PARENTAL EDUCATION AND FAMILY CHARACTERISTICS: EDUCATIONAL OPPORTUNITIES ACROSS COHORTS IN ITALY AND SPAIN*

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Drawing on data contained in the 2005 EU-SILC, this paper investigates the disparities in educational opportunities in Italy and Spain. Its main objective is to analyse the predicted probabilities of completing upper-secondary and tertiary education for individuals with different parental background, and the changes in these probabilities across birth cohorts extending from 1940 to 1980. The results suggest that the disparities in tertiary education opportunities in Italy tend to increase over time. By contrast, the gap in educational opportunity in Spain shows a marked decrease across the cohorts. Moreover, by using an intuitive decomposition strategy, the paper shows that a large part of the educational gap between individuals from different educational backgrounds is "composed" of the difference in the endowment of family characteristics. Specifically, it seems that more highly educated parents are more able to endow their children with a better composition of family characteristics, which accounts for a significant proportion of the observed disparities in educational opportunity.

Key words: educational opportunity, family background, birth cohorts, Italy, Spain.

JEL Classification: I21, J12, J62.

O ver the last century, both Italy and Spain have experienced a significant expansion of their respective education systems. However, the educational performance of both countries has been particularly poor, especially in comparison with that of their Central and Northern European counterparts[1]. In fact, even though mean enrolment in post-compulsory education has increased considerably, the two countries record very high drop-out rates,

(1) See OECD (2008, 2009), Boarini (2009) and Fuentes (2009).

in both secondary and University education. Moreover, data from the PISA survey (Programme for International Student Assessment) indicate that, with respect to test scores in Mathematics, Reading and Science, Italian and Spanish students are systematically among the worst in Europe.

Underlying these issues of educational participation, quality and performance, the two countries suffer a general problem of equity in their educational systems. Several authors suggest that a student's educational opportunities are (still) strongly related to the educational background of their family, and this represents a clear violation of equality of opportunities [see, for example, Checchi *et al.* (2006), (2008), Peragine & Serlenga (2007), Triventi & Trivellato (2009), for Italy; Petrongolo & San Segundo (2002), Rahona-López (2009), Casquel & Uriel (2009), for Spain]. Besides this educational underachievement, individuals from different social backgrounds are severely affected by a range of other problems in later life that are closely related to their educational attainment (labour status, poverty, health, etc.). If this perverse mechanism of intergenerational inheritance of socio-economic status persists, these disparities run the risk of being perpetuated into the future generations.

A retrospective analysis can help to outline some of the main issues related to these existing inequalities in education. If we go back to the first half of the last century[2], we see that both Italy and Spain inherited a strong legacy from the elitist and highly stratified education systems of their respective Fascist regimes [Ballarino *et al.* (2009)]. However, during the second half of the century, both countries implemented similar, far-reaching education reforms. The general objective of these reforms was to guarantee equality of access and the opportunity to reach the highest levels of education, regardless of social origin and family background.

The 1962 Educational Reform in Italy (L. 31-12-1962, no. 1859), and the 1970 General Education Act in Spain (Ley General de Educación, LGE), extended compulsory schooling until the age of 14 and eliminated track separation in lower secondary education [see Fort (2006) for details]. Nevertheless, these two reforms, which typify the two educational systems throughout the period of analysis[3], were insufficient to guarantee equal post-compulsory education opportunities.

In both countries there is, at least one institutional feature that might serve to account for the existence, or persistence, of educational disparities related to parental background. The two countries maintained a stratified structure of upper secondary education, with a key track separation at the age of 14. Basically, individ-

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(2) Given that I consider individuals born between 1940 and 1980 (from the EU-SILC database; see below), this period coincides with the beginning of this paper's time span.

(3) In addition, for the Italian case, a further reform in 1969 (no.910 Act December 11, 1969) eliminated restrictions on access to university, allowing graduates from non-academic secondary schools to enrol. In Spain, the Organic General Act of the Educational System of 1990 (LOGSE) included, among other things, the further extension of compulsory (and comprehensive) education until the age of 16, postponing the introduction of track separation. However, the effect of this reform is not explicitly considered here; unfortunately, only individuals in the last cohorts are potentially affected by the reform, but many of them are excluded from the sample as they were still studying during the year the survey was conducted (2005).

uals (or their parents) can choose between academic (Licei), technical and professional (Istituti Tecnici-Professionali) secondary education in Italy, and between academic (Bachillerato) and vocational education (Formación Profesional) in Spain.

The empirical evidence suggests that this kind of early track separation could reinforce the existing link between family background and a child's final education attainment [see Hanushek & Wößmann (2006), Brunello & Checchi (2007), Checchi & Flabbi (2007), among others]. This effect is mainly produced by the impact of parental education background on the choice of educational curricula at the secondary school stage. The children of poorly educated parents tend to be overrepresented in non-academic secondary schools (irrespective of their ability), with marked (negative) consequences for the transition to University, and for the likelihood of obtaining a degree [Giuliano (2008)]. This issue can be particularly problematic in countries such as Italy or Spain, since a significant proportion of the "parents' generation" faced significant schooling constraints[4].

On the basis of these arguments, the first contribution of this paper is to analyse the potential disparities in upper secondary and tertiary education opportunities for individuals of different parental educational background[5]. I shall examine the temporal evolution in post-compulsory educational opportunities in Italy and Spain for individuals born between 1940 and 1980. I expect to find significant education gaps, especially as regards the possibility of being awarded a University degree. Additionally, the analysis of temporal changes [as in Checchi *et al*. (2008), and Heineck & Riphahn (2009)] provides evidence regarding the potential persistence in educational (in)equality of opportunity, in response to institutional and social changes (i.e. the evolution in the labour market, educational system and social environment).

A further question of relevance involves investigating the "composition" of these educational disparities between individuals of different backgrounds, and how it evolves over time. In order to assess this issue, we need first to determine the reasons why children of better educated parents obtain more and better schooling. An obvious candidate for explaining the educational gaps between individuals of different backgrounds is the intergenerational transmission of cognitive ability [see Behrman & Rosenzweig (2002), Sacerdote (2002), Plug & Vijverberg (2003)].

However, Chuna *et al*. (2006) and Chuna & Heckman (2007) have suggested that genetic ability is comprised of (and not additively separable from) a larger set of elements which children from better educated parents may inherit. These authors refer to the long-term parental income reflected by parental education, but also to

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(4) In other words, many of the parents of the individuals observed in the data (population born between 1940 and 1980) may not have achieved the desired level of schooling because of the restrictions inherent in the elitist educational system(s) imposed by the Fascist regime(s). In all likelihood, school tracking would not be a "problem" for educational opportunities in a situation without a marked inequality of educational opportunities for the parents' generation.

(5) Parental education is considered the most powerful indicator of family background, and a "good" proxy of long-term parental income, as suggested by Cameron & Heckman (1998, 2001). See Section 2 for the exact definition of parental education, as well as for those of the other variables used.

non-cognitive skills such as motivation, time preferences, risk aversion and self-esteem, which are important determinants of socioeconomic success in later life.

Educational opportunities might also depend on the home environment and other relevant family characteristics during childhood. Several contributions have sought to investigate the role played by circumstantial characteristics at the family level in children's educational outcomes[6]. Even though the causality of these effects remains unclear [e.g. Björklund *et al*. (2006), argue that family structure only impacts through unobserved family factors), some source of educational disparities between individuals of different educational background might be associated with differences in family characteristics (other than parental education).

Better educated parents may provide their children with a better home environment during childhood, increasing their educational opportunities [Carneiro (2008)]. Higher parental education is, in general, associated with fewer financial distress episodes, as well as with better employment and occupational prospects. Moreover, parents with a different educational background are also likely to differ in terms of fertility and cohabitation behaviours. As a consequence, one component of the educational gap could be related to the additional role of parental schooling in the provision of a better and more stimulating educational circumstances for the children's education[7].

