...] a particularly substantial

⁴³ 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.

phenomenon in the years immediately following the start of the reform), as well as the **deterioration of graduates' employment conditions**. In addition to that, many **families** face growing **difficulties** with bearing the direct and indirect costs of university education, and **student support policies are still lacking**" (Cammelli, 2012b). Fighting school and university dropout is therefore a priority for the country because it might contribute to improving social mobility too.

Indeed, in Italy, more than in the most developed OECD countries, one's socioeconomic background still has a considerable impact on young people's 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; in 2011, 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 54%.

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, these mechanisms might be exacerbated, or rather find new contexts for application, as a consequence of the **increasing 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). This Report features a specific in-depth analysis of the influence of graduates' cultural and socio-economic background on their social mobility. This analysis 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 higher than average among second-level graduates in the law, engineering, scientific, humanities and architecture groupings⁴⁴.

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

⁴⁴ On the topic of graduate social mobility, see also the in-depth analysis presented by Ghiselli and Rovati at the conference "Investing in young people: if not now, when?", Venice, 12th of March 2013.

the education sector risk being poorly effective, and might even increase the (already considerable) brain drain phenomenon.

Indeed, a vicious circle exists (already pointed out by Faini & Sapir, 2005) 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, a "Big Push" approach like the one described by Rosenstein-Rodan⁴⁵ is needed. Such a model is composed of 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 strengthened their presence in economic sectors in which our country used to be competitive at unprecedented speed, and are now approaching high-technology productions.

The topic of resources allocated to education and training is not incidental to these issues, and the proposal to further cut the funds for university, after heavy cutbacks in recent years, in order to find resources for vocational training or student support measures is worrying. There are, of course, inefficiencies and non-virtuous behaviours within the research and university system, but, admittedly, **funding in this sector is much lower compared to international standards**⁴⁶. With these resources, asking the Italian universities to train graduates comparable to German ones is like asking FIAT to produce cars like Audi, Mercedes or BMW's, but at half the cost borne by its German competitors⁴⁷!

⁴⁵ This economist is the author of the "Big push" theory. In his article titled "Problems of Industrialisation of Eastern and South-Eastern Europe", released in 1943, he maintained that massive investments in industrialization were needed to escape from the poverty "trap".

⁴⁶ 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 represents 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.

⁴⁷ Let us assume that the cost of a graduate in 2009 (43,218 USD before the cuts approved by recent governments) was equal to 100. In conditions of equal purchasing power, a Spanish graduate would cost 182, a German one

The **issue of resources** goes hand in hand with that of the **criteria used for their distribution**. It is reasonable to adopt evaluation systems and rewarding criteria to improve the Italian university; however, their suggested application might cause the disappearance of several universities, regardless of their merits. If one considers that Italy's average expense for each graduate is 50% lower than in Europe, the **adoption of reward-based methods and excellence criteria** with no budget increases will obviously **cause the resources allotted to large parts of the university system to fall below the survival threshold**. To some extent, this has already happened.

Therefore, **reward criteria** based on the assessment of internal and external effectiveness **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* project⁴⁸.

Currently, though, the conditions are inadequate to proceed on this path or make evaluations as such, because this would call for reliable data on graduates' outcomes in plentiful amounts, in standardised forms and in a timely manner. This **information is already available 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

207, and a Swedish one 239 (OECD, 2012b). These data show that our *system is generally efficient*, but this, in turn, means that we have greater difficulties in improving the quality of training and in providing teaching support activities or student support services, to the detriment of less advantaged students who are at greater risk of dropping out.

⁴⁸ After an experimental survey focused on Engineering degree courses, whose results were presented at the 13th ALMALAUREA Conference on Graduates' Profile (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.

created urgently. ALMALAUREA had volunteered long ago to this task, and offered its proven, long-standing experience on domestic and international 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 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

An analysis of the trends concerning the labour market is difficult and is further complicated by the profound, ongoing economic crisis affecting the country (CENSIS, 2012; CNEL, 2012). What's more, the various reforms undertaken 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. The reader is, however, referred to subsequent chapters for a thorough analysis of the various aspects and degree types under study, as well as for the definitions and method employed.

The main indicators used to monitor graduate employment conditions and make comparisons over the past five years confirmed, as anticipated, the difficulties observed in the labour market in recent years. The information available is extensive and detailed, thanks to the unprecedented availability of data on second-level graduates interviewed at five years from graduation; in addition to that, two surveys were carried out on first-level graduates at three and five years respectively from degree completion. The combination of data available on all degree course types made it possible to draw a comprehensive picture of the situation.

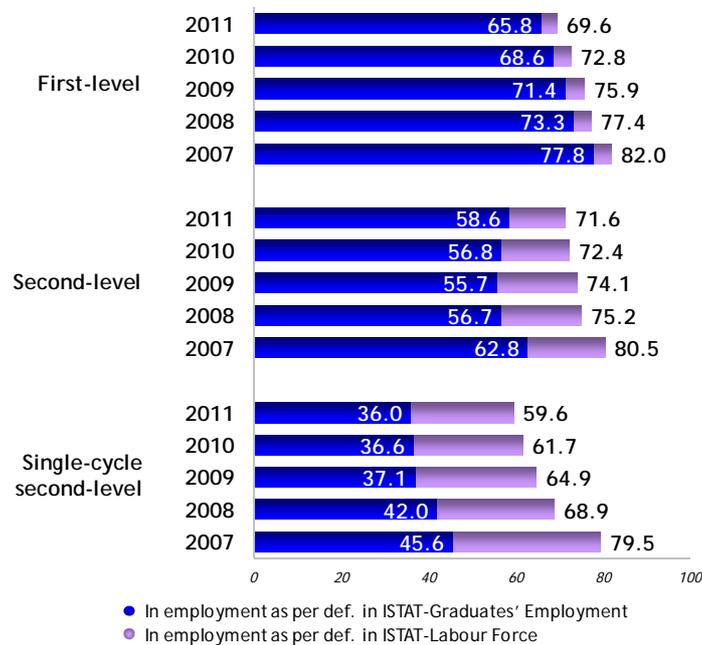
The University reform and its impact on the labour market: employment outcomes one year on from graduation

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. Such differences, more than ten years on from the onset of the Reform, are often not well understood – and not only by employers.

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 63% of them were found to be either in jobs or in search of employment (labour force) as opposed to 90% of second-level graduates and 75% of single-cycle second-level graduates⁴⁹.

Fig. 7 Graduates 2011-2007 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 2006 and 2005 not included.

