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Early school leaving dynamics in Italy: the heterogeneity of gender effects

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ABSTRACT

LE DINAMICHE DELL'ABBANDONO SCOLASTICO IN ITALIA: QUALI EFFETTI DI GENERE?

Considerata la crescente domanda di lavoro qualificato, il rischio di abbandono scolastico costituisce un problema rilevante per molte società europee. L'Italia è uno dei paesi UE-28 dove il fenomeno è più grave, poiché un quinto dei giovani italiani non ha un titolo di studio secondario superiore. Nonostante la rilevanza del tema e le importanti implicazioni per l'uguaglianza di opportunità, solo un ristretto numero di ricerche ha indagato le cause e le conseguenze dell'abbandono scolastico nel contesto italiano. Inoltre, sebbene il genere sia una dimensione cruciale della disuguaglianza quando si guardi alla struttura delle opportunità sul mercato del lavoro, gli effetti di genere nell'abbandono scolastico non sono finora stati approfonditi. In questo articolo, analizziamo gli effetti di genere sulla probabilità di abbandono della scuola secondaria ed il successivo posizionamento sul mercato del lavoro usando ISFOL-PLUS (wave 2005-2011) e la base dati ISFOL "Le dinamiche della dispersione formativa" (2011). I risultati suggeriscono l'esistenza di diversi meccanismi per l'abbandono scolastico fra maschi e femmine, parzialmente mediati da fattori *push* e *pull*. Le ragazze hanno una minore propensione all'abbandono rispetto ai ragazzi, e non solo in ragione della loro migliore *performance* scolastica (uno dei principali fattori *push*). I fattori *pull* – ed in particolare quelli relativi al lavoro – sembrano influenzare in maniera differente maschi e femmine a causa delle diverse opportunità sul mercato del lavoro, come emerge dai risultati sull'associazione fra abbandono, area di residenza e livello di istruzione dei genitori. Infine, le analisi sulle attuali condizioni degli studenti con bassa performance scolastica mostrano che non aver conseguito una qualifica di scuola secondaria ed essere una femmina sono associati – nel breve periodo – alle posizioni meno favorevoli sul mercato del lavoro, mentre l'interazione fra abbandono e genere non è statisticamente significativa.

PAROLE CHIAVE: abbandono, transizioni scuola/lavoro, genere

EARLY SCHOOL LEAVING DYNAMICS IN ITALY: THE HETEROGENEITY OF GENDER EFFECTS

Given the rising skill demands in the labour market, early school leavers are a category at risk in European societies. Italy is one of the EU-28 countries where this phenomenon is most severe, since about one fifth of Italian young adults do not hold an upper-secondary degree. Despite the relevance of this topic for the equality of life chances, only a few works have investigated the causes and consequences of dropout from secondary schooling in the Italian context. Moreover, even if gender is a crucial dimension of inequality when considering the labour market opportunity structure, gender effects are usually accounted for, but not analysed specifically. By using ISFOL PLUS (waves 2005-2011) and the "Early school leaving dynamics" (ESLD) survey conducted by ISFOL in 2011, we look directly at gender effects by studying if and to what extent boys more inclined to drop out from upper-secondary schooling than girls, and what are the labour market outcomes for boys and girls who did and did not drop out from high school. The main results of our analyses suggest the existence of different mechanisms for early school leaving for boys and girls, partially mediated by



push and pull factors. We find that girls are less likely to drop out from secondary schooling even after accounting for previous scholastic performance, i.e. a key push factor. We argue that pull factors – and especially job-related motivations – may affect boys and girls differently due to differential labour market opportunities. The latter hypothesis is supported by the findings concerning the association between dropout and the area of residence of the pupils and the educational level of their parents. Finally, we analyse the current labour market.

KEYWORDS: *Dropout, School-to-work transitions, Gender*

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INTRODUCTION

In recent decades, investments in education have become a key element of social policies sponsored at the European level. Besides the individual gains connected to education (Oreopoulos and Salvanes 2011), increasing general level of skills and qualifications – the so-called “human capital policy” – is now considered an effective long-term strategy for societies (Carneiro and Heckman 2003). Under the “social investment” perspective, the sustainability of welfare states in ageing societies could be assured only by a shift from compensatory to preventive policies, targeting social risks at early stages of life (Van Kersbergen and Hemerijck, 2012; Nolan, 2013). Consistently with this vision, the European Union has set the reduction of early school leaving as one of the five main targets of its ten-year strategy for growth (European Commission 2010). Italy, together with Portugal and Spain, is one of the EU-28 countries with the highest rates of early school leavers, i.e. young adults who did not reach upper-secondary qualification. This phenomenon has witnessed a slow but steady decline in the 1990s and 2000s, but its magnitude is still alarming, since early school leavers constitute about one fifth of Italian young adults (Eurostat 2014).

Despite its obvious relevance, the issue of dropout from secondary schooling is not a primary focus of interest for Italian scholars analyzing educational transitions. Instead, studies on school choices have predominantly concentrated on the transitions from lower- to upper-secondary education. Such studies find that the probability to enroll into a generalist (as opposed to vocational) track is strongly affected by family background (Cecchi 2008). In a comparative perspective, these effects are not among the largest in Europe (Cecchi and Flabbi 2007, Contini and Scagni 2011), but – differently from other countries – they operate largely independently of previous school achievement (Contini and Scagni 2013). From this literature, we can also gain an insight on the role of gender in school transitions, since both Cecchi and Flabbi (2007) and Contini and Scagni (2011) find that the effects of family background on track choice are stronger for boys than for girls.