In short, the differences in educational opportunity that can be observed between individuals of different backgrounds are broadly composed of two main effects of parental education: 1) a direct impact on a child's schooling generated by long-term factors and unobservable skills; and, 2) an indirect effect of parental education, produced through the improvement of other family characteristics that are relevant for a child's education. I propose a simple decomposition methodology for investigating this issue, which would contribute to the literature concerning the persistent gap in educational opportunity. The results from this analysis across several birth cohorts will provide useful evidence for policymaking. In fact, if educational disparities do not decline over time because of the persistent relationship between parental education and family characteristics, the departure from a situation of equality of opportunity in education would be even more pronounced. In any case, it should be noted in advance that I rely on a descriptive approach, given that it is not possible to rule out the genetic ability component with the data that I use in this work. However, as commented in Section 3, assuming that the effect of genetic ability is constant over time, the analysis across the cohorts might be considered as valid (at least in a descriptive sense).

With these purposes in mind, I will proceed as follows. The next section contains a description of the data used, also providing some descriptive evidence. In

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(6) See, for example, the papers by Chevalier & Lanot (2002), Blanden (2004), Franzini & Raitano (2009) examining the effect of short-term family financial constraints, or the papers by Ermisch & Francesconi (2001a, 2001b), Gennatian (2005), Björklund *et al*. (2006) concerned with the effect of family structure and cohabitation on children's schooling.

(7) Moreover, better educated parents also make better residential and school choices for their children, which could be another source of educational disparity through the neighbourhood/peer effect channel. However, due to data limitations, I am unable to consider this issue explicitly here.

Section 3, I present the empirical methodology. Section 4 reports the basic results about the temporal patterns of educational opportunity and the decomposition of the direct and indirect effects of parental education. Finally, Section 5 discusses the results and Section 6 concludes.

1. Data and descriptive evidence

In this paper I draw on data from the 2005 wave of the "Survey on Income and Living Conditions" (EU-SILC), a comparative multi-country panel survey co-ordinated by the Eurostat[8]. The 2005 wave of the EU-SILC survey is especially appropriate for analysing the link between educational opportunities and parental background because it contains retrospective information about parental education and other family characteristics during childhood (specifically, when the individual was 14 years old). Additionally, the high number of observations in the Italian and in the Spanish samples[9] is very useful for investigating temporal patterns because it enables the sample to be split into eight birth cohorts of five years each, extending from 1940 to 1980.

This allows a flexible strategy to be adopted for the analysis of temporal changes (described in the next section), supported by the fact that education can be considered unchanging before it is completed. Consequently, the evidence across cohorts can be taken as a temporal pattern, given that completed education (and its relationship with parental education) is not affected by the typical life-cycle bias considered in many intergenerational income transmission studies [see, for example, Nicoletti & Ermisch (2007) or Lee & Solon (2009)].

Information about educational attainment in the EU-SILC database is reported by ISCED levels (see UNESCO, 1997). However, in the empirical analysis, I group this information into four standard categorical levels of completed education, namely: 1) no-education or primary education, 2) lower secondary education, 3) upper secondary education, 4) tertiary education. This definition applies to individual's education, but also to the highest level of education completed by his or her parents, which here represents the main measure of parental educational background. Table 1A in the Appendix reports the relative frequencies of completed education by country and birth cohort. As commented above, both countries experienced a clear expansion of higher education across these forty years (i.e. less relative frequencies in the lower levels and more in the higher levels of completed education). However, the movement towards tertiary education has

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(8) More information about the EU-SILC survey can be found in the following link: http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc.

(9) The retrospective information of the intergenerational transmission of poverty module is reported only for individuals aged between 25 and 65 in 2005 (that is, individuals born between 1940 and 1980). Moreover, I retain only those observations i) for individuals who are not still studying in the year of the survey, ii) with valid information about completed education, iii) about parental education for at least one parent and iv) for individuals who were not living in an institution when 14. The final samples contain 30,493 observations for Italy and 17,889 observations for Spain.

been more marked for Spain than for Italy, given the higher concentration in upper secondary education in the latter, even for the youngest cohorts.

In an attempt to support the importance of this study, I present an intuitive descriptive picture of the educational gap associated with parental background and its evolution across the eight birth cohorts between 1940 and 1980. Figure 1 contains, for both countries, the expected number of years of education[10] by birth cohort, for each level for the highest level of parental education completed. This figure shows an important and persistent schooling gap in both countries, where only individuals with at least one tertiary educated parent constantly achieve 15 or more years of education (on average). Moreover, it is also clear that children from the least-advantaged group (individuals whose parents have no-education or only primary education) are strongly penalized, even if their mean schooling attainment is increasing significantly over time.

Figure 1: EXPECTED (IMPUTED) YEARS OF EDUCATION
ACROSS BIRTH COHORTS BY PARENTAL EDUCATION
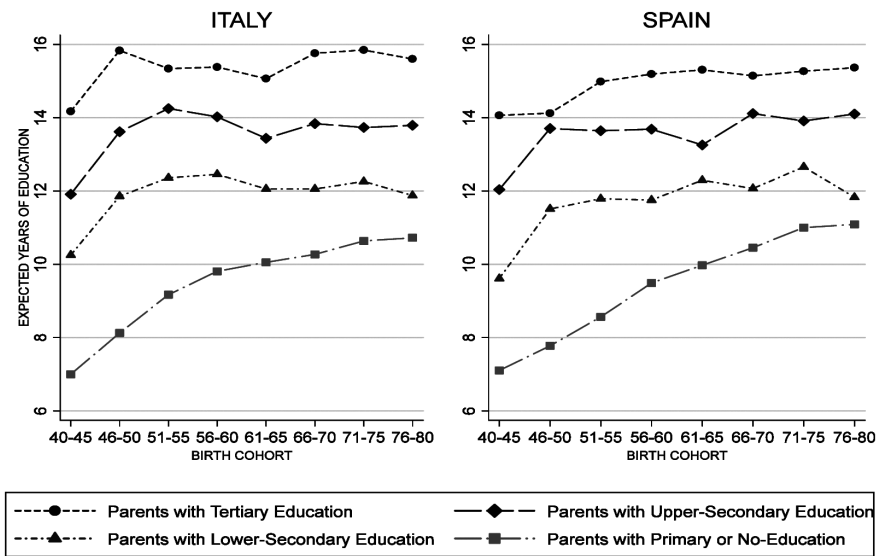
Source: Own elaboration.

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(10) The number of years of education are imputed from completed levels. Specifically, for Italy: 2 years for no-education, 5 for primary education, 8 for lower-secondary, 13 for upper-secondary and 18 for tertiary education. For Spain: 2 years for no-education, 6 for primary, 8 for lower-secondary, 12 for upper-secondary and 17 for tertiary education.

However, in order to obtain more detailed evidence regarding the disparities in educational opportunity, we need to investigate the chances of completing any given level of education, since educational certificates have a strong legal value in the two countries[11]. This means that any additional year of schooling not resulting in a higher grade has no value in the labour market, because it cannot be certified.

Moreover, we need to consider the presence of covariates (e.g. family characteristics and any other relevant variable), given that the educational gap expressed by simple means might be exacerbated by the effect of other important determinants of educational attainment. Therefore, with the information available in the EU-SILC database, I define a set of family characteristics (other than parental education), which are included in the empirical multivariate analysis; the details are contained in Table 1 together with some basic descriptive statistics for the two countries[12].

Apart from information concerning the highest level of education completed by one of the two parents, I also consider the impact of 1) the frequency of financial problems during childhood, 2) a set of variables representing family structure and cohabitation at the age of 14 (father absent/deceased, living with both parents, the number of siblings and young maternal age[13]), 3) parental working situation and occupational status.

Notice that, unfortunately, the EU-SILC 2005 database does not include retrospective information about family income. In order to partially circumvent this limitation of the data, parental occupation (initially recorded in ISCO-88 codes) has been converted into family occupational socio-economic status [i.e. I considered the highest ISEI index in the family, see Ganzeboom *et al.* (1992)]. By doing this, the information about parental occupation is ranked according to (potential) family income, from the lowest value (16) to the highest possible value of the ISEI index (90, 80 in these data).

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(11) This tends to provoke the ship-skin effect, which means that the students either obtain the certificate or drop-out as soon as they realise they have little chance of completing that educational grade (Checchi 2003).

(12) I also include as individual controls three separate indicators for gender, having a chronic illness and foreign nationality, respectively. Note that, for brevity reasons, the analysis of the differences by gender is not considered in this paper. The econometric model also includes indicators for observations with missing values of the explanatory variables, where the original variables are replaced with the mean value (by parental education and birth cohort) for continuous variables, and with a zero for dummy variables.

