

## **Changes in the role of educational qualifications on entry into the labour market: evidence from the Italian case**

*Sara Zella*<sup>1</sup>

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*Abstract:* This article aims to explore two research questions. First, it asks whether the relationship between education and occupational attainment has changed over the last century in Italy and whether tertiary education has attained greater influence than the upper secondary degree determining prestigious occupations. Secondly, the article investigates the role social origins play in setting the occupational position, despite educational attainment, and whether or not this role has changed over time. Moreover, the connection between education and work in Italy during the last fifty years is explored.

For the purpose of my research, I used the highest educational qualification achieved as the indicator of educational performance. The empirical analysis is based on the Italian Household Longitudinal Survey, and the technique used is the robust regression analysis of the prestige score of the first job. The results suggest that a) the tertiary degree seems to produce more positive effect on occupational attainment in recent years, while the primary level, lower secondary level and each curriculum of upper secondary education are losing their influence, and b) social origins have an important role in determining the position of individuals' first jobs, but over time, that determining power has become weaker.

*Keywords:* Occupational position; educational attainment, social origin, trends over time.

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<sup>1</sup> Dipartimento di Sociologia e Ricerca Sociale, Via Verdi, 26 - 38122 Trento, Italy. E-mail: sara.zella@soc.unitn.it.

## **Introduction**

This article examines how the link between educational qualifications and occupational attainment has changed over time in Italy. The transition from school to work is an important stage in the lives of individuals because education is the most important determinant of occupational success in society. Employers rely on educational credentials when selecting individuals for specific work, and on the other hand, individuals invest in education to improve their competitive advantage on the labour market. For this reason, individuals have to find a job that adequately employs their potential and lays a fertile ground for their future professional development. Although this stage is only the beginning of working life, many studies have underlined that the initial job outcomes are highly influential in shaping the future development of work careers, especially in Italy, where intra-generational mobility is rather low (Pisati and Schizzerotto, 1999).

The first concern of this article is to identify the differences among cohort entry into the labour market with regard to the relationship between education and occupational outcomes (of the first job). Thus, the first research question is

- a) *Has the relationship between education and occupational attainment changed over the last century? In particular, does tertiary education have more influence than the upper secondary degree in determining entry to prestigious occupations?*

Secondly, earlier research shows that occupational attainment is not determined solely by intellectual ability or professional skills (Shavit and Müller, 1998). Social origin and gender also affect the occupational position. The influence of social origin is widely analysed by sociologists, and the majority of them emphasise that social origins have an important impact on occupational position. In this article, I will analyse this relationship. The second research question, then, is

- b) *Do social origins play a crucial role in setting the occupational position, net of educational attainment? How has the role of social origins changed over time?*

The article is organised as follows. The next section briefly describes

the features of the Italian education system and labour market and their most important reforms since the 1950s. After a short description of historical changes in Italy, I will discuss the main theories that have informed this research inquiry, and then, I will expand on my hypotheses. The fourth section illustrates the data and variables used in the empirical analyses. The fifth section reports the results of my analyses, and the final section summarises those results.

### **Italian education system and labour market**

Earlier research (Treiman and Ganzeboom, 1990; Mayer and Ramirez and Soysal, 1992; Erikson and Goldthorpe, 1992; Cobalti and Schizzerotto, 1994; Shavit and Müller, 1998; Müller and Gangl, 1998) demonstrates that the link between the level of education and occupational position is affected by the economic system's demand for an educated labour force and by institutional features of the labour market. It is important to remember that until the mid-1950s, the weak Italian economy — still based mainly on agriculture — had little need for a highly educated labour force. That situation changed rapidly between the mid-1950s and the early 1970s. Thus, the accelerated industrialisation of Italy into the 1960s was characterised, on both large and small firms, by the use of labour-intensive technology and Fordist organisational models. Nonetheless, industrialisation also expanded the technical and administrative occupations practised by the more highly educated labour force.

In the second half of the 1960s, the pace of economic development began to slacken, while the number of diploma holders and university graduates continued to increase, albeit slowly.

In this period, an attempt to counter the risk of underemployment among diploma holders and university graduates was made by artificially expanding the public sector. Moreover, in the same years, contractual agreements and labour legislation made the Italian labour market extremely rigid, and this, in turn, penalised firms, even large and medium-sized ones, hiring diploma holders or university graduates for jobs deemed inconsistent with their educational qualifications. Consequently, firms found it not in

their interest to replace their poorly educated workforces with younger and more highly educated individuals. The latter, therefore, found themselves quite simply unemployed (de Lillo and Schizzerotto, 1985).

The decline in the occupational prospects of the more highly educated was to some extent counteracted by the fact that — even as the economic boom finished — the Italian economic system had started along the road of tertiarisation and of post-technological and organisational innovation. It was only after the late 1970s, however, that this transformation had a real impact. Unfortunately, in terms of the absorption of educated manpower, its effects were somewhat limited. Because of the rigidity of the labour market and because of the economic crisis of the previous decade, the few large Italian companies that were operated mainly on the basis of diversified quality production and flexible mass production were reducing their workforces. They consequently increased the number of employees with secondary and tertiary education only slightly. Conversely, medium-sized and small firms increased their workforces. A portion of these firms introduced diversified quality production, flexible mass production and flexible specialisation models and, consequently, absorbed a larger number of highly educated workers than had previously been the case. For simple reasons of size, however, the ability of these firms to absorb diploma-holders and university graduates was necessarily limited (Reyneri, 2007).