The limited attention to early school leaving in the Italian scientific debate could be partially due to the lack of appropriate data. Indeed, among the few (to our knowledge) praiseworthy works exploring so far the determinants of dropout, two rely on self-collected and/or local data sources (O'Higgins *et al.* 2007, Fiorio and Leonardi 2010), and only one uses nationally representative data from the *Labour Force Survey*, which results in rather small sample sizes (Mocetti 2012). Ballarino and colleagues (2011) use the *Italian Longitudinal Household Survey*, but acknowledge that this data source is not suitable for studying the phenomenon of early school leaving *per se*. Indeed, their goal is a different one, i.e. introducing dropout into the picture of two important lines of stratification research: the study of inequality of educational opportunity and that of occupational returns to qualifications.

Consistently with the empirical evidence coming from the international literature, O'Higgins *et al.* (2007) find that family background, and in particular parental education, is the strongest predictor of dropout from upper-secondary education. The probability to leave school is also positively associated with financial constraints in the family of origin, measured either as household income (Fiorio and



Leonardi 2010), or as having an unemployed father (Mocetti 2012). When controlling for indicators of previous achievement, such as grade retention, the impact of family background is reduced, but is still considerably strong (O'Higgins *et al.* 2007, Mocetti 2012). While these authors include gender as a control variable in their models, they do not focus on this dimension. However, as in most industrialized countries, Italian girls from the younger cohorts enjoy an advantage in educational achievement over boys (Ballarino and Schadee 2010), so that girls can be expected to drop out less from school.

With this paper, we contribute to the literature on early school leaving in Italy by exploring the role of gender and, in particular, by addressing the following research questions: *are boys more inclined to drop out from upper-secondary schooling than girls? Is this the case also among students with a poor scholastic performance, i.e. particularly at risk of dropout? Can we envisage different mechanisms for early school leaving for boys and girls, interacting with their family resources and with their differential opportunities on the labour market?*

By addressing these questions in the Italian context, we also make a more general contribution to the international literature on early school leaving, where – similarly to the works just presented – the gender dimension is accounted for, but often stays in the background. In effect, our work draws on the findings of the extensive stream of research – carried out prevalently in the USA – which has carefully scrutinized the (combined) role of socio-economic status, ethnicity, and household composition (Rumberger 2011). The effects of such background characteristics have been found to be mediated by parental and individual attitudes and behaviors, including school experiences. Therefore, the decision to drop out can be seen as resulting from a long-term process of academic disengagement (Alexander *et al.* 1997).

A valuable conceptual tool to disentangle the components of this process is the distinction between the discouraging elements that “push” students out of the school system and the attractive forces that “pull” them out of it (Mc Neal 1997; Stearns and Glennie 2006; Bradley and Renzulli 2011). Push factors refer to the interaction between the students and the school environment, and include academic failure, disciplinary issues, and feelings of misplacement (Fine 1986; Jordan *et al.* 1996). Such mechanisms are of course not independent from socio-demographic factors such as family background, gender, and ethnicity. Pull factors imply some sort of cost-benefit analysis on the choice to leave school. A major pull factor is work (Eckstein and Wolpin 1999; Warren and Lee 2003; Lee and Staff 2007), and even more so in the European context, where teenage childbearing is less of an issue than in the USA. It follows that pull factors refer to the interaction between the individual characteristics of students and the opportunity structure on the labour market. For instance, pull factors may be particularly salient for students of low socio-economic background when the demand for low-skilled labour is high and/or the unemployment is low (Mc Neal 1997, Rees and Naci Mocan 1997). Similarly, we could argue that pull factors affect boys more than girls in labour markets characterized by a lower female participation. More generally, we can think of pull factors as more subject to economic cycles and regional variation, while push factors are more stable over time and idiosyncratic to the school context.



Due to its marked territorial differences in the labour market structure (Contini and Trivellato 2005; Reyneri 2011; Fabrizi and Raitano 2012; Bison *et al.* 1996), Italy represents an interesting setting to explore how push and pull factors intervene in boys' and girls' decisions to drop out from secondary schooling. Within the framework of push and pull factors, in this paper we investigate the role of gender in early school leaving considering its interaction with family background, previous achievement, and regional differences. We do so by using two sources of nationally representative data, namely the *Labour, Participation, Unemployment Survey* (ISFOL PLUS) and the *Early school leaving dynamics survey* (ESLD), both recently collected by the Italian Institute for the Development of Vocational Training for Workers (ISFOL). While the first dataset provides rich information on the educational of young Italians as a whole, the second one specifically targets an at-risk category to drop out, i.e. individuals who had a poor scholastic performance during lower-secondary schooling. Our analyses are structured in three steps. In the first step, we analyze the whole sample of young Italians aged 18 to 20 and investigate the association of gender with dropout decisions and its heterogeneity across regions and educational levels of parents. In the second step, we restrict our focus to the individuals with a poor prior scholastic performance and assess whether the patterns found for the whole population persist. In the third step, we keep our focus on the low achievers and we analyze the consequences of dropout in terms of labour market participation. Finally, we put together the results of the three steps and discuss their implications for the relevance of push and pull factors on boys and girls with different histories of scholastic performance and having access to different family and territorial resources and opportunities.



1 DATA AND METHODS

The first data source we use is ISFOL PLUS (*Labour, Participation, Unemployment Survey*), collected by the Italian Institute for the Development of Vocational Training for Workers (ISFOL). The five waves of the survey (2005, 2006, 2008, 2010, and 2011) include data on a wide range of individual variables and a number of family-related information (Mandrone 2012, 2015). Young people aged 18-29 represent one of the target population of the survey, so that school-to-work transitions, early working arrangements and dropout are some core topics that make the dataset suitable for our purpose.