(13) The dummy for father absent/deceased would capture the possibility that the highest level of education of the parents was that reported by the mother simply because the father was absent or deceased, which is a common occurrence especially in the period post WWII for Italy, and post Civil War for Spain (that is, in the first two birth cohorts here). The definition of young motherhood varies across cohorts, in order to take into account temporal changes in fertility behaviour: I consider a case of young motherhood a situation where the mother was younger than 18 during the first 4 cohorts, younger than 20 between the fifth and the sixth (included), and younger than 23 for the last two cohorts.

Table 1: VARIABLES, DEFINITIONS AND DESCRIPTIVE STATISTICS

VARIABLES	DESCRIPTION	ITALY MEAN	ITALY S.D.	SPAIN MEAN	SPAIN S.D.	MAX	MIN
Individual controls							
male	= 1 if male, 0 otherwise	0.499	0.500	0.502	0.500	1	0
foreigner	= 1 if foreigner, 0 otherwise	0.069	0.254	0.060	0.238	1	0
chronic_illness	= 1 if has a chronic illness, 0 otherwise	0.164	0.370	0.193	0.395	1	0
Parental education							
h_tertiary	= 1 if the highest completed education is tertiary	0.038	0.191	0.093	0.291	1	0
h_upper_secondary	= 1 if the highest education is upper-secondary	0.123	0.328	0.065	0.247	1	0
h_lower_secondary	= 1 if the highest education is lower-secondary	0.185	0.388	0.064	0.244	1	0
h_primary_noeduc	= 1 if the highest education is primary or no-education	0.655	0.475	0.778	0.416	1	0
Frequency of financial problems during childhood (subjective)							
usual	= 1 if financial problems were usual	0.189	0.392	0.123	0.329	1	0
frequent	= 1 if financial problems were frequent	0.229	0.420	0.106	0.308	1	0
occasional	= 1 if financial problems were occasional	0.282	0.450	0.202	0.401	1	0
rare	= 1 if financial problems were rare	0.172	0.377	0.202	0.402	1	0
absent	= 1 if financial problems were absent	0.128	0.334	0.366	0.482	1	0
Family structure and cohabitation							
no_father	= 1 if the father was absent/deceased	0.059	0.236	0.022	0.148	1	0
both_parents	= 1 if the individual was living with both parents	0.927	0.261	0.934	0.248	1	0
n_siblings	= number of siblings in the household	2.218	1.977	2.764	2.077	20	0
young_mother	= 1 if young mother	0.120	0.326	0.063	0.243	1	0
Parental working situation and family occupational socio-economic status							
father_not_working	= 1 if the father was not working (unemployed/inactive)	0.144	0.351	0.027	0.163	1	0
mother_not_working	= 1 if the mother was not working	0.023	0.148	0.012	0.110	1	0
mother_housewife	= 1 if the mother was an housewife	0.741	0.438	0.666	0.472	1	0
parental_ISEI	= highest parental socio-economic status index	35.784	13.550	34.493	13.788	80	16

Computations Obtained Using Survey Weights. Source: EU-SILC 2005.

2. EMPIRICAL STRATEGY

As discussed above, the main objective of this paper is to explain the chances of achieving a given educational grade for individuals of different parental educational background. With the information about completed education categorized into four ordinal levels (no-education or primary (1), lower-secondary (2), upper-secondary (3) and tertiary education (4)), the most direct specification for modelling this kind of dependent variable consists in the ordered probit, extensively used in the literature [see Cameron & Heckman (1998), Ermisch & Francesconi (2001a), Chevalier & Lanot (2002), Lauer (2003), Brunello & Checchi (2005), Heineck & Riphahn (2009), among many others).

Specifically, the educational opportunity for an individual of a particular educational background who was born in a given cohort is defined as the predicted probability from the ordered probit. In order to obtain a flexible representation of the temporal pattern of educational opportunities, I separately estimated the model for each birth cohort. Moreover, family characteristics are fixed at the cohort-by-parental education average value. In formulae, the predicted probability of completing level of education j, for an individual born in cohort c, with parental educational background (highest completed education by the parents, PE) equal to k, is computed as:

$$Pr[E = j \mid PE = k, \bar{Z}^{k,c}]_c = \Phi(\mu_{j,c} - \beta_{k,c}\,PE_k - \gamma_c\,\bar{Z}^{k,c}) -$$
$$- \Phi(\mu_{j-1,c} - \beta_{k,c}\,PE_k - \gamma_c\,\bar{Z}^{k,c}) \qquad [1]$$

where Φ is the standard normal distribution and $\bar{Z}^{k,c}$ represents the vector of family characteristics when the individual was 14, fixed at the mean value by parental education (k) and birth cohort (c). The coefficients, estimated separately for each cohort, represent the cut-points ($\mu_{j,c}$), the coefficients associated with the parental education indicator ($PE_k = k$ if parental education is equal to k), and the effect of family characteristics ($\bar{Z}^{k,c}$) on educational attainment (i.e. the coefficient vectors γ_c), respectively. One may argue that these results are biased by the effect of (the intergenerational transmission of) unobserved genetic ability; unfortunately, the EU-SILC 2005 data do not allow us to deal with this potential issue. Nevertheless, assuming that genetic transmission is constant over time [following Checchi *et al.* (2008) and Heineck & Riphahn (2009)], we may consider that the analysis of temporal changes is still valid, at least in a descriptive sense (i.e., not in causal terms). Moreover, other authors suggest that the contribution of ability to the intergenerational socio-economic persistence seems to be rather limited [see Bowles and Gintis (2002)].

Subsequently, I investigate the "composition" of the disparities in educational opportunities, which represents the second objective of this paper. The objetive is to examine the extent to which children of better educated parents enjoy higher educational opportunities because of the better endowment of family characteristics they have with respect to children of parents with a lower educational background (that is, fewer financial problems, better parental employment and occupational outcomes, different fertility and cohabitation behaviours and so forth).

In order to do this, I use a simple decomposition strategy which is based on the pioneer Oaxaca-Blinder method [Blinder (1973), Oaxaca (1973)]. The following variant of the traditional Oaxaca-Blinder decomposition has been adapted from the methodology used in Bourguignon *et al*. (2007), for investigating inequality of opportunity in Brazil[14]. I consider the counterfactual predicted probabilities, computed by replacing the mean endowment of family characteristics from the least-advantaged group (i.e. families whose parents have no-education or only primary education, $PE = 1$).

These counterfactual predicted probabilities represent the (hypothetical) educational opportunity for an individual with a given educational background (more than primary education), if he/she had been endowed with the same family characteristics as those presented by the least-advantaged group. The counterfactual predicted probabilities are computed as

$$Pr[E = j \mid PE = k, \bar{Z}^{1,c}]_c = \Phi(\mu_{j,c} - \beta_{k,c}\,PE_k - \gamma_c\,\bar{Z}^{1,c}) -$$
$$- \Phi(\mu_{j-1,c} - \beta_{k,c}\,PE_k - \gamma_c\,\bar{Z}^{1,c}) \qquad [2]$$

that is, replacing $\bar{Z}^{k,c}$ for $\bar{Z}^{1,c}$ (the mean endowment of family characteristics when parental education is equal to 1) for every level of parental education higher than 1 ($k = 2, 3, 4$), and for every birth cohort c. Therefore, the difference between the actual and the counterfactual probability represents the changes in educational opportunity in response to the better composition of family characteristics among families with higher levels of parental education (i.e., the indirect effect of parental education on educational opportunity through the improvement in the endowment of family characteristics).

Notice that, as in Bourguignon *et al*. (2007), I consider that the returns on family characteristics (the γ_c coefficients) are the same for every level of parental education (e.g. the increase in the number of siblings has the same effect for individuals from different parental backgrounds, etc.). The justification for this assumption is twofold: first, I am only concerned with the disparities in the composition/endowment of family characteristics. Second, it was not possible to estimate a separate model for each cohort with γ_c coefficients that are specific for each level of parental education. Given that the main aim of this work consists of analysing temporal changes, I decided to maintain this constrained specification, considering that the educational disparities due to differences in the returns on family characteristics are of secondary importance.