To give a more complete picture of the Italian situation, I briefly describe in the next section the main reforms in the educational system enacted since 1950.

#### *Educational reforms*

Until the early 1960s, the characteristics of the Italian educational system were shaped by the 1923 educational reform (*Legge Gentile*) (Figure 1) (Shavit and Westerbeek, 1997; Shavit and Blossfeld, 1993). Compulsory education was established as primary school (*scuola elementare*), and it was attended by children aged six to ten. Furthermore, at the lower secondary level, a dead-end school (*scuola complementare*) was created, and the selectivity of the educational system was increased by introducing admission and exit examinations. In the early 1930s, the dead-end school was replaced by the lower vocational school (*scuola di*

*avviamento professionale*).

The Italian school system remained largely unchanged until 1962, when compulsory lower secondary school (*scuola media unica*) was mandated to become part of compulsory education and the age at which children left school was set at fourteen (Figure 2).

Figure 1 – Italian educational system from 1922 to 1961.

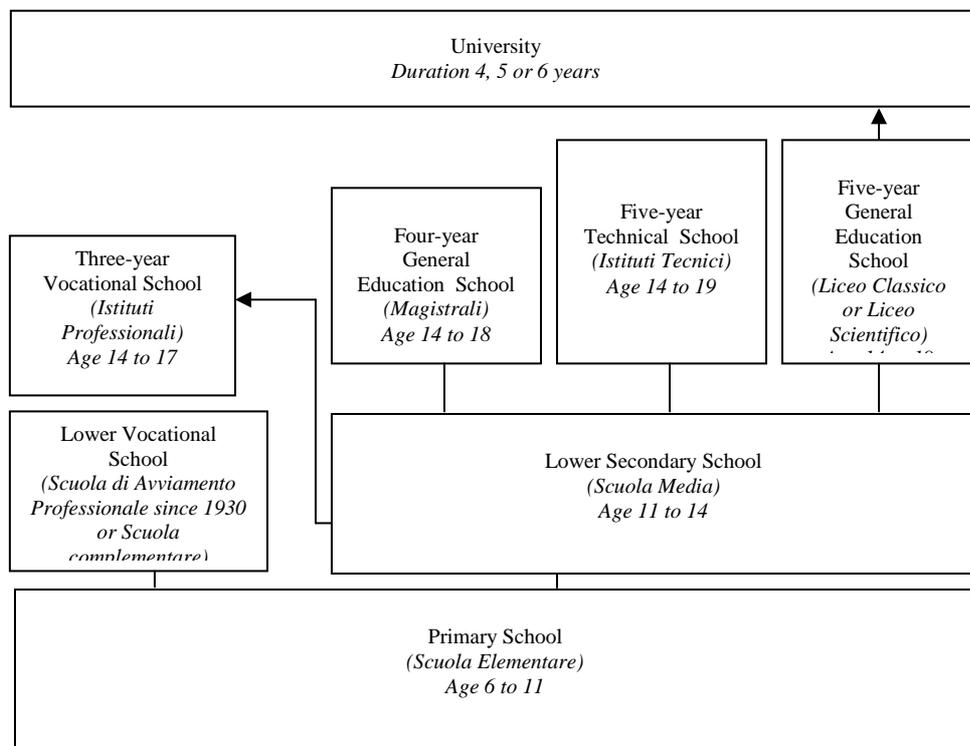
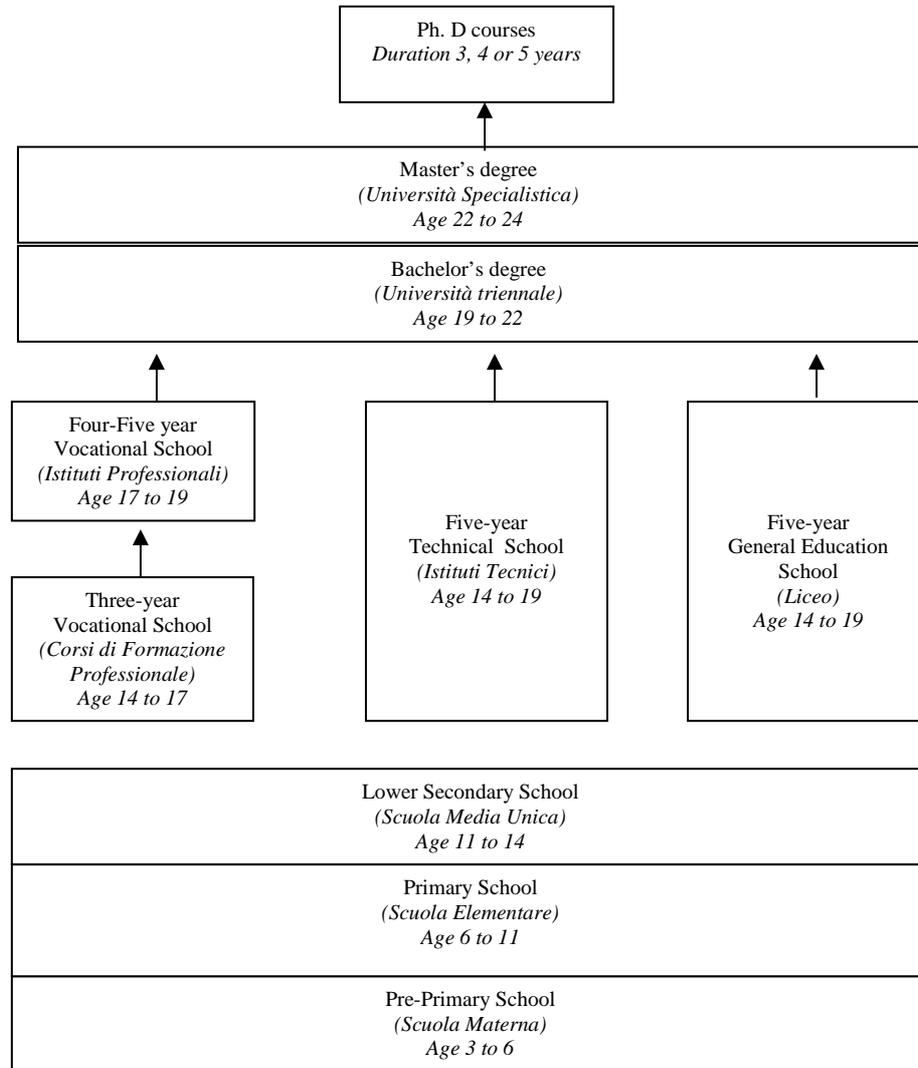