⁴⁹ 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 analyses 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 was seen to be 66% at one year from graduation. This was higher than the employment rate among their second-level peers, which was 59% for post-reform graduates and 36% for their single-cycle counterparts (*Fig. 7*).

However, this is a consequence of two types of factors. On one hand, continuation in a job started before graduation was more frequently found among first-level graduates (37%) than among second-level (34.5%) or single-cycle second-level ones (19%). This higher prevalence gives first-level graduates an advantage in employment terms. On the other hand, many second-level graduates (32% of post-reform and 62% of single-cycle second-level degree holders) were engaged in further training - including remunerated training -, whereas first-level graduates rarely did so (16%). 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 70%, 2 percentage points less than their second-level colleagues (72%) but a good 10 points more than single-cycle second-level graduates (60%). As will be better explained later, single-cycle second-level degree holders were at a disadvantage in this comparison because they were frequently found to be engaged in non-remunerated training.

In comparison to previous surveys at one year from graduation, the labour market's propensity for graduate take-up showed further signs of a slowdown 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 3 percentage points among first-level graduates over the past year (-12 points compared to 2008) and by less than 1 point among second-level degree holders (-9 points as against 2008). The employment rate among single-cycle second-level graduates shrank

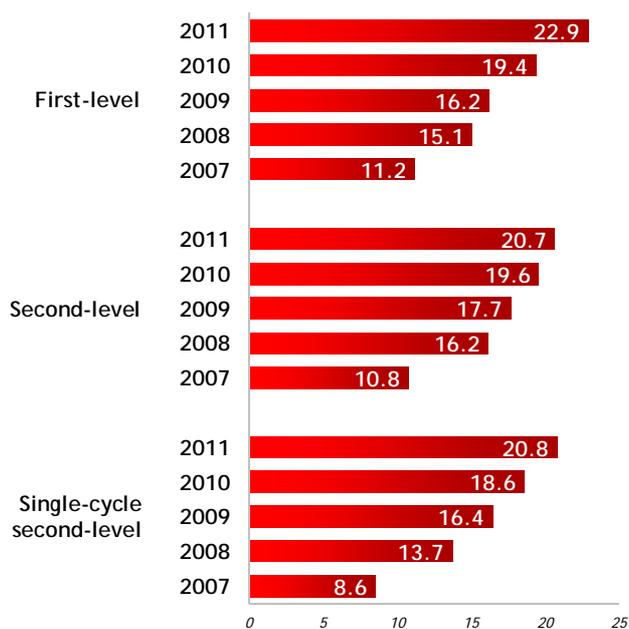
by 2 percentage points as against one year earlier (a whopping -20 points than in the 2008 survey). Single-cycle second-level degree holders are a very peculiar group, not only because their employment levels were lower than their colleagues', but also because the percentage of those who were engaged in remunerated training was found to decrease sharply over the past 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% among graduates from the 2007 class to 39% in 2011, and this grouping has traditionally showed the lowest employment rate and the highest number of graduates seeking a job.

When the analysis was confined only to those graduates who were not in employment at the time of graduation (63% of first-level and post-reform second-level graduates, and 80% of single-cycle second-level graduates), 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-level graduates, 3 points among single-cycle second-level ones and 1.5 points among second-level graduates.

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 seen to be essentially in line with the above considerations (*Fig. 8*). Among first-level degree holders, unemployment hit 23%, 2 percentage points more than among second-level graduates.

In comparison to the previous survey, a further unemployment rate increase was observed in all degree types. This could be quantified in over 3 percentage points for first-level graduates (+12 percentage points as against the 2008 survey), +1 point among second-level graduates (+10 points over the past 4 years) and +1 point for single-cycle second-level degree holders (+12 points compared to 2008, but this was partly due to recent changes in the breakdown by subject area). 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. 8 Graduates 2011-2007 interviewed one year on from graduation: Unemployment rate by degree course type (as per def. in ISTAT – Labour Force; percentage values)

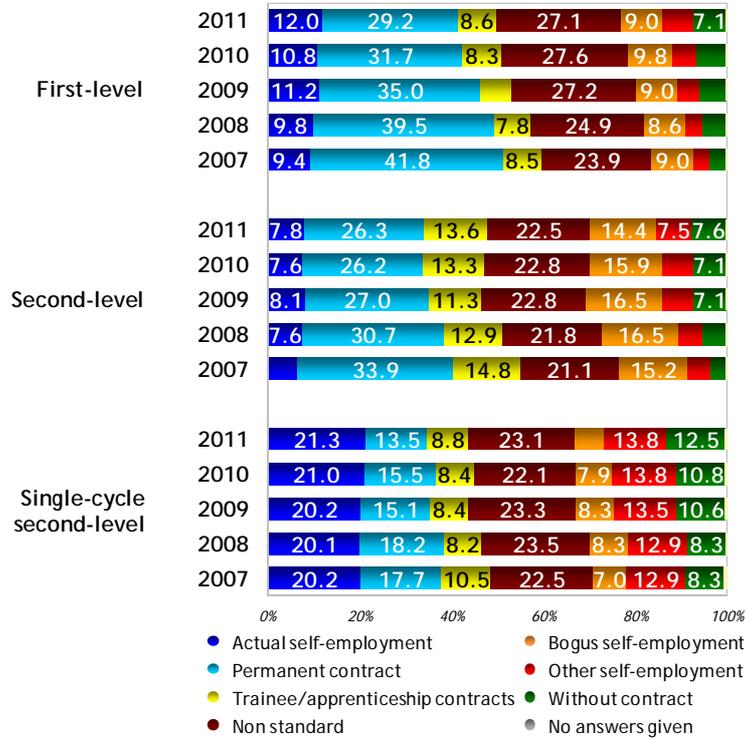


Note: the first-level graduates group includes only graduates who did not enrol in another degree course. Years of graduation 2006 and 2005 not included.

An analysis of the type of employment found confirmed the increased difficulties faced by post-reform graduates during the past year. Job security twelve months on from graduation (Fig. 9), which was an already rather low indicator, further decreased in all degree types under study compared to the previous survey, with the only exception of second-level graduates among whom job security remained unchanged. This descent was found to vary between -1 percentage points among first-level graduates and -2 points among single-cycle second-level ones. More precisely, 41% of first-level graduates, 34% of second-level ones and 35% of single-cycle second-level degree holders reported having a secure employment. Compared to 2008, job security heavily shrank among first-level

degree holders (-10 percentage points) and second-level graduates (-6 points); this descent was less remarkable among single-cycle second-level ones (-3 points). The above figures were mainly attributable to the plummeting share of permanent employment contracts, which fell by 13 percentage points among first-level graduates, 8 points among post-reform second-level graduates and 4 points among single-cycle second-level degree holders.