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(14) The authors separate the component of income inequality due to "effort" from the components due to the direct effect of "circumstances" on income inequality, and the indirect effect through the impact of these circumstances on effort. Unfortunately, I cannot directly assess the issue of inequality of opportunities (that is, dividing a given outcome into "effort" and "circumstances" components), because of the lack of "effort" variables for educational attainments in the EU-SILC database.

3. Estimation results

The estimation results from the ordered probit models for completed education are reported in Tables 2A and 3A in the Appendix. Before proceeding with the analysis of the predicted probabilities, I briefly describe the coefficient estimates and their changes over the eight birth cohorts for Italy and Spain. The first significant result is that, in both countries, males obtained more schooling than females in the first four cohorts. However, this gender gap was visibly reversed in the last four cohorts.

As expected, parental educational background (the highest completed grade by one of the two parents) represents the most important determinant of an individual's education; its effect tends to decrease over time only in the case of Spain. An increase in the frequency of financial problems during childhood has a strong negative impact on schooling in the two countries. However, the associated coefficients decline over time in Spain but only moderately in Italy.

The only (observed) feature of cohabitation and family structure which seems to have a clearly significant effect on educational attainment is the number of siblings. In general, the negative effect of an increase in the number of siblings tends to increase across the cohorts for both Italy and Spain. Furthermore, a young maternal age clearly represents a penalization for educational attainments for the later cohorts.

Parental working status does not significantly affect educational attainment, apart from the positive (and unexpected) effect of having a housewife mother, which was statistically significant in some birth cohorts in Spain and only in the first two cohorts in Italy. By contrast, a family's occupational socio-economic status (represented by the highest ISEI in the family) is a strong predictor of educational attainments, showing an effect that tends to decrease over time.

3.1. *Predicted probabilities*

The following step involves examining the predicted probabilities (the measure of educational opportunity) by parental education and for each birth cohort. For the sake of brevity, I only explicitly consider the predicted probabilities of achieving post-compulsory education (that is, upper-secondary or tertiary education)[15]. The (actual) predicted probabilities and the 90% confidence intervals (discontinuous lines) are shown in Figures 2a and 2b for Italy and Spain, respectively. For each level of parental education (PE), the line with triangular markers represents the probability of being awarded a University degree and the line with square markers corresponds to the probability of completing upper-secondary education.

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(15) The results (not shown here) indicate that the predicted probability of having only primary education approaches the value of zero very quickly in both countries. Moreover, the probability of leaving the educational system with only lower-secondary education is almost stable over time for the two countries, and higher than 0.3% only for individuals with the lowest level of parental education. Even so, this "typology of individual" is likely to disappear with time when the effect of the compulsory education reforms has an impact on the whole of the parent generation.

In Italy, the likelihood of completing upper-secondary education clearly increases across the cohorts. Moreover, upper-secondary educational opportunities for individuals of different backgrounds tend to converge at the same level, except in the case of the children of tertiary educated parents, who are consistently one step further towards tertiary education. The picture for tertiary education opportunity is quite distinct; in fact, only individuals from families with the highest educational backgrounds display a persistently higher chance (but also the greatest dispersion) of completing their tertiary studies.

Figure 2a: PREDICTED PROBABILITIES – ITALY
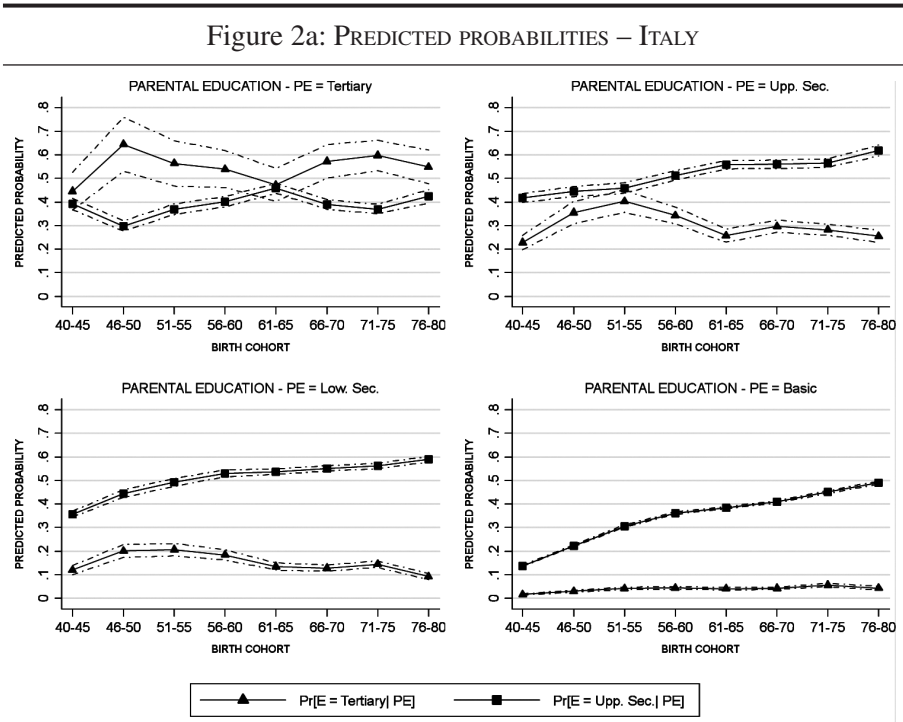
Source: Own elaboration.

The temporal pattern indicates that the probabilities of obtaining a University degree were greatest during the first cohorts. This, in all likelihood, reflects a "transitory" effect of the 1962 educational reform, further enhanced by the effects of the subsequent 1969 reform which opened up university entrance to students from non-academic schools. However, for the children of secondary educated parents, this probability fell during subsequent cohorts, increasing the disparities in opportunity for tertiary education. Moreover, for individuals from the lowest backgrounds, the likelihood of achieving tertiary education remained consistently low over the entire period. In general, only the children of tertiary educated parents presented greater chances of completing tertiary education, which means that

they are the only ones to really benefit from the expansion of tertiary education. In fact, individuals from a lower background are always more likely to terminate their schooling in upper-secondary school than with a University degree.

Figure 2b: PREDICTED PROBABILITIES – SPAIN
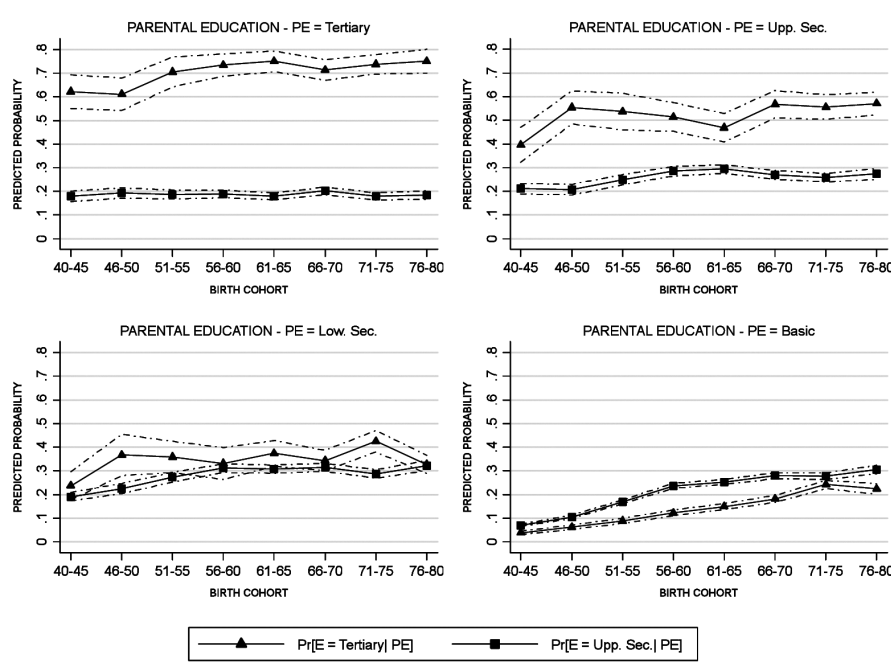
Source: Own elaboration.