Figure 2 – Current Italian educational system.



At the same time, the upper secondary school was divided into three tracks: vocational, technical and academic. Vocational training courses (*corsi di formazione professionale*) and vocational school (*istituti professionali*), which last three or four years, cater to skilled manual and lower non-manual positions in the labour market. Technical (*istituti tecnici*) and academic (*licei*) tracks, which last five years, provide more qualified knowledge and allow individuals to attend tertiary education. Since 1969, in fact, access to university has been opened to every student with a five year diploma.

These three important changes (i.e., raising the school completion age to fourteen, the unification of two types of lower secondary education and the reduced differentiation among the various upper secondary tracks) produced a strong increase in the school population. In addition, this growth was particularly evident at the upper secondary and university levels: as shown elsewhere (Shavit and Müller, 1998), between 1960 and 1981, upper secondary school enrolments tripled and university enrolments almost quadrupled in Italy. The expansion of the Italian school population benefited the children of three primary groups: blue-collar workers, the urban petty bourgeoisie and the rural petty bourgeoisie<sup>2</sup>.

### **Main theories and hypotheses**

The debate on the relationship between education and employment is topical, and a majority of scholars affirms the existence of a correlation between the two (Blau and Duncan, 1967; Allmendinger, 1989; Treiman and Ganzeboom, 1990; Erikson and Goldthorpe, 1992; Cobalti and Schizzerotto, 1994; Arum and Shavit, 1995; Shavit and Müller, 1998;

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<sup>2</sup> Recently, an important reform of the university was introduced. A new organisation of the university courses was established by a ministerial decree in 1999: first level of degree (*laurea di primo livello*), lasting three years, second level of degree (*laurea di secondo livello o magistrale*), lasting two years and the doctorate (*dottorato di ricerca*), lasting three years.

Bernardi, 2003; Breen, 2005; Beller and Hout, 2006).

Certainly one of the most famous theories is the human capital theory (Becker, 1964), which affirms that higher qualifications increase the productivity of work. It claims that the more an individual has studied, the better abilities (s)he possesses to perform complicated jobs and, therefore, to create high quality goods or services. Thus, individuals with a higher level of education have more prestigious occupations because they can execute the jobs that are crucial for working organisations.

A similar interpretation of the relationship between education and employment was given by Thurow (1976). He claims that educational attainment is an important tool for employers, who use this information when making a decision about whom they employ. He argues that the more educated an individual is, the quicker (s)he will learn new job tasks, and consequently, (s)he should be of more benefit than a colleague with a lower level of education. Time and cost savings are positive points for employers: following this point, it seems that individuals with higher qualifications have a better chance of being employed.

Screening and signalling theory could be regarded as the most important response to human capital theory. The exponents of screening theory (Arrow, 1973; Stiglitz, 1975) suggest that what leads employers to rely on educational qualifications in their selection procedures is not, or at least not only, the belief that such qualifications certify that their holders have acquired relevant knowledge and skills. Rather, employers take the level of educational attainment as a source of 'statistical' information about certain more basic attributes of potential employees. Thus, they use such attainment as a means of screening, or 'sorting', individuals whom they might hire with regard to a range of personal characteristics that are not readily observable before the employment contract but will be important for worker productivity. In particular, an individual's educational record can be informative about his or her capacity and readiness to acquire knowledge and skills, to sustain effort, and to act co-operatively. In this perspective, therefore, the significance of education for employers is not that it actually produces the attributes that they value in employees, as human capital theory would suppose, but that an individual's educational attainment helps employers to identify such attributes. Then, from the side

of workers, education can be regarded not so much as an investment in human capital per se as it is the means through which they can signal to employers that they do have productive capacities of a kind that, prior to hiring, they cannot directly demonstrate (Spence, 1973). It is important to note, however, that for such signalling to function reliably — i.e., not to be open to spurious use — it must be the case that its costs are less for individuals who do in fact show a greater productivity already in their education (those who learn more readily); otherwise, all would invest in the same signal.