The first set of analyses concerns the sample representative of the whole population of 18 to 20-year-old Italian individuals. The aim is to estimate the probability to drop out associated with a set of variables, both individual and contextual. We use the five waves of ISFOL PLUS pooled together (N = 10,440) and run binomial logistic regression models to estimate the association between dropout from secondary school (including vocational training) and gender. The dropout dummy variable is operationalized as the result of two different processes: it includes both individuals who never enrolled in any upper-secondary school/vocational training and those who did enroll but quit before getting a degree. The model controlled for a set of variables: *geographical area* (4 categories: North-West, North-East, Centre, and South and islands); *highest parental education between parents* (3 categories: lower-secondary, upper-secondary, and tertiary¹). The distribution of the independent variables is presented in Table A.1 in the Appendix. Two further models were estimated by adding an interaction term between gender and geographical area on the one hand, and highest parental education on the other hand. All models controlled for the year of the survey.

The second set of analyses is restricted to the sample representative of the 19 to 20-year-old individuals who displayed a poor scholastic performance during lower-secondary school, and were therefore at risk of early school leaving. We use the “Early school leaving dynamics” (ESLD) survey (Crispolti, Spigola, Stroppa, 2012), conducted by ISFOL in 2011 within the framework of the monitoring action on dropout directed by the Italian Ministry of Labour. ESLD’s target population are boys and girls who: i) were born in 1991 (aged 19-20 in 2011, i.e. when the survey was conducted); ii) obtained either a low evaluation² at the end of lower-secondary school in 2005 or any evaluation after 2005 (i.e., grade repeaters). The survey is representative of Italian low achievers : the sample design is stratified and the strata include regions, municipalities and finally electoral sections (implying that only Italian citizens were included). ESLD collects extensive background information, including material and psychological factors associated with difficulties during lower-secondary school attendance, family composition, employment arrangements of parents when students dropped out, reasons for the enrolment in upper-secondary school/vocational training or for dropping out. Consistently with the operationalization used for the first dataset, we define dropouts as those individuals who never enrolled

1 In ISFOL PLUS, we impute the 759 missing values (7.27% of the whole sample) of the variable highest parental education among parents.

2 The lowest evaluation differs partially in the Northern and the Southern regions. In fact, in the South and the islands, the number of students who got the lowest evaluation (i.e. “sufficiente”) was negligible, so ISFOL decided to sample students who obtained “buono” (the second lowest evaluatio) in these regions.



in any upper-secondary school/vocational training and those who did enroll but quit before getting a degree. Table A.2 in the Appendix reports the distribution of the main variables considered³.

Also in this case, we use a binomial logistic regression model (at first without interaction terms) to estimate the probability to drop out associated with gender, geographical area, parental education, and additionally grade retention. Next, the same model is specified in three different versions by adding the interaction term between gender and other three control variables. All models use the whole sample (1,508 individuals).

Finally, our third set of analyses keeps the focus on the population of low achievers and investigates the consequences of dropout for labour market participation. To do so, we restrict the sample of ESLD to those who stated not to be a student in 2011. We estimate the probability of having a more or less favorable appointment in 2011 by comparing early-school leavers and individuals with upper-secondary qualifications.

The outcome of interest is operationalized as a trinomial variable, whose categories are: i) having a regular job contract, ii) having an irregular job contract, and iii) being unemployed when the interview was given. The models include the variables presented above (gender, geographical area, parental education, having dropped out or not), plus a continuous variable reporting the year of exit from the educational system, understood as the year when individuals either dropped out or finished secondary school. A second model also includes an interaction term between gender and dropout.

Results will be presented as average marginal effects (AME) (Wooldridge, 2002; Williams, 2012), which can be interpreted as the average difference between two categories in the probability of interest, net of the control variables (Long 1997).

3 Unfortunately, the information concerning household was only collected for individuals who dropped out, so that the variable cannot be included as a control in the models.

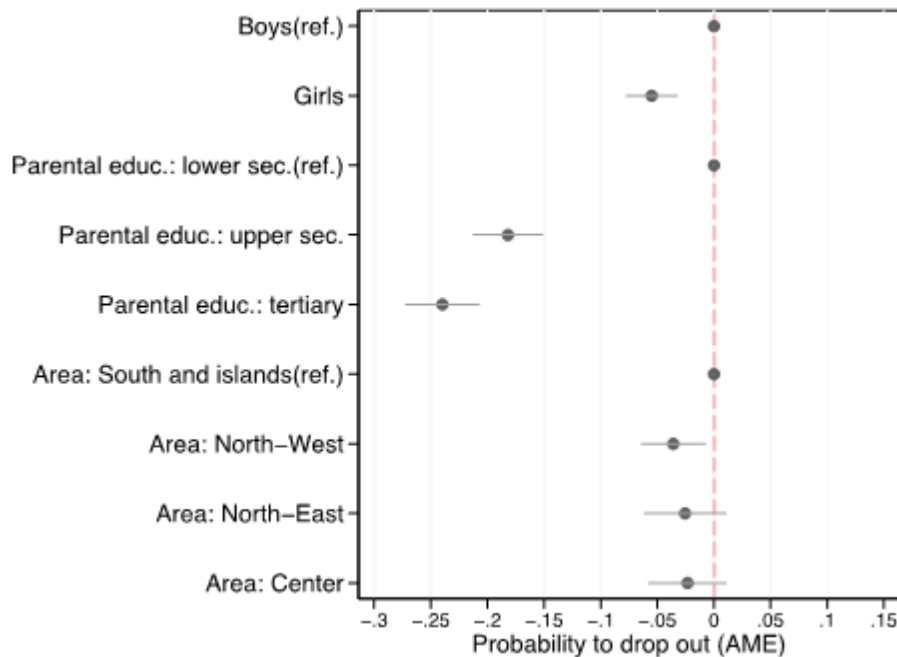


2 RESULTS

2.1 Early school leaving: are girls always advantaged?

In the first set of analyses, we explore the individual and contextual determinants of dropout on young cohorts of Italians. Figure 1 displays the results of our baseline model on the probability to dropout for 18-20-year old individuals (ISFOL-PLUS data).