The evidence for Spain differs considerably; in fact, the probability of obtaining an upper-secondary education remains virtually unchanged over time, showing a moderately rising tendency only in the case of individuals from lower-secondary educated families or less. Nevertheless, the disparities in upper-secondary education opportunities tend to disappear over the course of time in Spain as well. As for tertiary education opportunity, the results for Spain suggest a marked improvement, given the general increase in predicted probabilities. Even so, the chances of being awarded a University degree are visibly higher among the children of tertiary educated parents, while they are markedly lower among the children of primary or uneducated parents[16]. This picture suggests that the dispar-

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(16) Note also that, in the case of Spain, the dispersion of tertiary education opportunities (which can be taken as a broad measure of within-group inequality) is higher for individuals with upper-secondary and "to a lesser extent" lower-secondary educated parents. Moreover, in the Spanish

ities in tertiary education opportunities have clearly diminished over time but that "to some extent" they still persist for the youngest cohorts (at least up to the end of the period analysed here).

However, the situation is less complicated than in the case of Italy, given that the chances of completing University are always higher than the chances of leaving education at the end of upper-secondary school (except for individuals from the least-advantaged group). In general, this means that, in Spain, individuals from a lower background have also benefited from the expansion of tertiary education, albeit not to the same extent as individuals from higher backgrounds.

3.2. Counterfactual predicted probabilities

In order to assess the extent to which these disparities in educational opportunities are composed by the endowment of the other family characteristics, I compute the counterfactual predicted probabilities previously described (i.e. equation 2). Figures 3a and 3b show the hypothetical educational opportunities obtained by replacing the mean family characteristics' endowment (the vector) with the average values from the least-advantaged families[17] (highest parental education equal to 1). For each figure, the upper panel represents the predicted probabilities (actual and counterfactual) of achieving tertiary education, whereas the lower panel illustrates the probabilities of obtaining upper-secondary education.

With a simple graphical analysis, we notice that once differences in the endowment of family characteristics have been accounted for, individuals from different educational backgrounds have very similar educational opportunities. For both countries, there is almost no effect of the differences in the composition of a family's characteristics on the chances of obtaining upper-secondary education. The only noticeable effect is on the children of tertiary educated parents whose "better" endowment of family characteristics makes them less likely to drop out after upper-secondary education than others (that is, the counterfactual predicted probabilities are higher than the actual probability).

Moreover, when accounting for their better family environment, individuals of tertiary educated parents present almost the same likelihood of leaving education only at the end of upper-secondary education as those of a lower educational background. Indeed, the chances of completing tertiary education are significantly lower when the average family characteristics are switched to the values of those from the least-advantaged group (lines with diamond markers). In addition, the disparities between individuals of different backgrounds undergo a marked reduction[18] in both countries. As expected, the indirect effect of parental education

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case, the predicted probabilities do not show any visible effect of the 1970 educational reform (implemented in 1974), which should have affected individuals born after 1960.

(17) The reader should bear in mind that this decomposition may be affected by path-dependency, which means that the results could be sensitive to the choice of the reference group (here, individuals from primary or uneducated parents). However, using as our reference group individuals from tertiary educated parents does not modify the general results. Bear in mind also that individual control variables are kept fixed to the actual mean values.

(18) Obviously, here again, I do not report the predicted probabilities for individuals from primary or uneducated parents, given that this group is taken as a reference in the decomposition.

Figure 3a: Counterfactual predicted probabilities – Italy

Source: Own elaboration.

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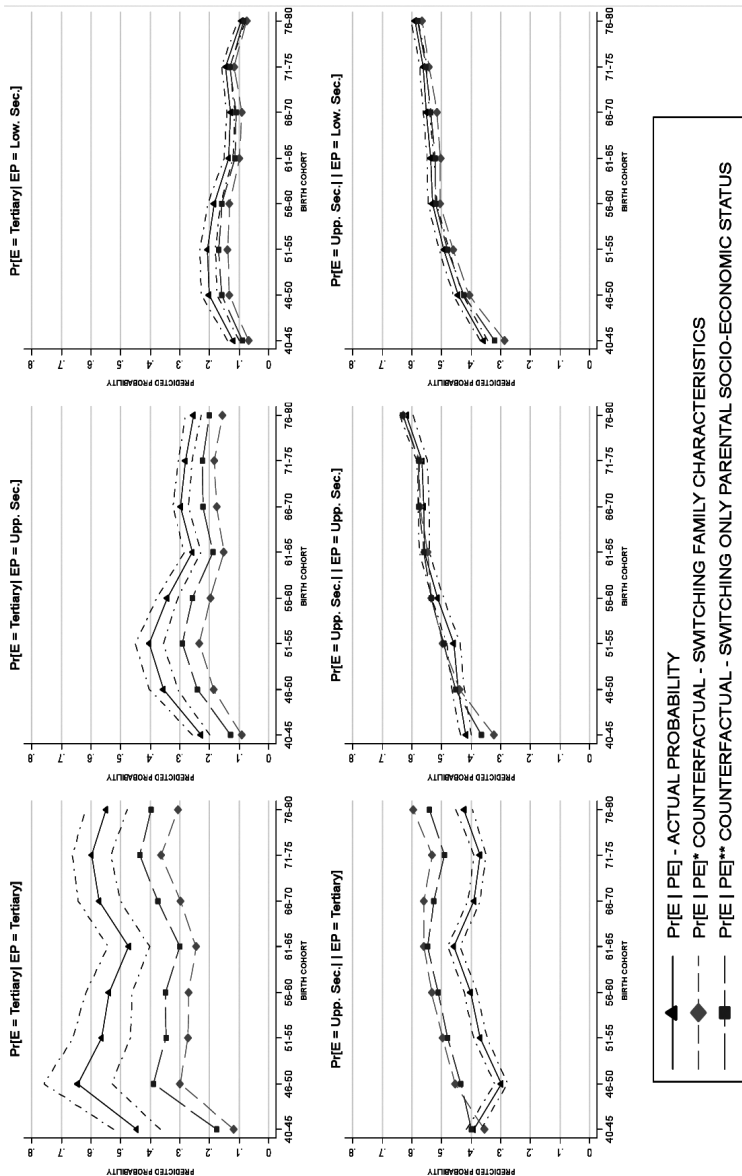
Figure 3b: Counterfactual predicted probabilities – Spain
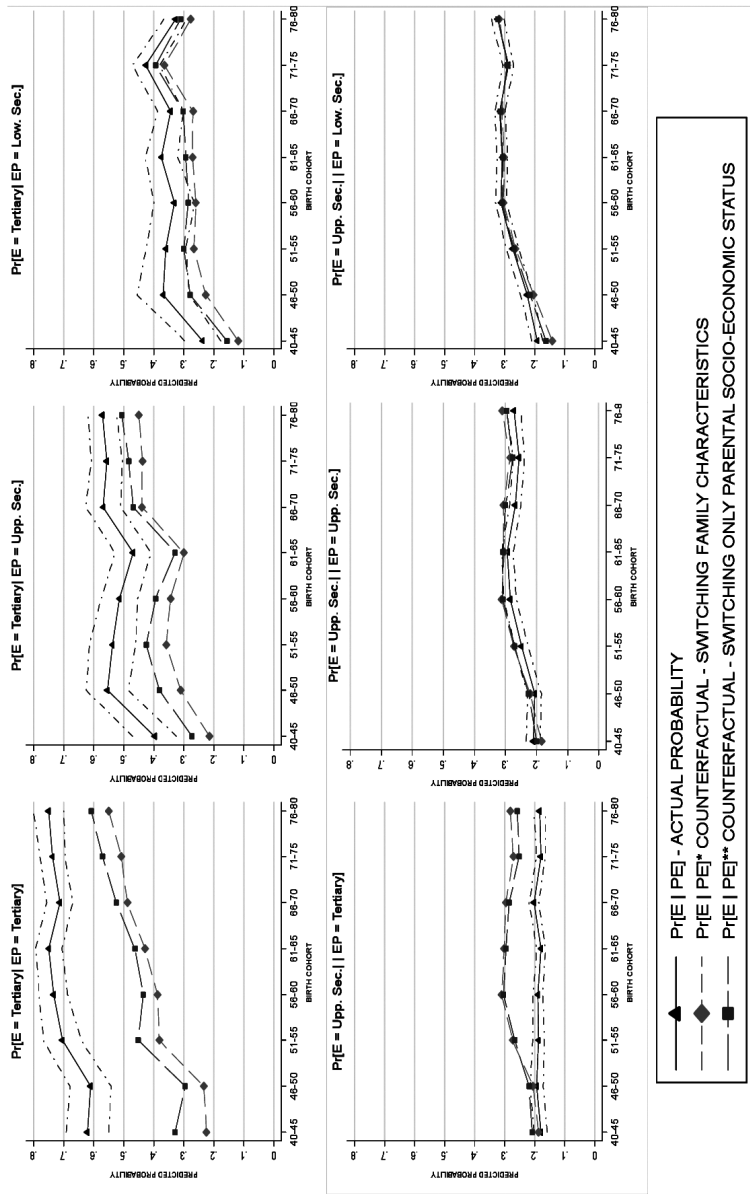
Source: Own elaboration.

through the endowment of family characteristics increases with parental schooling. Moreover, it displays only a moderate tendency to decrease across the cohorts (which seems to be more marked in the Spanish case); in fact, a significant effect of family characteristics' composition still persists for the youngest cohorts.