Recently, Bowles and Gintis (2002) have described incentive-enhancing preference theory. Like screening and signalling theory, it is developed essentially in response to human capital theory. The authors suggest that education plays a major role in the socialisation of individuals for employment, as it shapes their values, norms and related preferences and that in this way, education also determines individuals' potential productivity and their attractiveness as employees.

Moreover it is possible to affirm that the modelling of the transition process from education to work has to take account of the job searcher's decisions and actions on the one hand, and those of the employer on the other (Coleman, 1991; Logan, 1996). The observed matching of a particular worker to a particular job can be understood as the most suitable outcome for both actors, given their respective opportunity structure and preferences. From the school leaver's perspective a desirable job provides adequate returns to educational investments in the past, i.e., in terms of salary, working conditions, or opportunities for promotion. For every job offer encountered, the applicant then has to decide whether it meets her demands or whether it appears more promising to continue the search, even at the cost of unemployment. Similarly, employers will keep rejecting applicants until they find a worker who promises to be the most productive in a given position and to require the least additional training.

The qualifications obtained in the educational system are obviously a school leaver's most important resource in the competition for the best jobs, be it as means to actually increase one's productivity or as a signal of general motivation, ability, and thus potential training costs. More specifically, it is the level of education relative to other labour market

entrants that determines a successful transition from school-to-work (Arum and Shavit, 1995; Breen et al., 1995; Shavit and Müller, 1998).

Still, the extent to which education actually yields adequate returns depends on the number of applicants with particular credentials, as well as the demand for these credentials among employers. The supply of applicants with certain educational certificates is influenced by the degree of educational expansion a country has experienced. Expansion implies a gradual devaluation of educational certificates as their use for employers to effectively discriminate between applicants diminishes once they become widespread. As a result, school leavers from the lower end of the educational system can be expected to experience more and more difficulties in labour market entry in the course of educational expansion.

In Italy, different studies analyse the association between educational qualification and employment status (Checchi, 1997; Schizzerotto, 1997; Cobalti and Schizzerotto, 1998; Pisati, 2002; Schizzerotto and Barone, 2006). They conclude that a strong and positive relationship exists between these elements, for both men and women. Taking into consideration the influence of the variation over time of the educational qualification, especially as it applies to the occupational position (Schizzerotto and Barone, 2006), the empirical studies emphasise that only the upper secondary degrees have experienced a reduction of educational qualification performance. Focusing on different types of upper secondary degrees, the study of Schizzerotto (2002) identifies a clear influence on occupational position. The academic track obtains higher occupational scores than the technical track, and the latter scores higher than does the vocational track.

Following these studies, two hypotheses can be put forward. First of all, I hypothesise that the relationship between educational qualification and occupational position remains strong across cohorts but that the difference between upper secondary school and tertiary school is increasing. In particular, I hypothesise that the upper secondary degree has experienced a devaluation over time as a consequence of its expansion. In fact, a large number of individuals have attended the upper secondary school, and accordingly, an increased number of persons with this level of qualification will enter into the labour market. Therefore, the employers also employ

individuals with upper secondary school for jobs in which their qualifications are not required. That crowding out effects are assumed as a consequence of a saturated demand for upper secondary graduates and due to labour market rigidities. Hence, the average occupational score of these graduates should decline over time. For the same reason, I hypothesise that the vocational track, that gives to individuals only manual skills that they can utilise in jobs with low prestige, is losing power.

On the contrary, the technical and academic tracks could see a lower decrease occupational placement significance because they give to individuals more technical and general skills that can be utilised in many jobs. Additionally, the technical and academic tracks give individuals access to the university, thereby suggesting the individual's ability to acquire new knowledge.

At the same time, I hypothesise that tertiary education is increasing in occupational prestige score (and accordingly, that the difference between the occupational score of graduates and individuals with upper secondary school is rising over the time). Firstly, it should be remembered that the growth of the school population only slightly affected the highest qualification level (Triventi and Trivellato, 2008), so a majority of graduates can obtain jobs in which they can utilise the abilities mastered during school training. Secondly, when employers select individuals for relevant jobs, they prefer to choose the most qualified persons: in this sense, it is possible to affirm that tertiary qualification is an important signal of good abilities.

A crucial variable in my analysis is the gender. In Italy exists an asymmetrical division of home responsibilities between men and women, that create a gender-based segmentation of labour market. In the past this segmentation hurt women, whereas today, the traditional conception of the social role of women is changing and they are now more educated. This phenomena, together with the expansion of the tertiary sector, provide women with greater opportunities to obtain desirable occupations (Shavit and Müller, 1998).