Figure 1 - Binomial logistic regression model predicting the probability to drop out according to gender, parental education and geographical area. Average marginal effects and 95% confidence intervals. Model additionally controls for wave, grade retention and migration status



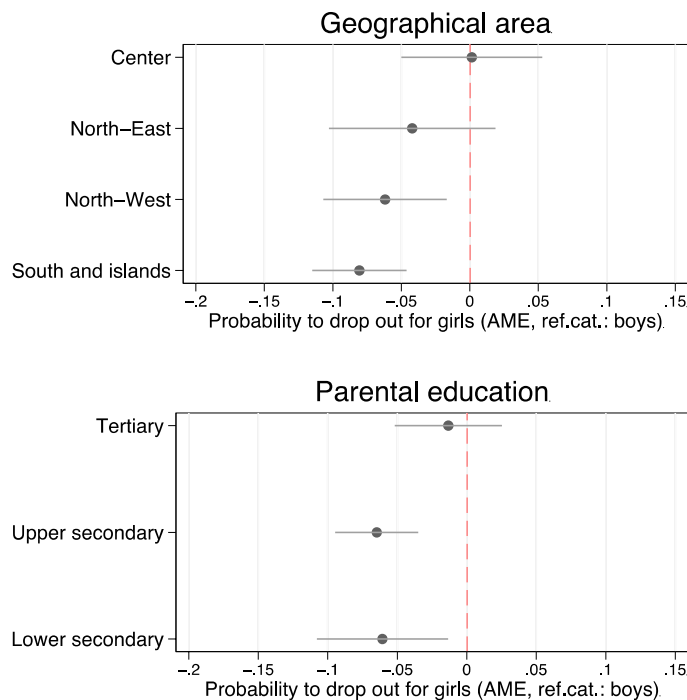
Source: ISFOL PLUS, waves 2005-2011. Authors' calculations

As expected, girls are significantly less likely than boys to drop out from secondary schooling (-6 percentage points). Since this dataset does not allow controlling for previous scholastic performance, we cannot directly disentangle the gender effects that are related to achievement from those that are independent from it. The results also show that parental education is strongly associated to the probability to drop out in the expected direction. In fact, children of parents with tertiary education are less likely to drop out than children of parents with upper-secondary education by 6 percentage points, and the difference is even larger between the latter and the children of parents without upper-secondary education (-18 percentage points). This is not surprising in the light of status attainment theories, according to which parents want to avoid downward social mobility and act so that their children attain at least the same educational level they have (Breen and Goldthorpe 1997). As far as territorial differences are concerned, they are not or hardly significant at the 95% level, although the direction of the association suggests that in the South pupils are more likely to drop out. We did not

have specific expectations on the existence and the direction of regional differences, since, as recognized by O’Higgins and colleagues (2008: 4), “[...] *dropping out is a characteristic of both depressed and developed areas*”: in the former, students have fewer incentives to pursue their educational career because the expected returns to qualifications are lower; in the latter, the same result is produced by the higher demand for labour, including low-skilled occupations.

Figure 3.2 displays the results of two additional models, where we test whether the differential probabilities to drop out for boys and girls vary according to the geographical areas pupils live in, and to the educational level of their parents. In effect, gender differences appear to be particularly relevant in the South, where girls are less likely to dropout than boys by 8 percentage points. This differential decreases in the North-West to 6 percentage points and in the North-East to 4 percentage points, while in the Center it gets close to zero. We also find that gender differences are not neutral to the educational level of parents. In particular, sons and daughters of tertiary educated parents do not behave significantly differently from each other, while daughters of parents with lower levels of education show an advantage compared to boys with similar characteristics.

Figure 2 - Binomial logistic regression model predicting the probability to drop out according to geographical area and parental education for girls (reference category: boys). Average marginal effects and 95% confidence intervals. Models additionally control for wave, grade retention and migration status



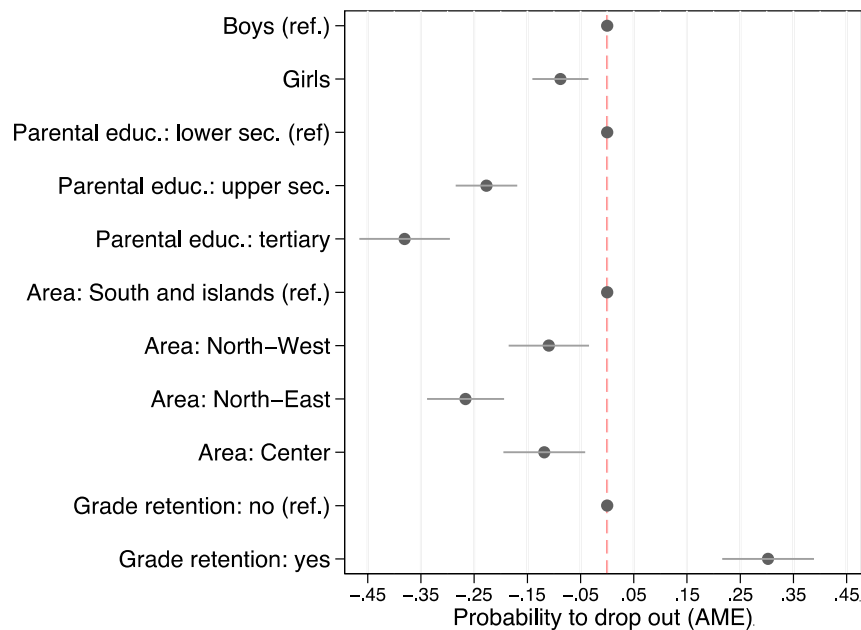
Source: ISFOL PLUS, waves 2005-2011. Authors' calculations.



2.2 Beyond previous scholastic performance

In the second phase of the analyses, we investigated whether the associations detected so far work beyond previous scholastic performance⁴. Figure 3 displays the results of our baseline model on the probability to drop out for the population of 19-20-year old individuals with a poor scholastic performance during low-secondary education (ESLD data).