Finally, it seems that parental socio-economic status represents the most important component of family characteristics. In Figures 3a and 3b I also report the additional counterfactual probabilities obtained by switching only parental socio-economic status (lines with squared markers) to the average values from the least-advantaged group. In both countries, the impact of parental education on the endowment of family's socio-economic status accounts for the greatest part of the family characteristics' composition effect. Furthermore, the effect of the rest of family characteristics[19] –i.e. the difference between the diamonded and the squared lines– is, in general, less marked.

4. DISCUSSION

The results reported above make several contributions to the existing evidence regarding educational opportunities in Italy and Spain. First of all, the results for upper-secondary education opportunities appear to show that individuals of different educational backgrounds have, over the course of time, attained almost the same chances of completing upper-secondary education. In fact, both countries display a tendency towards the equalization of the predicted probability of completing upper-secondary education (with the exception of individuals with at least one tertiary educated parent, who consistently go one step further into tertiary education).

However, the definition of upper-secondary education might hide major disparities in relation to family background, given the differences in the educational curricula. In fact, the definition of upper-secondary education (taken from the ISCED codification) does not differentiate between academic and non-academic tracks at upper secondary school. This means that, even though it might seem that individuals of different backgrounds record the same predicted probability, those with a more unfavourable educational background might be more likely to enrol in non-academic schools (irrespective of their ability). This represents an additional source of educational disparity, which, unfortunately, is not possible to capture with the EU-SILC data.

The effects of this disparity in secondary education track choices probably results in a reduction in the chances of successfully graduating from University, given the lower levels of quality and prestige traditionally attached to non-academic schools. Note that this problem might be considerably more pronounced in Italy than in Spain, since the track separation in the former is much more marked

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(19) The effect of the rest of family characteristics is mainly attributable to the impact of the number of siblings and the impact of financial problems during childhood. Note that this could mean that short-term financial constraints are not a real problem for educational opportunity (given that parental education is highly correlated with this variable). However, this variable represents "subjective financial well-being", and its subjective nature could explain the relatively low impact on educational opportunity (apart from other potential "recall" problems).

than in the latter. In general, in Spain, vocational secondary school has been historically associated with school failure cases, while the general schooling process consists of proceeding with an academic secondary education.

The evidence for tertiary education opportunities is, in general, consistent with this possibility and presumably represents the other side of the same coin. In fact, while disparities in the chances of obtaining a University degree have significantly diminished across the cohorts in Spain, the evidence for the Italian case is quite distinct; in Italy, the difference in the likelihood of obtaining tertiary education among individuals of different backgrounds has tended to increase over time. Moreover, in Italy, only the children of tertiary educated parents are more likely to complete tertiary education than upper-secondary education; for individuals of a lower background, the evidence is just the reverse. By contrast, in Spain, the chances of obtaining a University degree are always higher than the probability of terminating one's schooling with (only) an upper-secondary education (excluding individuals of the lowest backgrounds).

Another factor that might rationalise this divergence in the results between the two countries consists of the stable effect of parental education on a child's educational achievements in Italy. This persistent relationship between parental education and a child's schooling (reported in the previous estimations), together with the strong early track separation in post-compulsory secondary schools, might explain why, in Italy, the inequality in tertiary education opportunities has tended to rise over time and why this has not been the case in Spain. However, other possible explanations might lie in the labour market and in the supply side of education (i.e. different returns on education, differences in educational quality, etc.), or systematic differences in individual/family behaviour related to educational choices [for example, with respect to the role of risk aversion, as in Checchi *et al*. (2008), Belzil & Leonardi 2007].

In addition, the results from the decomposition of the predicted probabilities suggest that individuals with a more favourable educational background obtain higher tertiary education opportunities, as well as because of their better endowment of family characteristics (with respect to individuals of the lowest background). In other words, higher parental education yields better tertiary education opportunity for their children because it enables them to generate a more stimulating family environment. When accounting for differences in family characteristics associated with parental education, children from tertiary educated parents (who display the highest tertiary education opportunity) are more prone to stop at upper-secondary school. Moreover, the disparities in the chances of obtaining a University degree are significantly reduced.

The results reported here indicate that the most important component of family characteristics is parental socio-economic status during the childhood. Thus, more highly educated parents increase the educational opportunity of their children because their educational achievements enable them to generate a higher socio-economic status in the family. Indeed, the effect of family socio-economic status on educational opportunity might proxy some long-standing income element but also other factors related to parental social networking. Another potential explanation for these results could be that parents who have achieved a high socio-economic status thanks to their schooling might be more capable of shaping their chil-

dren's educational opportunity because of the transmission of non-cognitive skills (such as motivation and persistence), but also by providing a better perception of the global value of schooling, and creating the right incentives to stay in education.

Finally, as commented above, it should be borne in mind that unobserved parental characteristics, related to parental education, might simultaneously affect a child's educational opportunity and the endowment of family characteristics. Therefore, to some extent, the indirect effect of parental education on educational opportunity might also include such unobservable effects. Nevertheless, assessing this issue in causal terms requires more detailed data and would be an interesting subject for future research (once additional data become available).

5. CONCLUSIONS

This paper provides an analysis of post-compulsory educational opportunities in Italy and Spain and their respective evolutions across birth cohorts for individuals born between 1940 and 1980. The results indicate that individuals of different educational backgrounds have, over the course of time, attained the same chances of completing upper-secondary education. This evidence may be interpreted as the equalization of opportunity in secondary education for individuals of different origins. However, as discussed above, the results may conceal significant disparities related to the choice of educational curricula in academic and non-academic secondary schools.

This analysis also confirms the conclusions reported elsewhere that the expansion of tertiary education has had a disproportionate advantage for individuals from a higher educational background, who are the only ones who consistently present the best chances of completing University education. This situation is significantly more complex in Italy where the disparity in opportunities in tertiary education among individuals from different backgrounds seems to increase over time. In the Spanish case, the gap in the predicted probability of obtaining a University degree clearly tends to decrease over time, even if significant disparities are also present in the youngest cohorts.

The results obtained from the decomposition of educational opportunities seem to indicate that a sizeable part of the disparity in the chances of completing a University degree is explained by differences in the endowment of family characteristics. More specifically, they suggest that the children of better educated parents are, more likely to complete their tertiary education because the higher education of their parents provides them with a better family environment for their schooling. Among the various family characteristics considered, parental socio-economic status is, in both countries, the most important factor accounting for the observed gap in educational opportunity.

The difference in the endowment of family characteristics provides a further potential explanation of the persistence in educational disparities based on social origins. Even if the effect family characteristic cannot be entirely separated from other potential explanations (e.g. the effect of unobservable parental characteristics or other factors related to secondary school choices), it needs to be taken into consideration by policymakers. The main recommendation here involves focusing

educational policies so as to reduce the impact of long-standing family characteristics on post-compulsory education opportunities. The first alternative would involve creating school support programs for students from poor educational backgrounds, especially as regards their educational choices. However, the most effective policy would involve institutional changes in the educational system itself, promoting early schooling, extending compulsory education, postponing the tracking decision by implementing a comprehensive secondary school system.

Note that, in Spain, the educational system has already moved in this direction. With the implementation of the Organic General Act of the Educational System (LOGSE) of 1990, the country took two important steps towards the destratification of education. This act introduced a comprehensive system of compulsory education up to the age of 16 (primary and lower-secondary education), delaying track separation by an additional two years. In all likelihood, more recent data would reflect this institutional change, showing a further reduction in educational disparities associated with family background.