My second major hypothesis is that social origins are losing their influence over the time, especially in allocating individuals to different occupational positions. The individuals of the new generation are, in fact,

less inclined to continue in the same activity of their parents, and they prefer to give up the parent's firm and to search for a new job as an employee. Although the studies of intergenerational mobility show that the movement that individuals make with respect to the social position of their family of origin is rather slow also nowadays (Schizzerotto and Marzadro, 2010), it is possible to affirm that in the last years individuals are more inclined to choose a different job than carry on with their parents' occupations. They know that the entrance into the labour market is a crucial moment for demonstrating their abilities, many of which they owe to their school training.

### **Data, variables and methods**

The data used in this article come from the five waves of the Italian Household Longitudinal Survey (ILFI, *Indagine Longitudinale sulle Famiglie Italiane*) carried out from 1997 to 2005 on a representative sample of non-institutionalised individuals residing in Italy at the time of the interview. The sample design was based on a two-stage procedure: 248 municipalities were extracted at the first stage, and 4.637 households at the second. Then, all members of these families aged eighteen or older were interviewed. The sampling design entailed also a procedure of stratification according to the region of residence and to the municipality type (metropolitan, suburban, other). The first wave (1997) gathered retrospective information on all significant events occurring to the members of the sample in the period between their births and the date of the interview. The four subsequent waves, carried out every two years, updated this information<sup>3</sup>. Data collection was based on computer-assisted personal interviews<sup>4</sup>.

In the analysis presented in this work, I include respondents who had

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<sup>3</sup> Moreover, respondents who left home and formed new families were followed across the five waves, and their spouses were interviewed as well. In other words, the ILFI data are based on a dynamic sample which represents the evolution of the Italian population between 1997 and 2005.

<sup>4</sup> For a more detailed description of the methodology of this survey, see Schizzerotto (2002).

definitively completed their studies (at the time of the interview) and had begun working. I did not consider the cases where the first job began more than eight years after the achievement of the qualification, as the person who begins working such a long period after having achieved the degree could accept a job that does not fit entirely his educational background. At the same time, my sample does not include individuals who entered the labour market before 1950, the period after which the economic boom and the rise of individual and familiar incomes allowed the expansion of schooling participation.

Therefore, 6,506 individuals were analysed in my sample.

The dependent variable is the de Lillo and Schizzerotto (1985) occupational score of the first job, which is similar to the prestige scale developed by Goldthorpe and Hope (1974). This scale was derived from the evaluations made by a representative sample of the Italian population on the social desirability of different occupations, and it ranges between 9.97 (low prestige) and 90.2 (high prestige). It was developed in the mid-1980s; however, a recent replication exercise indicates that the social standing of different occupations has hardly changed over the past two decades.

In my analysis the level of education and the social origin are crucial variables. The first variable comprises three categories:

- Primary and lower secondary degree.
- Upper secondary degree, obtained in vocational tracks (*istituti professionali*), technical tracks (*istituti tecnici*) or academic tracks (*licei*).
- Tertiary education, including lower tertiary (*diploma universitario*) as well as upper tertiary degrees (doctorates and masters).

It should be kept in mind that the sector of lower tertiary education has always been of negligible size in Italy (Checchi, 2003; Triventi and Trivellato, 2008). Therefore, it is not possible to analyse it as a separate educational destination.

I also focus on the analysis of the different types of upper secondary degree achieved by the respondents. For this reason, I have created a new variable, where the upper secondary degree is composed of three

categories: vocational, technical and academic tracks.

The origin of individuals is measured by the parent's de Lillo and Schizzerotto occupational score: the variable is created following the «dominance» approach, in which the higher score between parents is taken into consideration.

To study the evolution over time, I consider three cohorts of labour market entrants: 1950-1972, 1973-1985 and 1986-2005.

In the next section, I examine the mean of de Lillo and Schizzerotto's (1985) occupational score as evolving over time by focusing on the level of education, gender and social origin.

To study the returns to education at entry into the labour market across cohorts, I used the robust linear regression model (Long and Freese, 2001; Pisati, 2002). The robust regression can be used in any situation in which you would use OLS regression. The coefficient estimates with robust regression are exactly the same as in straightforward OLS, but the standard errors take into account heteroscedasticity. This model allows a more general deviation from the iid-assumption on the error term. Moreover, one of its options (cluster) allows for arbitrary correlation within specified groups. I used the robust linear regression model because I wanted to control the independence of individuals of the same family. It is well known that (robust) linear regression models consider the absolute returns of education qualifications. Therefore, the results of my analysis will be affected by the characteristics of the occupational structure.

## **Results**

Let us first consider variations across five cohorts for educational attainment in Italy. In the first two labour market cohorts, the wide majority of the population did not go beyond lower secondary school, whereas this percentage rapidly decreases among individuals who entered the labour market after 1972. As shown elsewhere (Cobalti and Schizzerotto, 1994; Shavit and Müller, 1998), increasing the school-completion age to fourteen and reducing differentiation among the various upper secondary tracks combined to cause an increase of the school population during the last

century. This growth involved essentially the lower secondary school and the upper secondary school, while it had a weaker impact on the university levels. In the 1950–1962 cohorts, individuals with upper secondary school represented only 14.9% of the school population (81.8% achieved at least the lower secondary degree), whereas this percentage reached 51.5% in the last cohort. The graduates rose from 3.3% in the 1950–1962 cohort to 23.4% in the last.