Figure 3 - Binomial logistic regression model predicting the probability to drop out according to gender, parental education, geographical area and grade retention. Average marginal effects and 95% confidence intervals



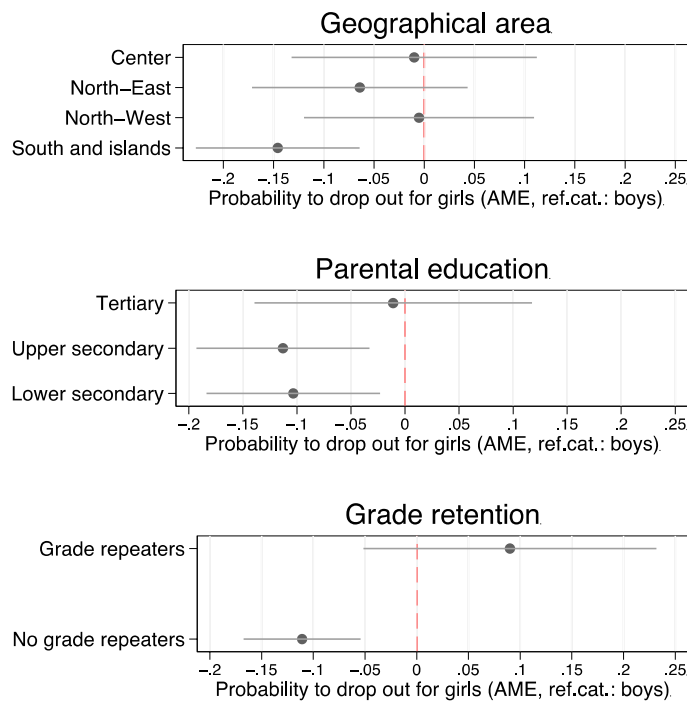
Source: EDSL ISFOL dataset, 2011. Authors' calculations.

The results indicate that, even among low achievers, girls are significantly less likely to drop out than boys (-9 percentage points). Hence, school performance alone cannot explain their greater attachment to school. Once again, the effects of parental education are strong and go in the expected direction. The gap is larger between offspring of parents with and without upper-secondary education (-23 percentage points) than between offspring of graduates and offspring of parents with upper-secondary degrees (-15 percentage points). Similarly to what Figure 1 shows, low-achieving students in the South of Italy appear more disadvantaged (now significantly at 95% level) compared to those who developed their educational careers in other areas of the country. Moreover, low-achieving students display an advantage in the North-East. Except for the latter element, these results are extremely similar to those obtained using the dataset ISFOL-PLUS, which contained data representative of the whole population

4 All the results presented in this section are robust to alternative model specifications where we also control for school track (results available upon request). However, by definition, this variable is only available for the students who enrolled into upper-secondary schooling. As a consequence, using this variable in the main analyses would lead us to arbitrarily exclude from the population of early school leavers those who dropped out just after completing lower-secondary schooling.

of young Italians, irrespective of their scholastic performance during lower-secondary schooling. This is particularly surprising given that in the model to which Figure 3 refers to, we also control for grade retention during lower-secondary schooling as an additional proxy for prior achievement. Indeed, poor scholastic performance is certainly an important determinant of dropout: even among lower achievers, those who repeated one or more years are 30 percentage points more likely to dropout than those who have not. Nevertheless, the influence of gender, parental resources, and areas of residence persists and work beyond prior scholastic performance. Although unanticipated, this finding is consistent with the results of the literature on primary and secondary effects (Boudon 1974), which pinpoints the exceptionality of the Italian educational system, where the direct impact of parental resources on track choice is larger than their effect mediated by achievement (Contini and Scagni 2013). In Figure 4, we report the results of the interaction effects of gender with the geographical area, parental education, and grade retention in lower-secondary education.

Figure 4 - Binomial logistic regression model predicting the probability to drop out according to geographical area, parental education, and grade retention for girls (reference category: boys). Average marginal effects and 95% confidence intervals



Source: EDLS ISFOL dataset, 2011. Authors' calculations.

For parental education, we find a pattern extremely similar to the one shown in Figure 2: gender differences exist among sons and daughters of low-educated (girls: -10 percentage points) and medium-educated parents (girls: -11 percentage points), but not among those of highly-educated parents. This result suggests that the relation between gender, family background, and dropout from secondary schooling works beyond the scholastic performance of students. The interaction between



gender and geographical area indicates that, after accounting for differential achievements, boys and girls in the North and in the Center of Italy do not behave differently. In the South girls are still significantly less likely to drop out than boys with a similar record of poor scholastic performance (-14 percentage points). However, it should be noted that in the North-East gender differences still slightly favor girls over boys (-6 percentage points, although not significant).

Since the ESLD data also contain information on whether the individual repeated one or more grades during lower-secondary schooling, we can also test whether such experience has a different impact on boys and girls on their probability to abandon school later on. Since grade retention before upper-secondary schooling is a rather uncommon event in Italy, this variable is not simply a proxy for prior scholastic performance, even more so because the whole population is here constituted by low achievers. Hence, this variable also signals a distressing event for young pupils. As shown in Figure 4, among grade repeaters gender differences are reversed: girls are *more* likely to drop out than boys by 9 percentage points. The lack of statistical significance of this difference is most likely due to sample sizes issues since, as mentioned, grade retention is a rare event. As discussed more extensively in section 4 (see below), this result could be explained by the fact that the boys are less stigmatized than girls for being grade repeaters.