In the case of Italy, the stratification appears to be much stronger. Even though compulsory education was recently extended until the age of 16 (with law no. 296/2006), the marked track separation between academic, professional and technical upper-secondary education remains. In addition, a more recent act called "Collegato Lavoro" (law no. 183/2010, which was approved in October 2010) states that students may substitute the last year of compulsory schooling with a year spent as an apprentice in a firm[20]. It is quite likely that this reform would nullify the positive effect of the extension of compulsory schooling on the equalisation of educational opportunities. In any case, the current academic and political debate is now concerned, among other things, with the possibility of reducing or restructuring the number of educational programs, or switching towards a comprehensive system of upper-secondary education, which (as frequently suggested) is the most effective strategy for reducing the existing disparities in educational opportunities.

Finally, as regards tertiary education, a number of authors claim that the introduction of the "Bologna System" is a crucial opportunity for equalising opportunities for higher education, especially among the more able students from unfavourable family backgrounds [Cappellari & Lucifora (2009)]. This reform might serve to reduce the disparity in tertiary education opportunities. This seems possible because the reduction in the duration of tertiary studies and in the number of examinations should reduce University opportunity costs, relaxing the negative effect of credit constraints on more able individuals. Since the Bologna Reform has still not been fully implemented in Spain, and the data for Italy are only available for the first cohort of individuals educated under this new system, we need to wait for the availability of fresh data before considering the long-term effects of this reform on tertiary education opportunities.

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(20) I am grateful to an anonymous referee for this suggestion.

APPENDIX

Table 1A: COMPLETED EDUCATION BY COUNTRY
AND BIRTH COHORT (RELATIVE FREQUENCIES)

Completed education (% of the sample by birth-cohort)

Italy

Birth cohort	Basic	Lower Secondary	Upper Secondary	Tertiary	Number of Observations
1 1940-1945	49.43	23.34	19.73	7.49	4,442
2 1946-1950	36.82	28.22	24.53	10.44	3,887
3 1951-1955	22.42	33.72	30.58	13.28	3,567
4 1956-1960	13.25	39.48	34.89	12.38	3,849
5 1961-1965	8.38	39.45	39.73	12.45	4,304
6 1966-1970	5.82	37.45	42.20	14.54	4,219
7 1971-1975	6.03	32.87	44.43	16.67	3,879
8 1976-1980	3.95	30.50	50.93	14.62	2,346
Pooled sample	18.22	33.42	35.64	12.71	30,493

Spain

Birth cohort	Basic	Lower Secondary	Upper Secondary	Tertiary	Number of Observations
1 1940-1945	66.28	11.65	10.03	12.04	2,217
2 1946-1950	54.00	18.71	13.36	13.93	2,088
3 1951-1955	42.38	23.40	17.47	16.75	2,097
4 1956-1960	30.17	24.26	23.61	21.97	2,471
5 1961-1965	23.29	26.87	23.57	26.27	2,684
6 1966-1970	18.16	24.85	26.02	30.97	2,464
7 1971-1975	15.13	21.39	25.74	37.73	2,286
8 1976-1980	13.14	23.43	26.41	37.02	1,582
Pooled sample	30.86	22.02	21.43	25.51	17,889

Computations Obtained Using Survey Weights SOURCE EU-SILC 2005.

Table 2A: Ordered probit for completed education – Italy (robust standard errors in parenthesis)

Variable	1940-1945	1946-1950	1951-1955	1956-1960	1961-1965	1966-1970	1971-1975	1976-1980
male	0.427***	0.392***	0.202***	0.117***	-0.012	-0.139***	-0.180***	-0.262***
	(0.036)	(0.037)	(0.037)	(0.035)	(0.034)	(0.034)	(0.036)	(0.047)
foreigner	0.294**	0.307**	-0.058	0.051	-0.026	-0.061	-0.267***	-0.348***
	(0.118)	(0.130)	(0.133)	(0.087)	(0.075)	(0.066)	(0.071)	(0.089)
chronic_illness	-0.117***	-0.096**	-0.188***	-0.094*	-0.293***	-0.217***	-0.314***	-0.280***
	(0.039)	(0.043)	(0.046)	(0.049)	(0.050)	(0.059)	(0.071)	(0.095)
h_tertiary	0.936***	1.334***	1.112***	1.088***	1.042***	1.198***	1.220***	1.168***
	(0.141)	(0.203)	(0.160)	(0.140)	(0.125)	(0.132)	(0.121)	(0.138)
h_upper_secondary	0.821***	0.974***	1.002***	0.850***	0.701***	0.784***	0.678***	0.682***
	(0.068)	(0.088)	(0.084)	(0.070)	(0.064)	(0.059)	(0.055)	(0.073)
h_lower_secondary	0.641***	0.738***	0.640***	0.581***	0.451***	0.384***	0.380***	0.251***
	(0.061)	(0.061)	(0.060)	(0.052)	(0.046)	(0.043)	(0.042)	(0.058)
h_primary_noeduc				Reference Category				
usual	-0.452***	-0.448***	-0.482***	-0.525***	-0.261***	-0.397***	-0.369***	-0.567***
	(0.071)	(0.077)	(0.073)	(0.073)	(0.066)	(0.066)	(0.072)	(0.101)
frequent	-0.374***	-0.329***	-0.380***	-0.347***	-0.249***	-0.301***	-0.154**	-0.441***
	(0.071)	(0.075)	(0.069)	(0.068)	(0.060)	(0.060)	(0.062)	(0.085)
occasional	-0.246***	-0.216***	-0.223***	-0.146**	-0.114**	-0.165***	-0.118**	-0.311***
	(0.070)	(0.075)	(0.068)	(0.065)	(0.055)	(0.054)	(0.053)	(0.072)
Rare	-0.087	-0.051	-0.112	-0.139**	-0.073	-0.093	0.058	-0.243***
	(0.076)	(0.081)	(0.075)	(0.071)	(0.062)	(0.060)	(0.056)	(0.075)
absent								

Note:*** significant at 0.01, ** significant at 0.05, * significant at 0.1; all the estimations include indicators for missing values (not shown).
Source: Own elaboration.

Table 2A: Ordered probit for completed education – Italy (robust standard errors in parenthesis) (continuation)

Variable	1940-1945	1946-1950	1951-1955	1956-1960	1961-1965	1966-1970	1971-1975	1976-1980
				Reference Category				
no_father	0.047	0.174	0.016	0.102	-0.047	-0.135	0.233	0.107
	(0.149)	(0.170)	(0.160)	(0.188)	(0.149)	(0.168)	(0.203)	(0.239)
both_parents	-0.054	-0.047	-0.015	0.014	0.101	-0.002	0.297	0.175
	(0.138)	(0.154)	(0.148)	(0.174)	(0.132)	(0.153)	(0.188)	(0.223)
n_siblings	-0.085***	-0.083***	-0.084***	-0.098***	-0.110***	-0.107***	-0.108***	-0.079***
	(0.010)	(0.011)	(0.010)	(0.010)	(0.010)	(0.010)	(0.013)	(0.022)
young_mother	-0.116**	-0.210	-0.350	-0.082	-0.340***	-0.295***	-0.228***	-0.185***
	(0.046)	(0.215)	(0.429)	(0.229)	(0.110)	(0.097)	(0.051)	(0.060)
father_not_working	-0.042	-0.041	-0.127**	0.037	-0.161***	-0.081	0.050	0.017
	(0.060)	(0.059)	(0.062)	(0.059)	(0.057)	(0.056)	(0.058)	(0.076)
mother_not_working	0.066	0.133	0.109	0.003	-0.133	0.091	-0.009	0.152
	(0.126)	(0.124)	(0.128)	(0.150)	(0.122)	(0.126)	(0.116)	(0.134)
mother_housewife	0.243***	0.124**	0.057	0.059	-0.000	-0.016	0.014	0.018
	(0.052)	(0.050)	(0.050)	(0.047)	(0.044)	(0.042)	(0.043)	(0.054)
parental_ISEI	0.025***	0.018***	0.017***	0.015***	0.014***	0.014***	0.012***	0.012***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
μ1	0.648***	0.149	-0.536***	-0.968***	-1.246***	-1.537***	-1.263***	-1.662***
	(0.163)	(0.174)	(0.172)	(0.192)	(0.151)	(0.168)	(0.204)	(0.239)
μ2	1.336***	0.925***	0.464***	0.276	0.213	-0.025	0.146	-0.251
	(0.164)	(0.174)	(0.172)	(0.191)	(0.150)	(0.167)	(0.202)	(0.240)
μ3	2.455***	2.136***	1.803***	1.743***	1.762***	1.576***	1.747***	1.549***
	(0.168)	(0.177)	(0.176)	(0.193)	(0.152)	(0.169)	(0.204)	(0.242)
Log-Likelihood	-4,365.20	-4,384.87	-4,161.62	-4,290.66	-4,556.47	-4,332.07	-4,005.14	-2,291.30
Pseudo-R2	0.136	0.117	0.113	0.112	0.104	0.119	0.112	0.118
N. Observations	4,442	3,887	3,567	3,849	4,304	4,219	3,879	2,346

Note:*** significant at 0.01, ** significant at 0.05, * significant at 0.1; all the estimations include indicators for missing values (not shown).