By examining the distribution of educational qualification between genders, I observe that the number of female graduates is greater than the number of male graduates. In fact, in the last period, the percentage of female graduates is 26.8% as compared with 19.9% of men.

Following a brief description of the school population's variation over time, I will concentrate my attention on the first research question.

The occupational prestige score measures the location of a job in the occupational hierarchy, and, as I expected, the higher the qualification, the better the score, and consequently, individuals with lower education levels have a lower probability of having a prestigious job than do people with a degree (Table 2). The mean difference between individuals with a lower secondary degree and those with tertiary education is about 37.3. This value confirms the important advantage of higher degrees in occupational positions.

The scores of the three tracks of upper secondary degrees are worth noting. The academic track obtains a 43.3 score; the technical track scores 42.7; and the vocational track scores only 34.0. Recall that vocational tracks are the most professional curricula and that they give to students mainly manual skills, which bring individuals to obtain jobs with low rewards. On the contrary, the academic tracks do not offer practical skills to the students, but they allow them to gain knowledge and to improve their skills in different areas. In this sense, the individuals with academic school diplomas are the highest qualified persons. For this reason, they are preferred in the most prestigious jobs. The mean score of the academic track is similar to the technical one. The technical curricula train individuals to manual and specialised jobs (e.g., electrician, surveyor, and plumber); therefore, they achieve on the de Lillo and Schizzerotto scale a medium-high score.

*Table 1. Distribution of individuals by the period in which they entered the labour market and by educational qualification.*

	Primary and lower secondary degree	Vocational track	Technical track	Academic track	Tertiary education	Total
<i>All</i>						
1950 – 1962	81.8	2.6	6.5	5.8	3.3	100.0
1963 – 1972	65.1	8.4	12.8	8.2	5.5	100.0
1973 – 1985	49.9	9.9	19.8	12.1	8.3	100.0
1986 – 1997	36.9	12.8	25.2	13.4	11.7	100.0
1998 – 2005	25.0	10.5	24.4	16.6	23.5	100.0
<i>Males</i>						
1950 – 1962	79.6	2.6	9.4	4.2	4.2	100.0
1963 – 1972	63.2	9.7	16.9	4.6	5.6	100.0
1973 – 1985	50.7	9.4	24.1	7.7	8.1	100.0
1986 – 1997	38.0	13.5	28.2	8.7	11.6	100.0
1998 – 2005	30.3	11.2	28.2	10.4	19.9	100.0
<i>Females</i>						
1950 – 1962	84.6	2.7	2.7	7.9	2.1	100.0
1963 – 1972	67.0	6.9	8.7	12.0	5.4	100.0
1973 – 1985	49.1	10.5	15.0	17.0	8.4	100.0
1986 – 1997	35.8	12.2	21.9	18.4	11.7	100.0
1998 – 2005	19.8	9.8	20.8	22.8	26.8	100.0

Source: elaboration on ILFI (1997; 1999; 2001; 2003 and 2005).

Now consider the changes over the three cohorts of entry in the labour market. The most interesting result in this table is on the basis of each level of education. The score differences among the three cohorts are very low for each level of education. For the technical track only, it is possible to note a significant difference between the first and the last cohorts (it is - 5.8); this means that technical track is losing its power across cohorts (even though its value remains similar to the academics track's score). On the contrary, only the score of tertiary education draws a linear trend with a slight growth<sup>5</sup>. Accordingly, the difference between the scores of tertiary education and the technical track is increasing; therefore, the power of tertiary education in allocating individuals in more prestigious jobs is growing.

*Table 2. The mean of the occupational prestige score by the educational qualification and the period in which they entered the labour market.*

	1950-1972	1973-1985	1986-2005	Total
Primary and lower secondary degree	26.2	25.7	26.6	26.2
Vocational track	35.0	33.2	34.1	34.0
Technical track	46.6	43.5	40.8	42.7
Academic track	44.4	45.7	41.3	43.3
Tertiary education	61.9	63.3	64.0	63.5

*Source:* elaboration on ILFI (1997; 1999; 2001; 2003 and 2005).

As emphasised above, the distribution of education qualification in Italy is closely conditioned by gender. The results of the gender mean prestige score highlight the fact that, for each level of education, men achieve higher scores than women. In my sample, men achieve 36.1 points on average, compared with 34.2 for women. The biggest difference is in the tertiary education scores, where men reach 66.9 to the women's 60.0.

In Italy, as in many contemporary societies, there is an asymmetrical division of domestic responsibilities between men and women. This has

<sup>5</sup> Although the differences are somewhat small, they are significant.

generated a gender-based segmentation of labour market. In the past, this segmentation harmed women and prevented them from achieving high educational levels and consequently, high-status jobs.

Considering the gender mean prestige score (Table 3), it is possible to highlight two aspects: the difference of gender occupational scores for each level of education (taking into consideration the three cohorts individually) and its variation over time. First, in the 1950/1972 cohort, men achieve higher scores than women in each level of education. Moreover, the most important gender differences regard the technical track and the tertiary track, being 5.6 and 6.3 respectively. In the second cohort, the women occupational score in the vocational track is slightly higher than men's one, but the opposite is true for the other levels of education. In particular, the gender gap is relevant (9.3 scores) for the tertiary education. As for the last cohort, men obtain greater scores in all the tracks but for the vocational one.