2.3 Early-school leavers in the labour market: are girls penalized?

Finally, we analyze the current labour market position of those individuals with a poor history of performance in lower-secondary schooling, excluding those who are still in education and training (restricted sample from the ESLD data). Our main aim is to investigate whether the decision to drop out from upper-secondary schooling is associated with positive or negative employment consequences, and whether this is the same for girls and boys. Figure 5 reports the results of a multinomial logistic regression with three possible outcomes: (i) being employed with a regular contract; (ii) being employed in the informal market; (iii) being unemployed⁵. Even controlling for family background, gender, geographical region, and year of entry in the labour market⁶, among low achievers dropout is associated with negative outcomes: compared to those who completed upper-secondary education, early school leavers are more likely to be unemployed (+18 percentage points), and less likely to be regularly employed (-12 percentage points) or employed in the informal sector (-5 percentage points, though not significant)⁷. Not surprisingly, girls also tend to display more negative labour market outcomes, net of possible confounders. Being a boy decreases the linear probability of being unemployed (-12 percentage points) and increases the linear probability of being employed in the

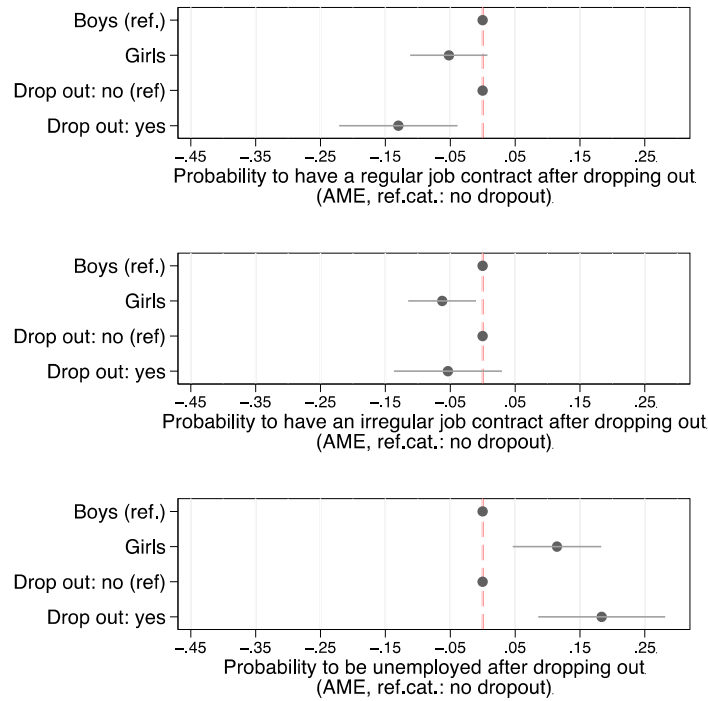
5 In 2011, when the ISFOL-ESLD interviews were conducted, the youth unemployment rate in Italy was close to 30% (source: ISTAT – Italian National Statistics Office). Therefore, being employed in the informal sector could be considered a “positive” outcome from an individual perspective.

6 In additional analyses – available upon request – the model was specified by additionally controlling for the position in the family (older child or not) and the household composition when dropout occurred. Since results did not change to a significant extent, we opted for the most parsimonious model specification.

7 Clearly, we cannot interpret this finding as a causal effect of dropout, since – even within the population of low achievers – early school leavers could be negatively selected in terms of skills, motivation and unobserved family resources.

informal sector (+6 percentage points) as well as in the regular sector (+5 percentage points), although the latter is barely significant.

Figure 5 - Multinomial logistic regression predicting the probability of having (a) a regular job contract, (b) an irregular job contract, and (c) being unemployed according to gender and having dropout. Average marginal effects and 95% confidence intervals. Model additionally controls for the number of years from the exit from the educational system, parental education, and geographical area. Students at the moment of the interview (2011) are excluded from the sample



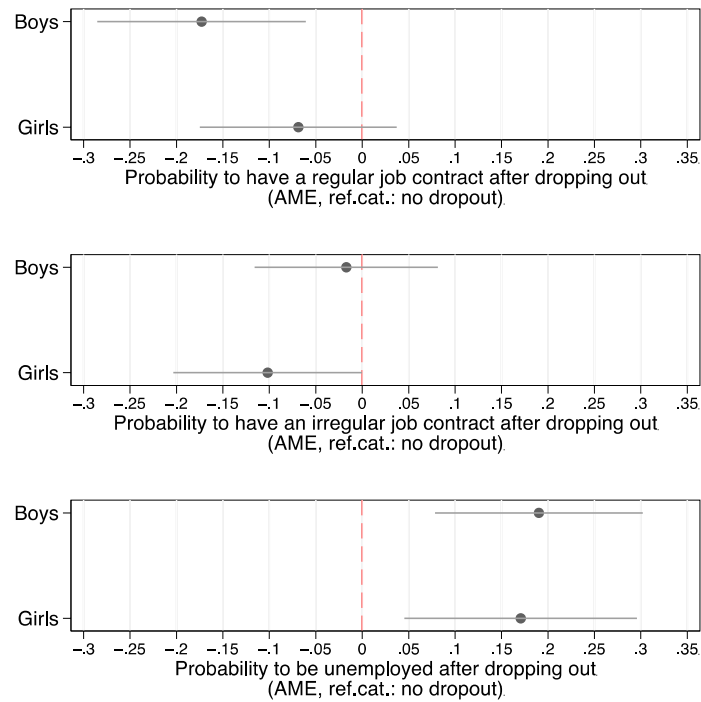
Source: EDSL ISFOL dataset, 2011. Authors' calculations.

Previous empirical evidence shows that women, when succeed in entering the labour market, experience weaker arrangements than men both in terms of contracts duration (Barbieri 2009; Reyneri 2011) and wages (Cutuli 2008; Bellani 2009; Barbieri and Cutuli 2010; Raitano and Struffolino 2013). These unfavorable conditions – joint with the negative consequences associated with dropout – could explain the stronger attachment of girls to the school system. Being already penalized by their gender, they might be more reluctant to abandon school because this could bring about an additional penalty in the labour market.