Fig. 9 Graduates 2011-2007 in employment at one year: Type of employment by degree course type (percentage values)

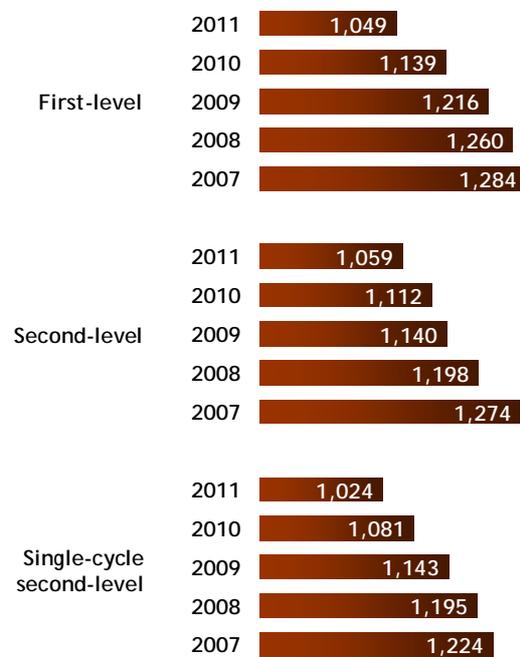


Note: the first-level graduates group includes only graduates who did not enrol in another degree course
 Years of graduation 2006 and 2005 not included.

What is particularly worrisome, though, is that the general decrease in job security levels over the past four years was associated with a sharp increase in unregulated work activities

(+3 percentage points among first-level graduates and +4 points among second-level ones). Non-standard employment contracts too were seen to further ascend, especially among first-level graduates (+3 percentage points as against +1 point among second-level ones). Occasional collaboration contracts went up 3 percentage points among first-level and second-level degree holders, and 1 point among single-cycle second-level graduates.

Fig. 10 Graduates 2011-2007 in employment at one year: 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 2006 and 2005 not included.

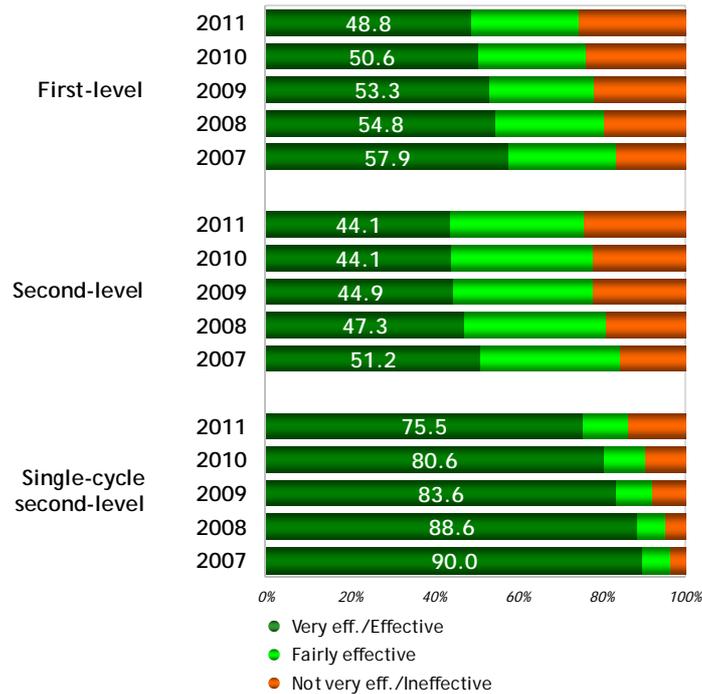
Monthly earnings at one year were usually found to be a little more than 1,000 euros net. More specifically, remuneration was 1,049 euros (nominal value) for first-level graduates, 1,059 for second-level graduates, and 1,024 for single-cycle second-level degree holders. Compared to the previous survey, nominal earnings were found to be lower: -5% among first-level graduates, -2.5% among their single-cycle second-level colleagues, and -2% among second-level graduates. 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, 2012c; Eurostat, 2011). Indeed, real earnings lost as much as 8% among first-level graduates, and 5% among both post-reform and single-cycle second-level degree holders (*Fig. 10*). When the four-year period 2008-2012 was considered, real earnings were observed to be 16-18% lower in all three degree course types.

When the analysis was restricted to full-time workers who had started working after graduation, average monthly earnings were seen to be higher at around 1,200 euros for all cohorts, but the above mentioned decreases were confirmed in all groups except second-level graduates, whose remuneration remained basically unchanged. It should not be overlooked that the first post-reform graduates, i.e. those from the 2007 class, were the best in terms of university outcomes, and this played a considerable role on the stabilisation of this cohort's remuneration level.

Degree effectiveness levels too were observed to recede compared to the previous year's survey. Having a degree was considered at least *effective* (that is, either *very effective* or *effective*) by 49% of first-level degree holders (almost 2 percentage points less than in 2011) and by 44% of second-level graduates (with no difference compared to one year before). The highest effectiveness levels (some 75.5%) were reported by single-cycle second-level graduates, where nevertheless a 5 percentage points decrease as against the previous year was seen. This remarkably high finding is understandable given the very special nature of these degree courses (*Fig. 11*). Once again, though, if degree effectiveness results are compared to those observed in 2008, a considerable decline is seen across the board which can be quantified in -9 percentage points among first-level graduates, -7 points among second-level ones, and over -14 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.

Fig. 11 Graduates 2011-2007 in employment at one year: 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 2006 and 2005 not included.

Medium-term labour market trends: employment outcomes at three and five years 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. In addition to that, two separate surveys were carried out on first-level

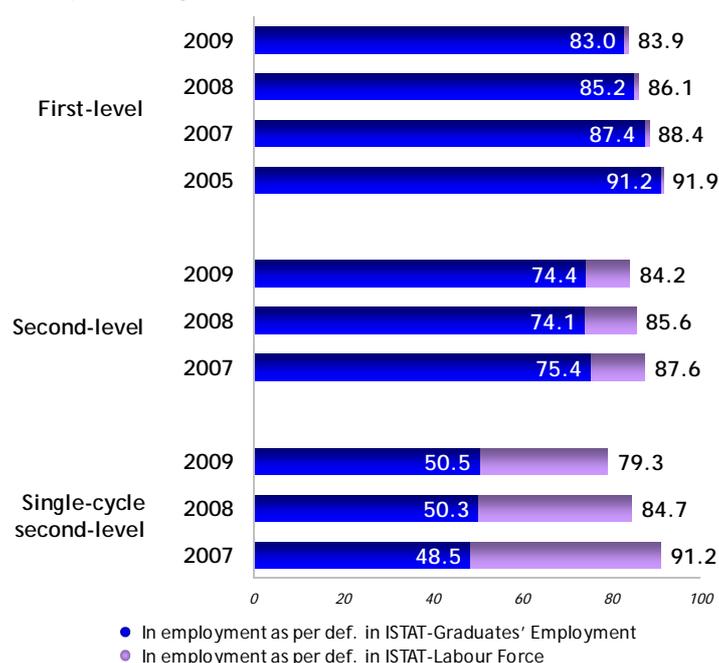
graduates three and five years on from the qualification. These studies provided an even clearer picture of the multi-faceted situation of Italian graduates. For detailed findings see § 4.7. These lines merely introduce the most significant findings concerning first-level graduates who did not enrol in another degree course.