Secondly, we can analyze the gender score for each level of education over time. In the case of primary education the score increases in the second cohort but decreases in the last one. The differences increase for vocational and, mainly, for the academic track. In particular here the variation is 0.3 points in the first period and 5.2 in the last one. On the contrary, the gender difference in the technical track is decreasing: it is 5.6 in the first cohort and 1.0 in the last. To conclude, the gender difference among tertiary graduates increases in the second cohort and decreases in the last one.

As shown elsewhere (Blau and Duncan, 1967; Cobalti and Schizzerotto, 1994; Shavit and Müller, 1998), social origin also affects occupational position. To evaluate the effect of social origins, I use two robust linear regression models.

In the first models, (Table 4) I observe the total effect of the social origins on my dependent variable (de Lillo and Schizzerotto occupational score of the first job) and its changes across cohorts. For this reason, I draw a model for each period, in which I consider as an independent variable the social origins (measured by parent's de Lillo and Schizzerotto occupational score), and I control for gender, area of residence and the parent's level education. Firstly, the results confirm that the women obtain lower

occupational prestige scores than the men and that the difference between the men's and women's mean scores is higher in the first cohort. This confirms that the female position in the labour market has improved over time, although it has not reached the same position as that of men.

*Table 3. The mean of the occupational prestige score by the educational qualification, gender and cohort's entry into the labour market.*

	Males		Females	
	Mean	N	Mean	N
<i>Cohorts 1950/1972</i>				
Primary and lower secondary degree	27.2	907	25.2	826
Vocational track	35.1	76	34.8	54
Technical track	48.2	161	42.6	64
Academic track	44.6	55	44.3	110
Tertiary education	64.4	61	58.1	42
<i>Cohorts 1973/1985</i>				
Primary and lower secondary degree	27.6	462	23.5	398
Vocational track	32.5	85	33.9	85
Technical track	44.4	218	41.9	122
Academic track	47.0	70	45.0	138
Tertiary education	67.8	74	58.5	68
<i>Cohorts 1986/2005</i>				
Primary and lower secondary degree	27.1	436	26.0	364
Vocational track	31.9	156	34.5	135
Technical track	41.2	343	40.2	254
Academic track	44.8	113	39.6	232
Tertiary education	67.4	167	60.9	187

*Source:* elaboration on ILFI (1997; 1999; 2001; 2003 and 2005).

Secondly, it is possible to note that a higher level of the parent's education is correlated with higher scores of the dependent variable. The high coefficients of this variable show the importance of the human capital of the family and the capability of the family to keep members out of lower occupations. The role of the family seems to decrease over time; in fact, the

coefficient for the first cohort is 3.23 and for the last cohort it is 2.58.

Thirdly, the parameters of social origins, which are positive in each cohort, suggest that the higher the level of social origins, the more elevated the occupational score of the first job. The value of the coefficients across cohorts remains stable, around 0.20-0.25. Thus, it is possible to affirm that, across time, social origins play an important role in determining the job of individuals.

Table 4. Robust linear regression model of the occupational prestige score: coefficients and standard errors.

	Cohort 1950-1972		Cohort 1973-1985		Cohort 1986-2005	
	$\beta$	R.S.E.	$\beta$	R.S.E.	$\beta$	R.S.E.
<i>Gender</i>						
Male	Ref.		Ref.		Ref.	
Female	-3.95***	0.59	-3.12***	0.77	0.23	0.75
<i>Geographical area</i>						
North - west	-1.94*	0.85	0.13	1.18	1.10	1.18
North - eastern	Ref.		Ref.		Ref.	
Center	0.45	1.01	0.92	1.34	2.17	1.25
South and Islands	0.88	0.91	1.66	1.23	2.39**	1.15
<i>Parents' level of education</i>						
	3.23***	0.31	3.01***	0.41	2.58**	0.32
<i>DLS origin score</i>						
	0.25***	0.02	0.24***	0.03	0.20**	0.03
<i>Constant</i>						
	15.60**	1.06	17.5***	1.46	18.19**	1.48
Number of observations:						
	2197		1630		2262	
R-squares:						
	0.23		0.16		0.13	

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$

Source: elaboration on ILFI (1997; 1999; 2001; 2003 and 2005).

Table 5. Robust linear regression model of the occupational prestige score: coefficients and standard errors.

	Cohort 1950-1972		Cohort 1973-1985		Cohort 1986-2005	
	$\beta$	R.S.E.	$\beta$	R.S.E.	$\beta$	R.S.E.
<i>Gender</i>						
Male	Ref.		Ref.		Ref.	
Female	-2.84***	0.53	-3.22***	0.67	-1.22	0.65
<i>Geographical area</i>						
North - west	-1.30	0.73	-0.07	0.93	0.72	0.99
North - eastern	Ref.		Ref.		Ref.	
Center	0.07	0.85	-0.73	1.11	1.25	1.04
South and Islands	0.15	0.77	0.71	0.94	2.48**	0.95
<i>Parents' level of education</i>						
DLS origin score	0.65*	0.28	0.52	0.36	0.44	0.27
<i>Educational Qualification</i>						
Primary and lower secondary degree	-29.98***	1.58	34.33***	1.39	34.16***	1.14
Vocational track	-21.86***	2.04	27.10***	1.70	26.60***	1.41
Technical track	-12.91***	1.85	18.06***	1.54	21.32***	1.21
Academic track	-14.22***	1.67	16.51***	1.57	21.66***	1.28
Tertiary education	Ref.		Ref.		Ref.	
Constant	51.54***	2.16	56.57***	2.15	54.33***	1.93
Number of observations:						
	2197		1630		2259	
R-squares:						
	0.42		0.43		0.39	

\*\*\*  $p <= 0.01$ , \*\*  $p <= 0.05$ , \*  $p <= 0.10$

Source: Ilfi, waves 1997, 1999, 2001, 2003 and 2005.