But is this penalty simply additive, or does being a girl who drops out generate even more negative consequences in the labour market? Figure 6 displays the estimated interaction effects between gender and dropout behavior on the three labour market outcomes presented earlier. Not surprisingly, girls who dropped out are less likely to have a regular or even irregular job and more likely to be unemployed than those who do not drop out. The same holds for boys. Since the confidence intervals overlap to a large extent, we cannot comment on the differences in probability for the three outcomes between girls and boys. All in all, we cannot conclude that there exist gender differences in the

employment opportunities of early school leavers, because the general patterns for boys and girls are similar. Hence, these results suggest that there is not a multiplicative disadvantage on the labour market stemming from the fact of being a woman who drops out from secondary education.

Figure 6 - Multinomial logistic model predicting the probability of having (a) a regular job contract, (b) an irregular job contract, and (c) being unemployed; for individuals dropouts vs. not dropouts (ref.cat.). Average marginal effects and 95% confidence intervals. Model additionally controls for parental education and geographical area. Students at the moment of the interview (2011) are excluded from the sample



Source: "Early school leaving dynamics" ISFOL dataset, 2011. Authors' calculations.



3 DISCUSSION

In this section, we discuss the implications of our results in the framework of push and pull theories (Mc Neal 1997; Stearns and Glennie 2006; Bradley and Renzulli 2011). In particular, we argue that the evidence presented above can shed light on the different mechanisms for early school leaving for boys and girls, interacting with their family resources and with their differential opportunities in the labour market.

Our analyses indicate that, among the young cohorts of Italian students, girls are less inclined to drop out from upper-secondary education than boys. Our additional analyses on a sample of individuals who performed poorly in lower-secondary school suggest that this overall gender effect is not completely mediated by achievement. Moreover, we find that gender effects are heterogeneous across areas of residence of pupils and educational level of their parents.

In the South of Italy, the greater school attachment of girls compared to boys is more pronounced than in other areas of the country. When restricting our focus to low-achieving individuals, gender differences in dropout probabilities disappear in the North-West and the Center regions, while they remain strong in the South and persist in the North-East, although to a lesser extent and not significantly. In order to explain the latter findings, one has to reflect on the differential labour market opportunities for boys and girls in these areas. Indeed, low achievers are all similarly subject to push factors, whereas pull factors – and in particular job-related motivations – may affect them differently. In particular, in labour markets where female participation is particularly low, girls will be less likely to drop out for economic reasons⁸. Indeed, firstly, they have fewer opportunities in the labour market, hence fewer economic incentives to drop out; and, secondly, they are more in need of educational qualifications to counterbalance their weaker position in the labour market.

In line with existing literature (Bernardi *et al.* 2000; Brandolini *et al.* 2007; Bozzon 2008; Reyneri 2011), we find that overall in Italy young women are more likely to be unemployed than young men, and less likely to be employed, especially in the informal sector. Then boys – compared to girls – are not only more likely to be “pushed out” of school because of their lower achievement, but they are also more likely to be “pulled into” the labour market. The stronger relevance of gender differences in the South (especially among the low achievers) could be then explained by the fact that the informal labour market – on which young men without qualifications have more opportunities than comparable women – is more widespread in this area. A similar explanation could be put forward for the North-East, where the importance of agriculture and the average small size of firms could provide employment

8 According to the self-reported motivations for dropout, this is the case for our sample of low-achieving students. In an additional analysis reported in the Appendix (Figure A.1), the binomial logistic regression estimating the probability of dropout according to gender and economic reasons (namely due to the desire/need to find a job and the usefulness of education for the future labour market participation according to individuals and/or their families opinion) shows that girls are less likely to report an economic motivation than boys. This argument is also hinted at by Ballarino and colleagues (2011: 510-1), who find that the dropout rates of women are more stable over time than those of men, and suggest that the latter are more dependent on the economic cycle. Unfortunately, the survey does not collect information on the attitudes towards schooling and the labour market on the whole set of individuals, but only on those who dropped out. Therefore, the sample for these analyses includes only dropouts: Table A.2 in the Appendix shows the distribution of the main variables in this subsample.



opportunities in the informal sector. However, more detailed data at the provincial level are needed in order to systematically test this hypothesis.

Gender differences are also heterogeneous with respect to the education of parents: in particular, they are close to zero for children of graduates. We find the very same pattern in the whole sample and in the sample of low achievers: among the offspring of low-educated and medium-educated parents, dropout is more common for boys than for girls. Instead, daughters and sons of highly educated parents do not display different probabilities of abandoning school. In other words, boys are “more protected” than girls by the educational level of their parents. This result complements and extends the findings of previous research showing that family background has a stronger influence on track choice for boys than for girls (Contini and Scagni 2011, Checchi and Flabbi 2007). We advance two possible and not mutually exclusive explanations for this finding. First, children of graduates could be less subject to pull factors, because their families are more likely to be able to support the costs (including opportunity costs) associated with the completion of upper-secondary. Since, as we argued before, gender differences in dropout are partly driven by pull factors (notably work), then it is reasonable that gender differences are milder among children of graduates. Second, graduate parents might have high educational aspirations for their sons and daughters, irrespective of their achievement⁹. According to status attainment theories, parents expect their children to attain at least the same educational level that they have (Breen and Goldthorpe 1997). Hence, having a son or a daughter who drops out of secondary education is perceived as a big failure by graduate parents. When their child is at risk of dropout, they will then mobilize their economic, cultural, and social resources to support him or her¹⁰. Contrary to low-educated parents, who are likely to invest more on the children for which they see a greater potential, at this stage of the scholastic career highly educated parents are instead likely to provide extra support to the children with lower achievement. Again, by following Breen and Goldthorpe (1997), we can conceive the first one as a risk-averse strategy for upwards social mobility, and the second one as a risk-taking strategy to avoid downwards social mobility. On average, boys underperform girls and therefore need (and will get) more help from their highly educated parents. As a consequence, gender differences in dropout rates due to push factors could shrink.