Their employment outcomes were good not only in terms of employment rate (over 90% at five years from graduation), but also of job security (79% at five years) and earnings (1,380 euros net per month). Compared to the previous survey, the above indicators remained stable except for remuneration, which was observed to decline by 8% in real terms.

74% of second-level graduates interviewed three years after completion of their studies were found to be in employment. This figure was in line with one year earlier; *Fig. 12*.

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 2011 survey). 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 almost reached 80%, whereas among second-level graduates they hit as high as 84%. Compared to one year earlier, these figures shrank by 5 percentage points for the former (where the share of law graduates further increased, thus altering the breakdown of this cohort) and by 1 percentage point for the latter.

Fig. 12 Graduates 2009-2005 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)



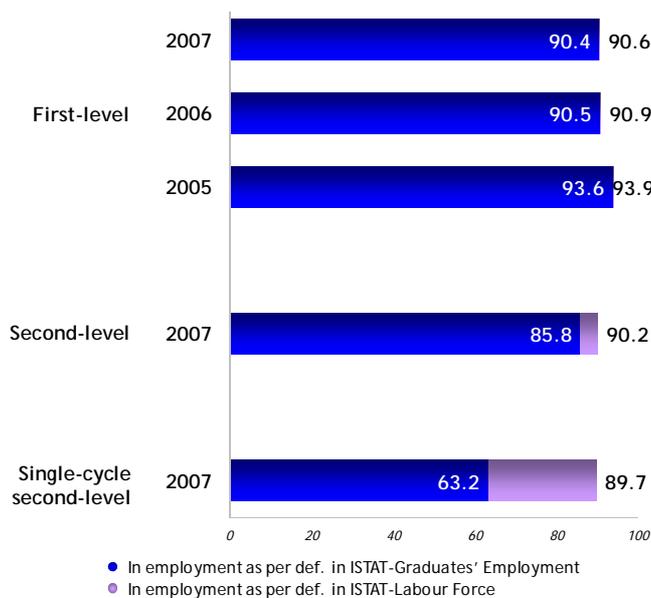
Note: the first-level graduates group includes only graduates who did not enrol in another degree course.
For the year of graduation 2006 data were not collected.

Unemployment was found to involve 10% of second-level graduates (approximately +1 percentage point among post-reform second-level graduates, and +3 points among single-cycle second-level degree holders as against the previous survey). It should not be forgotten that graduate employment outcomes generally improve between one and three years on from degree completion. For example, among graduates from the class of 2009, unemployment was seen to fall by over 7 percentage points for

second-level graduates, and by 6 points for their single-cycle colleagues.

The **first survey on second-level graduates five years on from degree completion** helped obtaining an even clearer picture. Within the first five years from degree completion, as many as 86% of second-level graduates found an employment. This cohort's employment rate was found to be a little lower among single-cycle second-level degree holders (63%), but 37.5% of them were still engaged in remunerated training (Fig. 13).

Fig. 13 Graduates 2007-2005 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)



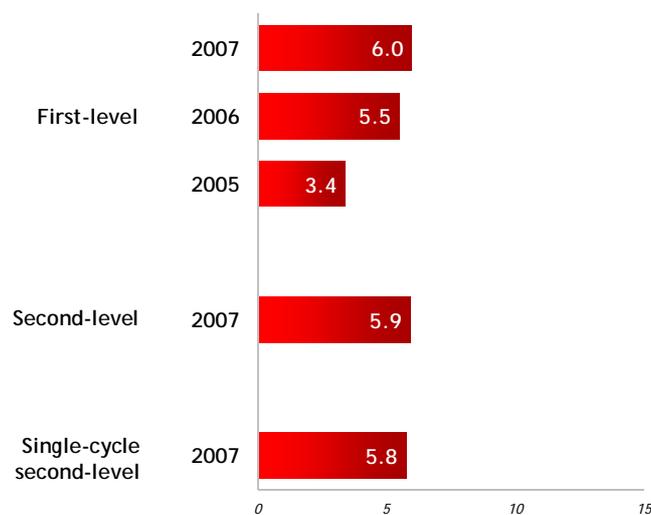
Note: the first-level graduates group includes only graduates who did not enrol in another degree course.

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 second-level graduates and single-cycle

second-level ones was seen to disappear, as both cohorts were found to have a 90% employment rate at five years. In parallel, unemployment was 6%, with no particular difference between the two populations under examination.

Once again, the labour market's propensity to take up graduates remained good with time from graduation. Between one and five years from completion of their studies, second-level graduates from the class of 2007 were observed to raise their employment levels by 9.5 percentage points (from 80.5% to the already mentioned 90%) and cut their unemployment rate by half (from 11% to 6%; *Fig. 14*). Similar data were found among single-cycle second-level degree holders. One should not forget that this cohort (i.e. the graduates from the class of 2007) left the university system before the deep economic crisis that still besets the country, and achieved better training outcomes on average – these were the “first” second-level graduates produced by the university system after the reform.

Fig. 14 Graduates 2007-2005 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.

The finding that employability increases with attainment level was generally confirmed. People with higher education are in fact better able to respond to labour market changes, because they possess more suitable cultural and professional tools. Throughout a person's working life (up to 64 years of age), having a university degree proves always an asset (ISTAT, 2012a). Employment levels among degree holders were found to be over 11 percentage points higher than among people with upper secondary education (77 vs. 65%). This was also reflected in the higher earnings enjoyed by the more qualified (OECD, 2012b). In the 25-64 age bracket, graduates' income in 2008 was found to be 50% higher than that of upper secondary school-leaving certificate holders. This pay difference was smaller than in France (+65%), the UK (+78%) and Germany (+81%)⁵⁰.