Both social origin and educational qualification play an important role in determining occupational position. In the following models, I add the educational qualification of individuals with the aim of understanding the effects of this variable on my dependent variable and, at the same time, how the level of qualification modifies the effect of social origins.

This model clearly shows that, for each cohort, the occupational prestige score increases when subjects obtain higher educational qualification. Specifically, it can be observed that, over time, the «power» of the upper secondary schools (both vocational-technical and academic track) is decreasing compared with that of tertiary education. In fact, the coefficient in the last cohort of the academic track is -21.66 points, compared with the tertiary education. In the first period, by contrast, the academic track value was -14.22. These results corroborate my hypothesis that tertiary education does not show an important expansion and that, currently, only the best students can obtain it; accordingly, tertiary education keeps an elite characteristic. On the contrary, the upper secondary degree has undergone an important expansion, and almost all students can achieve it.

By examining the coefficients of the social origins, it is possible to observe that for each cohort, they are lower in the last models (Table 5) than in the first one (Table 4). These coefficients are changing from 0.25 to 0.16 in the first cohort (-36.0% relative terms), from 0.24 to 0.18 (-25.0%) in the second cohort and from 0.20 to 0.13 in the last cohort (-35.0%).

These results confirm that the social origins have an important role in determining the occupation of individuals, even if their coefficients are decreasing in the first and second cohorts. Furthermore the highest levels of educational qualifications are more and more important in allowing individuals into prestigious jobs, and the qualifications can help individuals to obtain good positions in the labour market despite unremarkable social origins.

## **Conclusions**

In this paper, I have studied how the link between educational qualifications and (the first) occupational attainment has changed during the last fifty years in Italy and how the effect of the social origins in setting the occupational position of individuals (despite educational attainment) has changed over time. As was mentioned before, my results are in line with those of some previous studies that considered the relationship between education and first job and the power of social origins in Italy.

I have tried to elaborate on these aspects while focusing my attention on three different elements; firstly, the investigation of the occupational means score of the three tracks of the upper secondary degree and their differences with tertiary education; secondly, the analysis of their changed scores across three cohorts; and thirdly, the role of social origins in determining the first job of individuals and the variation in that role over time.

The empirical analysis carried out reveals a fairly clear picture and confirms the hypotheses outline above. The first analysis, based on the occupational score mean differences between five levels of education, showed not only that occupational score varies with educational qualification, but also that graduates and post-graduates have progressively greater chances (as compared with upper secondary school holders) to obtain a better job. Focusing on the different types of upper secondary degrees, it is possible to observe that the most professional curriculum (vocational track) obtains about 9.7 score points lower than academic track; the latter is 23.2 score points lower than tertiary degree. By examining the differences among cohorts, I observed that the difference score, for each level of education, is very low and only for the technical track is there a significant score difference between the first and the last cohorts. This finding suggests that the individuals that entered the labour market from a technical track in the last cohort obtained jobs with lower occupational scores than in the past.

The results emphasise that only the score of tertiary education exhibits a linear trend with a slight growth. Accordingly, the difference between the tertiary education and technical track scores is increasing; therefore, the graduates have increased their chances to obtain more prestigious jobs.

Although educational qualifications play a crucial role in determining the position of individuals, the prospective employee's social origins have an important effect on the status of his or her initial job.

To control the influence of social origins, I created two robust linear regression models in which I observed the total effect of the social origins on the dependent variable (de Lillo and Schizzerotto occupational score of the first job) and its changes across cohorts. The results corroborated my hypothesis. The first model allows the conclusion that in each cohort, the higher the level of social origins, the more elevated the occupational score

of the first job. Moreover, the partial association between parents' occupational prestige and the prestige of the first occupation seems fairly stable over time.

With regard to the second model, in which I put the variable that indicates the level of individual qualification, I can conclude that job standing varies with educational attainment and that the tertiary qualifications are increasingly separated from the academic track in the last cohort (thus, the robust regression model confirm my first results). Secondly, the parameters of social origins were lower than in the first model because a measure of their effect is explained by educational qualifications.

These results allow one to conclude that social origins maintain an important role in determining the occupational of individuals, but over time, they are losing their power in favour of educational qualification. Thus, the individuals of new generations with high qualifications have a greater likelihood than did people of older cohorts of obtaining a good position in the labour market, even though they might be of middling or lower social origin. At the same time, high social origins shelter individuals from less prestigious jobs, even in cases where the individuals are not highly qualified.

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