Source: Own elaboration.

Table 3A: Ordered probit for completed education – Spain (robust standard errors in parenthesis)

Variable	1940-1945	1946-1950	1951-1955	1956-1960	1961-1965	1966-1970	1971-1975	1976-1980
male	0.456***	0.356***	0.330***	0.197***	-0.079*	-0.109**	-0.190***	-0.289***
	(0.057)	(0.053)	(0.051)	(0.046)	(0.043)	(0.045)	(0.047)	(0.057)
foreigner	0.569***	0.121	0.223	0.235**	0.095	0.105	-0.089	-0.118
	(0.206)	(0.143)	(0.138)	(0.114)	(0.097)	(0.084)	(0.091)	(0.105)
chronic_illness	-0.210***	-0.147**	-0.141**	-0.250***	-0.292***	-0.276***	-0.213***	-0.313***
	(0.059)	(0.059)	(0.058)	(0.059)	(0.058)	(0.069)	(0.079)	(0.098)
h_tertiary	0.950***	0.770***	1.043***	0.864***	0.845***	0.867***	0.716***	0.868***
	(0.147)	(0.133)	(0.135)	(0.109)	(0.099)	(0.096)	(0.099)	(0.125)
h_upper_secondary	0.919***	1.031***	0.949***	0.727***	0.501***	0.737***	0.533***	0.614***
	(0.125)	(0.118)	(0.128)	(0.098)	(0.098)	(0.098)	(0.088)	(0.086)
h_lower_secondary	0.578***	0.803***	0.711***	0.524***	0.425***	0.285***	0.345***	0.167**
	(0.123)	(0.143)	(0.109)	(0.115)	(0.089)	(0.075)	(0.075)	(0.070)
h_primary_noeduc				Reference Category				
usual	-0.584***	-0.553***	-0.412***	-0.481***	-0.208**	-0.307***	-0.476***	-0.564***
	(0.087)	(0.087)	(0.085)	(0.084)	(0.085)	(0.087)	(0.102)	(0.116)
frequent	-0.545***	-0.394***	-0.428***	-0.346***	-0.258***	-0.277***	-0.270***	-0.489***
	(0.095)	(0.087)	(0.085)	(0.085)	(0.079)	(0.091)	(0.092)	(0.117)
occasional	-0.511***	-0.293***	-0.241***	-0.302***	-0.217***	-0.195***	-0.242***	-0.289***
	(0.082)	(0.076)	(0.073)	(0.062)	(0.058)	(0.062)	(0.066)	(0.080)
Rare	-0.279***	-0.166**	-0.141*	-0.069	-0.196***	-0.176***	-0.111*	-0.081
	(0.090)	(0.080)	(0.074)	(0.062)	(0.059)	(0.061)	(0.061)	(0.075)
absent								

Note:*** significant at 0.01, ** significant at 0.05, * significant at 0.1; all the estimations include indicators for missing values (not shown).

Source: Own elaboration.

Table 3A: Ordered probit for completed education – Spain (robust standard errors in parenthesis) (continuation)

Variable	1940-1945	1946-1950	1951-1955	1956-1960	1961-1965	1966-1970	1971-1975	1976-1980
			Reference Category					
no_father	-0.102	0.097	-0.179	0.232	-0.198	0.369*	-0.129	0.037
	(0.198)	(0.252)	(0.259)	(0.191)	(0.188)	(0.200)	(0.186)	(0.287)
both_parents	0.023	0.045	-0.180	0.230*	-0.084	0.279**	-0.133	0.008
	(0.117)	(0.145)	(0.154)	(0.122)	(0.132)	(0.131)	(0.135)	(0.163)
n_siblings	-0.082***	-0.069***	-0.067***	-0.075***	-0.106***	-0.123***	-0.108***	-0.108***
	(0.014)	(0.014)	(0.012)	(0.011)	(0.011)	(0.012)	(0.013)	(0.019)
young_mother	-0.126	-0.136	-0.252	-0.765***	-0.115	-0.347***	-0.222***	-0.330***
	(0.167)	(0.221)	(0.212)	(0.147)	(0.120)	(0.104)	(0.060)	(0.074)
father_not_working	-1.110***	-0.426	-0.366	-0.337*	0.106	-0.027	-0.010	0.289
	(0.400)	(0.323)	(0.224)	(0.204)	(0.218)	(0.192)	(0.159)	(0.193)
mother_not_working	0.521*	0.074	-0.252	-0.047	-0.285	-0.135	-0.131	-0.295*
	(0.284)	(0.302)	(0.245)	(0.233)	(0.195)	(0.247)	(0.246)	(0.173)
mother_housewife	0.181***	0.051	0.126**	0.070	0.142***	0.183***	0.152***	0.056
	(0.065)	(0.060)	(0.057)	(0.052)	(0.048)	(0.049)	(0.051)	(0.060)
parental_ISEI	0.022***	0.025***	0.020***	0.025***	0.026***	0.018***	0.018***	0.016***
	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)
μ1	0.872***	0.707***	0.102	0.193	-0.424***	-0.467***	-0.966***	-1.163***
	(0.166)	(0.183)	(0.181)	(0.152)	(0.159)	(0.161)	(0.175)	(0.208)
μ2	1.394***	1.353***	0.798***	0.968***	0.500***	0.476***	-0.116	-0.206
	(0.167)	(0.185)	(0.182)	(0.153)	(0.159)	(0.161)	(0.175)	(0.206)
μ3	1.929***	1.927***	1.497***	1.771***	1.293***	1.288***	0.633***	0.627***
	(0.172)	(0.188)	(0.184)	(0.154)	(0.161)	(0.163)	(0.175)	(0.206)
Log-Likelihood	-1,811.37	-2,103.42	-2,405.55	-2,995.41	-3,299.17	-3,023.20	-2,769.17	-1,853.47
Pseudo-R2	0.178	0.141	0.123	0.120	0.111	0.105	0.099	0.114
N. Observations	2,217	2,088	2,097	2,471	2,684	2,464	2,286	1,582

Note:*** significant at 0.01, ** significant at 0.05, * significant at 0.1; all the estimations include indicators for missing values (not shown).

Source: Own elaboration.

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RESUMEN

Utilizando los datos de la encuesta EU-SILC del 2005, este artículo analiza las disparidades en las oportunidades educativas en Italia y en España. El objetivo principal consiste en analizar las probabilidades predichas de completar la educación secundaria post-obligatoria y la educación terciaria para individuos con un *background* familiar diferente, y los cambios en dichas probabilidades entre las cohortes de nacimientos comprendidas entre 1940 y 1980. Los resultados sugieren que las disparidades en las oportunidades de educación terciaria tienden a crecer con el tiempo para Italia. En cambio, en España las diferencias en oportunidades educativas muestran una clara reducción a lo largo de las cohortes. Además, utilizando una técnica de descomposición muy intuitiva, este artículo demuestra que una parte importante de las disparidades educativas entre individuos procedentes de un *background* educativo diferente está compuesta por diferencias en la dotación de características familiares. Concretamente, parece que los padres más educados son más capaces de dotar a sus hijos de una mejor composición de características familiares, hecho que explica una proporción significativa de las disparidades en oportunidades educativas.

Palabras clave: oportunidades educativas, *background* familiar, cohortes de nacimiento, Italia, España.

Clasificación JEL: I21, J12, J62.