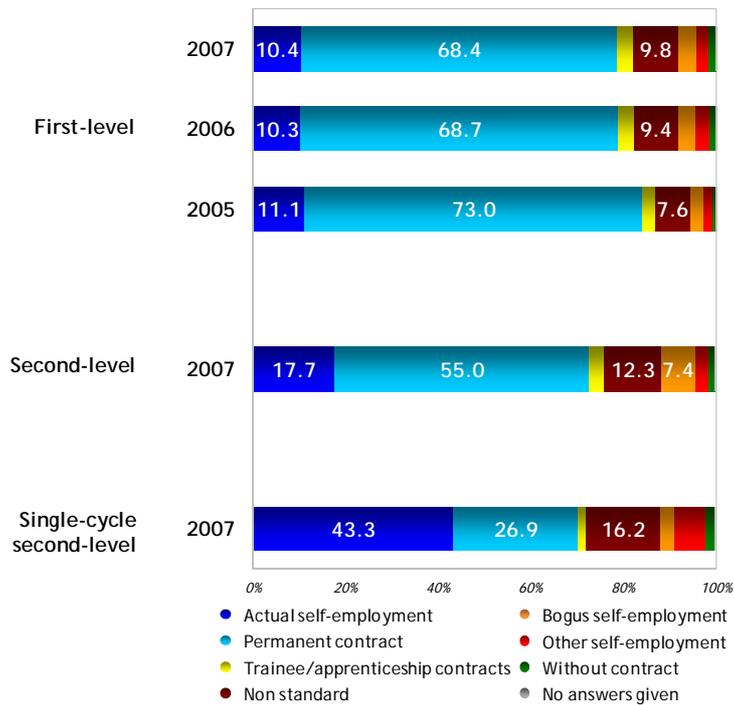
Other elements are worth considering. For instance, job security was observed to involve 54% of second-level graduates three years on from graduation, as against 35% one year on. Compared to the corresponding survey carried out in 2011, though, job security was 3 percentage points smaller, and a whopping 8 points less than in 2010. This figure was mainly made up of 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. Job security levels were seen to rise between one and three years from degree completion among single-cycle second-level graduates too, from 35% to 58% (-2 points compared to the previous survey, and -3 points as against 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 for their very nature.

Extending the observation period to five years after graduation provided better insight into the positive progress of job security levels (*Fig. 15*). Among second-level graduates from the class of 2007, the proportion of those who were holding a secure employment grew by a remarkable 33 percentage points between one and five years from degree completion, from 40% to 73% of those in jobs. Among their single-cycle counterparts, this increase was +32 points over the same period, from 38% at one year to 70% at five years from graduation. The same observations made on graduates three years on from degree completion apply to

⁵⁰ Data concerning Germany and the United Kingdom refer to year 2010.

graduates five years on from termination of their studies too: permanent employment contracts were mostly found among second-level graduates, whereas self-employment was mainly a prerogative of single-cycle second-level degree holders.

Fig. 15 Graduates 2007-2005 in employment at five years: Type of employment by degree course type (percentage values)

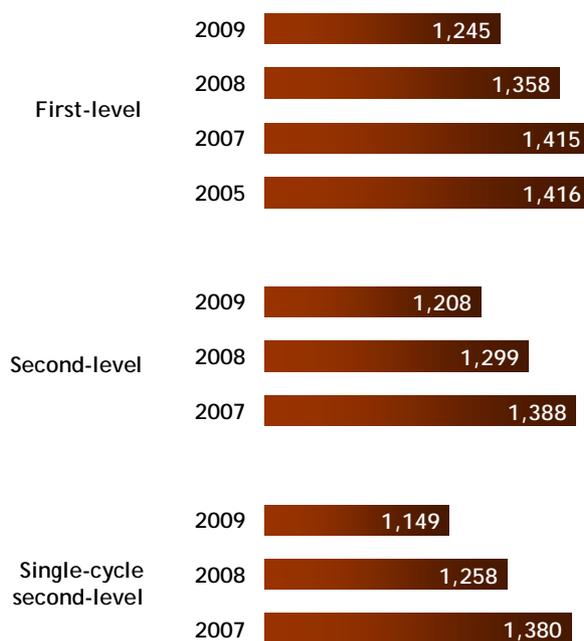


Note: the first-level graduates group includes only graduates who did not enrol in another degree course.

The 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 13% over the past two years, and by 7% only in the past year (Fig. 16). The same holds true for single-cycle second-level graduates. Three years on from degree

completion, their net monthly remuneration was 1,150 euros, 9% less than in the previous survey and 17% less than in 2010.

Fig. 16 Graduates 2009-2005 in employment at three years: 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.

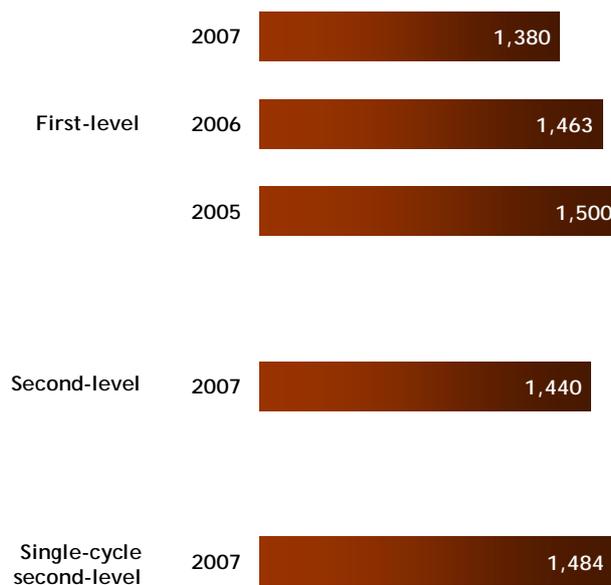
The above findings were also confirmed when only **full-time workers who took on their current job after completion of their studies** were considered. Compared to the previous survey, earnings were seen to decrease for both cohorts.

Between one and three years from graduation, remuneration levels were seen to climb among second-level graduates, whose wages swelled by 6% in real terms. Among their single-cycle colleagues, on the contrary, no significant wage increase was observed between one and three years from graduation, but this

might be attributable to the fact that a considerable proportion of these 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 10%.

An analysis of remuneration **five years** on from degree completion confirmed the above trends (*Fig. 17*). Net monthly wages five years after graduation were found to be nearly 1,450 euros among second-level graduates and a little less than 1,500 euros among single-cycle second-level degree holders.

Fig. 17 Graduates 2007-2005 in employment at five years: 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.

An analysis of remuneration data over time for these graduate cohorts showed that their wages climbed between one and five years from degree completion. More specifically, real earnings

increased by 13% among second-level degree holders and 21% among single-cycle second-level graduates. The latter reaffirms that a longer observation period is needed to have a complete view on single-cycle second-level graduates' transition of from university to the labour market.

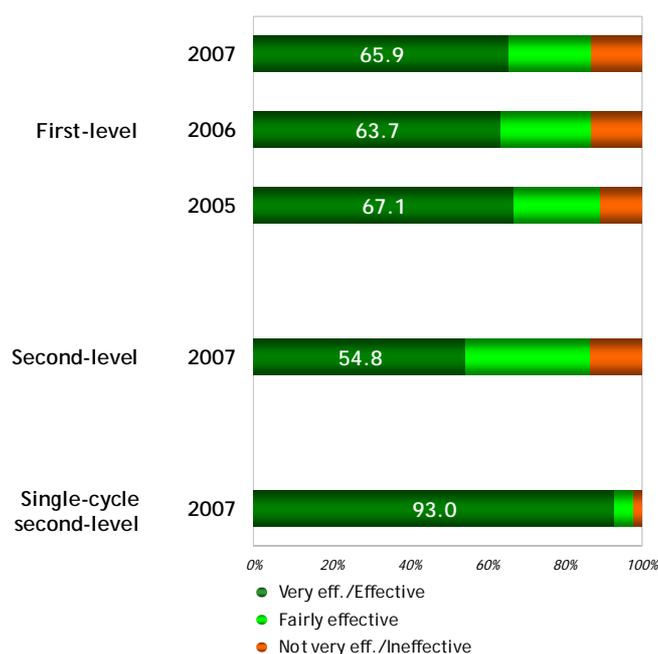
Another crucial factor to be considered when trying to sketch out a picture (albeit concise) of second-level graduates' entry into the labour market is **consistency between the studies completed and the work activity carried out**. As regards the use graduates make of the skills acquired during their studies, and the formal or substantive need for an academic qualification to be eligible for recruitment, 49% of second-level graduates reported that their degree was *very effective* or *effective*. This figure was slightly lower than in the previous survey at three years from graduation. Once again, effectiveness levels were seen to rise (by 4 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 were above 85% among those in employment; this figure, albeit being down 3 percentage points compared to the previous year's survey, was still 2 percentage points higher than among the same graduate population at one year from degree completion.

Five years on from degree completion, effectiveness reached even higher (*Fig. 18*): 55% of second-level graduates stated that their degree was *very effective* or *effective* for their job (+4 points as against when they were interviewed one year after achieving their qualification), whereas as many as 93% of single-cycle second-level graduates were of the same opinion (+3 points compared to the survey at one year; these were mainly graduates in medicine from the class of 2007).

When the two components of the effectiveness index (i.e. the extent to which the skills learnt during university are used for one's job, and the need for the completed degree in one's employment) were analysed separately, similar trends were observed. Higher 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. 18 Graduates 2007-2005 in employment at five years: 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).

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 employed⁵¹. Only graduates from the 2011 class interviewed one year on from degree completion were considered. In particular, the analysis was focused on first-level graduates who did not pursue further studies, as well as on second-level graduates. The above populations were chosen for the following reasons: first of all, these populations 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 second-level degree courses feature employment outcomes which are completely different from those of their colleagues who decide 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. In this regard, 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, graduates from the healthcare professions, and graduates from the defence and security grouping.

This year's analysis was chiefly focused on 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.

⁵¹ A logistic regression model combined with a scoring technique were used to compare the effects of each covariate.

The analysis considered 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 were relating 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). 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 searched for in terms of job security, remuneration and career prospects, consistency with one's studies, acquisition of professional skills).

The first result yielded by an analysis of data in *Tab. 5*⁵² (listing only the variables that proved significant) is that **individual examination grades** did not play a crucial role in granting better employment prospects (note that different approaches to assessment exist between degree courses as well as between universities). On the contrary, **secondary school-leaving grades** did. This seemingly surprising result demonstrates that university grades tend to be extremely uniform. Indeed, among first-level graduates from the 2011 class, the average examination grade was 26 out of 30, and the final degree grade was 100 out of 110. Among their second-level colleagues, the above figures were 28 and 108 respectively, whereas among single-cycle second-level graduates they were 26 and 104. This obviously trims down the significance of

⁵² 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 1.116. This means that graduates who had completed a traineeship during their university years were found to be 11.6% more likely to be in employment than those who had not.

individual examination grades and final degree grades awarded to graduates. If one considers that the degree grade is often a requirement for public competitions, and that the distribution of high degree grades is not homogeneous across subject groupings, the potential misrepresentation caused by university grades is even more remarkable.

Complying with the set timeframe for graduation, on the contrary, has a positive effect on likelihood of being in employment, because graduates enter the labour market at a younger age if they graduate within the prescribed time. Consequently, it is probable that their expectations and willingness to accept contract provisions are more in line with what employers seek. This hypothesis finds confirmation in how companies use the ALMALAUREA databank to search and select their personnel. Indeed, companies 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.

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, it is nonetheless surprising and calls into question some commonplace assumptions. The difference is small but significant, and might testify to the fact that a large share of the Italian labour market, especially small and medium-sized businesses, are still not ready to compete at high level in international markets.

As was expected, the factor most affecting one's likelihood to find employment is the **degree course chosen**. Other things being equal, graduates in engineering and from the sciences, physical education, teaching and languages subject groupings were seen to be favoured. On the contrary, their colleagues from the law, psychology and geo-biology groupings were at a disadvantage.

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. In this regard, **work-related mobility** was found to have positive effects on employment prospects.

Tab. 5 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>sig.</i>	<i>exp(b)</i>
Grouping (sciences = 0)			
Agriculture	-0.316	0.000	0.729
Architecture	-0.318	0.000	0.727
Chemistry-pharmacology	-0.245	0.007	0.782
Economics-statistics	-0.266	0.000	0.766
Physical education	-0.016	0.881	0.984
Geo-biology	-0.654	0.000	0.520
Law	-1.490	0.000	0.225
Engineering	0.565	0.000	1.759
Teaching and Languages	-0.173	0.004	0.842
Humanities	-0.603	0.000	0.547
Political and social sciences	-0.541	0.000	0.582
Psychology	-0.825	0.000	0.438
Degree course type (first-level degree = 0)			
Second-level degree	-0.203	0.000	0.816
Gender (Female = 0)			
Male	0.095	0.000	1.100
Having at least one graduate parent (no = 0)			
Yes	-0.069	0.004	0.933
Geographical area of residence (South = 0)			
North	0.386	0.000	1.472
Centre	0.198	0.000	1.219
Geographical area of university (South = 0)			
North	0.304	0.000	1.355
Centre	0.174	0.000	1.190
Comparison between geographical area of residence and university (university located in different province = 0)			
University located in the same province	-0.083	0.000	0.920
Type of upper secondary school ("liceo" = 0)			
Other type of secondary school	-0.056	0.019	0.946
Upper secondary school-leaving certificate grade	0.002	0.010	1.002
Time-to-graduation (within 1 year above set time = 0)			
2-3 years above set time	-0.198	0.000	0.821
4 or more years above set time	-0.325	0.000	0.722
Familiarity with IT tools (no IT tools = 0)			
1-4	0.188	0.004	1.207
5 or more	0.271	0.000	1.311
Traineeship/internship during studies (no = 0)			
Yes	0.110	0.000	1.116
Study abroad experience (no = 0)			
Yes, any type	0.100	0.000	1.106

(to be continued)

(continued) Tab. 5 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>sig.</i>	<i>exp(b)</i>
Work experience during studies (none = 0)			
Working student	0.463	0.000	1.589
Studying worker	0.697	0.000	2.008
Expectations: career prospects (no = 0)			
Yes, definitely	0.101	0.000	1.107
Expectations: acquisition of professional skills (no = 0)			
Yes, definitely	0.093	0.001	1.098
Intention to pursue further studies (no = 0)			
Yes	-0.521	0.000	0.594
Constant	-0.754	0.000	0.471

Note: Accurate classification rate was 64%.

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.

Previous **work experience** (among other types of experience), as well as certain skills developed during one's university studies positively influence likelihood to find employment. Other things being equal, factors such as work experience (of any kind), IT skills, **traineeships/internships carried out during one's studies**, and study experiences abroad boost the likelihood of being in employment one year on from achieving one's degree.

BIBLIOGRAPHY

- AlmaLaurea (a cura di). (2008). *X Rapporto sulla condizione occupazionale dei laureati. Formazione universitaria ed esigenze del mercato del lavoro*. Bologna: Il Mulino.
- AlmaLaurea (a cura di). (2012a). *XIV Rapporto sulla condizione occupazionale dei laureati*. in corso di pubblicazione e disponibile su www.almalaurea.it/universita/occupazione/occupazione10.
- AlmaLaurea (a cura di). (2012b). *Profilo dei laureati 2011. Rapporto 2012*. www.almalaurea.it/sites/almalaurea.it/files/docs/universita/profilo/profilo2011/volume_completo_2011.pdf.
- Ardilly, P. (2006). *Les techniques de sondage*. Paris: Editions Technip.
- Bacci, S., Chiandotto, B., di Francia, A., & Ghiselli, S. (2008). Graduates job mobility: a longitudinal analysis. *Statistica, anno LXVIII*(3-4).
- Bagues, F., & Sylos Labini, M. (2009). Do Online Labor Market Intermediaries Matter? The Impact of ALMALAUREA on the University-to-Work Transition. In D. H. Autor (a cura di), *Studies of Labor Market Intermediation*. Chicago: University of Chicago Press.
- Barone, C. (2012). *Le trappole della meritocrazia*. Bologna: Il Mulino.
- Botero, J., Ponce, A., & Shleifer, A. (2012). *Education and the quality of government*. NBER WP 18119.
- Brandi, M. C., & Segnana, M. L. (2008). Lavorare all'estero: fuga o investimento? In AlmaLaurea (a cura di), *X Rapporto sulla condizione occupazionale dei laureati. Formazione universitaria ed esigenze del mercato del lavoro*. Bologna: Il Mulino.
- Bugamelli, M., Cannari, L., Lotti, F., & Magri, S. (2012). Il gap innovativo del sistema produttivo italiano: radici e possibili rimedi. *Banca d'Italia, QEF*.
- Camillo, F., Conti, V., & Ghiselli, S. (2009). Integration of different data collection techniques using the propensity score. *presentato a: WAPOR (World Association for Public Opinion Research) 62nd Annual Conference 2009, Lausanne, in corso di pubblicazione*.
- Camillo, F., Conti, V., & Ghiselli, S. (2011). *Representativeness and evaluation impact issues concerning the use of databases with self-selection effects: the case of the AlmaLaurea system*. mimeo.
- Cammelli, A. (2008). X Rapporto sulla condizione occupazionale dei laureati. In AlmaLaurea (a cura di), *X Rapporto sulla condizione occupazionale dei laureati. Formazione universitaria ed esigenze del mercato del lavoro*. Bologna: Il Mulino.
- Cammelli, A. (2009). XI Rapporto sulla condizione occupazionale dei laureati. In AlmaLaurea (a cura di), *XI Rapporto sulla condizione occupazionale dei laureati. Occupazione e occupabilità dei laureati. A dieci anni dalla Dichiarazione di Bologna*. Bologna: Il Mulino.
- Cammelli, A. (2011). Il persistere della crisi. In AlmaLaurea (a cura di), *La condizione occupazionale dei laureati. XIII indagine 2010*.

- www.almalaurea.it/sites/almalaurea.it/files/docs/universita/occupazione/occupazione09/volume.pdf.
- Cammelli, A. (2012a). I giovani non possono più attendere: investire in istruzione, ricerca, innovazione, cultura. In AlmaLaurea (a cura di), *La condizione occupazionale dei laureati. XIV indagine 2011*. www.almalaurea.it/sites/almalaurea.it/files/docs/universita/occupazione/occupazione10/volume.pdf.
- Cammelli, A. (2012b). Laurearsi in tempi di crisi. Come valorizzare gli studi universitari. In AlmaLaurea (a cura di), *Profilo dei Laureati 2011. Rapporto 2012*. www.almalaurea.it/sites/almalaurea.it/files/docs/universita/profilo/profilo2011.
- Cammelli, A. (2013). La favola dei troppi laureati. *Scuola democratica, n. 7 nuova serie*.
- Cammelli, A., & Gasperoni, G. (2012). *Tecnologie dell'informazione e della comunicazione e studenti italiani secondo il Programme for International Student Assessment (PISA 2009)*. www.almalaurea.it/universita/altro/tecnologie_e_studenti_italiani.
- Cammelli, A., di Francia, A., Ferrante, F., & Filippucci, C. (2012). *L'Italia produce troppi laureati?* mimeo.
- Campobasso, F., Citterio, P., & Nardoni, M. (2009). La qualità dei tirocini. In AlmaLaurea (a cura di), *XI Rapporto sulla condizione occupazionale dei laureati. Occupazione e occupabilità dei laureati. A dieci anni dalla Dichiarazione di Bologna*. Bologna: Il Mulino.
- CENSIS. (2012). *46° Rapporto sulla situazione sociale del Paese 2012*. Roma.
- Checchi, D. (2010). *Immobilità diffusa*. Bologna: Il Mulino.
- Chiesi, A. (2008). L'origine sociale nel successo dei laureati AlmaLaurea. In AlmaLaurea (a cura di), *X Rapporto sulla condizione occupazionale dei laureati. Formazione universitaria ed esigenze del mercato del lavoro*. Bologna: Il Mulino.
- CNEL. (2010). Il lavoro delle donne in Italia. *Osservazioni e proposte*.
- CNEL. (2012). *Rapporto sul mercato del lavoro 2011-2012*. Roma.
- Del Boca, D., & Mencarini, L. (2011, 06 09). Un altro passo indietro per le donne italiane. *www.neodemos.it*.
- Del Boca, D., Mencarini, L., & Pasqua, S. (2012). *Valorizzare le donne conviene. Ruoli di genere nell'economia italiana*. Bologna: Il Mulino.
- Deming, W. E., & Stephan, F. F. (1940). On a least square adjustment of a sampled frequency table when the expected marginal totals are known. *Ann. of Math. Stat, 11*, p. 427-444.
- Euroguidance Italy. (2010). *Indagine sulla mobilità. Atteggiamenti e comportamenti degli italiani nei confronti della mobilità per motivi di studio e di lavoro*.
- European Commission. (2010). *Employers' Perception of Graduate Employability, Eurobarometer 304*. Brussels.
- European Commission. (2012). *ec.europa.eu/europe2020/making-it-happen/key-areas/index_en.htm*.
- Eurostat. *epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home*.
- Eurostat. (2011). Significant differences in consumer prices across Europe.

Statistics in focus 28/2011.

- Faini, R., & Sapir, A. (2005). Un Modello Obsoleto? Crescita e Specializzazione dell'Economia Italiana. In T. Boeri, R. Faini, A. Ichino, G. Pisaura, & C. Scarpa (a cura di), *Oltre il Declino*. Bologna: Il Mulino.
- Ferrante, F., McGuinness, S., & Sloane, P. J. (2010). Esiste «overeducation»? Un'analisi comparata. In AlmaLaurea (a cura di), *XII Rapporto sulla condizione occupazionale dei laureati. Investimenti in capitale umano nel futuro di Italia ed Europa*. Bologna: Il Mulino.
- Gasperoni, G., Pessato, M., & Ralli, F. (2012). Percezione dei laureati da parte delle imprese. intervento presentato al Convegno AlmaLaurea "Dopo la laurea: studi ed esperienze di lavoro in Italia e nel contesto internazionale", Roma 8 marzo 2012.
- Governo Italiano, Documento di Economia e Finanza 2012. (2012). In www.governo.it/GovernoInforma/Dossier/DEF2012/index.html.
- Hanushek, E., Woessmann, L., & Zhang, L. (2011). *General Education, Vocational Education, and Labor-Market Outcomes over the Life-Cycle*. NBER Working Papers 17504.
- ILO. (2011). Rapporto del Direttore Generale, Uguaglianza nel lavoro: una sfida continua. Rapporto Globale previsto dalla Dichiarazione dell'ILO sui principi e i diritti fondamentali nel lavoro. *Conferenza Internazionale del Lavoro. 100ma Sessione 2011*. Ginevra.
- ISFOL. (2011). *Professioni e livelli di competenze in Italia e in Europa*. Roma.
- ISTAT. (2006). La rilevazione sulle forze di lavoro: contenuti, metodologie, organizzazione. *Metodi e norme*(32).
- ISTAT. (2010). *Inserimento professionale dei laureati. Indagine 2007*. Roma.
- ISTAT. (2011). La conciliazione tra lavoro e famiglia. Anno 2010. *Statistiche Report*.
- ISTAT. (2012a). *Forze di lavoro. Media 2011*. Roma.
- ISTAT. (2012b). *Rapporto annuale 2012. La situazione del Paese*. Roma.
- ISTAT. (2012c). Uso del tempo e ruoli di genere. Tra lavoro e famiglia nel ciclo di vita. *Argomenti*(43).
- ISTAT. (2013a). *Noi Italia. 100 statistiche per capire il Paese in cui viviamo*. Roma.
- ISTAT. (2013b). *Occupati e disoccupati (dati provvisori-Gennaio 2013)*. Roma.
- Lamo, A., Messina, J., & Wasmer, E. (2006). *Are specific skills an obstacle to labour market adjustment? Theory and application to the EU enlargement*. European Central Bank, WP 585 Feb.
- Lamo, A., Messina, J., & Wasmer, E. (2010). *Are specific skills an obstacle to labour market adjustment?* IZA DP 5250, Oct.
- OECD. (2011). *Employment Outlook*. OECD Publishing.
- OECD. (2012a). Education at a Glance 2012: OECD Indicators. Italy Country Note. OECD Publishing.
- OECD. (2012b). *Education at a Glance 2012: OECD Indicators*.
- OECD. (2012c). *Taxing Wages 2011*. Paris: OECD Publishing.

- Schivardi, F., & Torrini, R. (2011). Cambiamenti strutturali e capitale umano nel sistema produttivo italiano. *Banca d'Italia, QEF*.
- Schleicher, A. (2011). Intervista, Comparare per apprendere. La sfida di PISA ai sistemi educativi nazionali. *Scuola democratica, n. 2 nuova serie*.
- UNESCO. (1997). *International Standard Classification of Education, ISCED 1997*.
- Unioncamere-Ministero del Lavoro. (2012a). *Sistema informativo Excelsior. Formazione sul luogo di lavoro e attivazione di stage, i risultati dell'indagine 2012*. Roma.
- Unioncamere-Ministero del Lavoro. (2012b). *Sistema informativo Excelsior. Gli sbocchi professionali dei laureati nelle imprese italiane per il 2012*. Roma.
- Visco, I. (2011). *Investire in conoscenza: giovani e cittadini, formazione e lavoro*. intervento al XXX Congresso nazionale dell'AIMMF, Catania, 25 novembre 2011.
- Visco, I. (2013). *Ruolo, responsabilità, azioni della Banca Centrale nella "lunga" crisi*. Lectio magistralis, Università degli Studi di Firenze, 18 gennaio 2013.