A final note on the heterogeneity of gender effects concerns our finding that – among low achievers – boys and girls do not react in the same way to the distressing experience of grade retention. Gender differences in dropout behavior are even reversed for grade repeaters, i.e. girls who repeated one or more years during lower-secondary schooling are more likely to abandon schooling than boys who also repeated. This interaction needs to be deeper explored, but a possible explanation to this unexpected

9 As a third mechanism, one could also argue that no gender differences in achievement exist among offspring of graduates. However, even among low achievers, gender differences in dropout disappear for high levels of parental education. Moreover, we directly test this possibility with additional analyses on the 2010 and 2011 waves of ISFOL-PLUS, where the final grade at lower-secondary education is available. Results – available upon request – show that daughters of graduates tend to have higher grades than sons of graduates, and that achievement gaps are comparable across levels of parental education.

10 In Italy, typical strategies of upper-class families to support their low-performing children are paying for extra tutoring and/or sending their children to private schools. Differently from other countries, private schools are notoriously less challenging than state schools.



finding moves from the exceptionality of the experience of grade retention during lower-secondary schooling. Grade-repeaters during lower-secondary schooling constitute a highly selected population of students, who are likely to perform very poorly at school, to have extremely oppositional behaviors towards the school establishment and/or to display high rates of absenteeism. These attitudes and behaviors, in turn, could signal a situation of distress at home that we cannot observe based on the available data. All in all, grade-repeaters during lower-secondary could be stigmatized as “losers” in the educational system, and this is even more the case for girls, who are less likely than boys to repeat one year¹¹.

11 In our sample, grade repeaters are 175 (11.6% of the population of low achievers), among which 100 are boys and 75 are girls. Most of them (119, of which 54 girls and 65 boys) eventually drop out.



4 CONCLUDING REMARKS AND OUTLOOK

In this paper we analyzed the heterogeneity of gender effects in the early school leaving dynamics of young Italians. Since gender is a critical dimension of inequality in the labour market and in determining life chances in general, assessing its importance in shaping educational opportunity and future labour market outcomes is crucial. The main results of our analyses suggest the existence of different mechanisms for early school leaving for boys and girls, partially mediated by push and pull factors. We find that girls are less likely to drop out from secondary schooling even after accounting for previous scholastic performance, i.e. a key push factor. We argue that pull factors – and especially job-related motivations – may affect boys and girls differently due to differential labour market opportunities. The latter hypothesis is supported by the findings concerning the association between dropout and the area of residence of the pupils and the educational level of their parents. Girls show indeed stronger school attachment compared to boys in the South (and to some extent in the North-East) of Italy than in other areas.

With this paper, we provide new descriptive evidence to the understanding of the phenomenon of early school leaving in Italy. We also put forward a more general contribution to the international literature on push and pull factors by investigating the mechanisms behind boys' and girls' decisions to drop out. Further research is needed in order to systematically test whether different mechanisms are actually in place. In particular, an in-depth understanding of the phenomenon may greatly benefit from regional data containing more detailed information on differential labour market opportunities for boys and girls. Moreover, a step forward to understand the importance of push factors could come from data containing standardized measures of school achievement during lower-secondary school, as well as information on parental attitudes and behaviors towards school.

**APPENDIX****Table A.1 -Distribution of the dependent and independent variables (weighted)**

Variable	%
<i>Gender</i>	
Male	50.04
Female	49.96
<i>Dropout</i>	
No	81.56
Yes	18.44
<i>Area</i>	
North-West	23.16
North-East	16.33
Center	18.25
South and islands	42.26
<i>Highest parental education</i>	
Lower-secondary	39.78
Upper-secondary	44.33
Tertiary	15.89
<i>Wave</i>	
2005	31.81
2006	10.79
2008	12.56
2010	16.51
2011	28.33
Sample size	10,440

Source: ISFOL PLUS, waves 2005-2011



Table A.2 - Distribution of the dependent and independent variables according to the two samples used for the analyses (weighted)

	(a) Whole sample %	(b) Not students in 2011 %
<i>Gender</i>		
Male	55.90	60.13
Female	44.10	39.87
<i>Area</i>		
North-West	16.39	16.47
North-East	18.17	14.24
Center	14.69	14.27
South and islands	50.76	55.02
<i>Highest parental education</i>		
Lower secondary	53.32	62.38
Upper secondary	38.95	34.10
Tertiary	7.74	3.52
<i>Grade-repeater</i>		
No	88.15	
Yes	11.85	
<i>Dropout</i>		
No	59.43	40.86
Yes	40.57	59.14
<i>Present appointment</i>		
Regular contract		29.90
Irregular contract		18.33
Unemployed		51.77
<i>Year of entry into the labour market</i>		2005-2011
Sample size	1,508	1,037

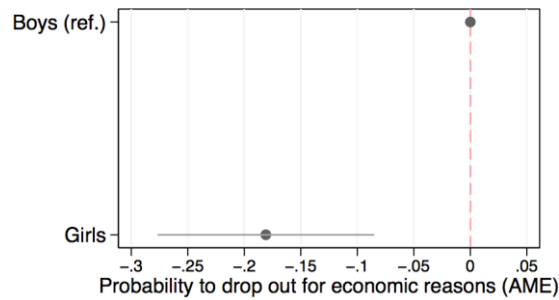
Source: EDSL ISFOL dataset, 2011.

Table A.3 - Share of dropout according to gender, geographical area, and highest parental education (weighted). Missing values for the variable "highest parental education" ISFOL PLUS have been imputed (cf. footnote 1)

	ISFOL PLUS				EDSL ISFOL			
	Dropout			N.	Dropout			N.
	No	Yes	Tot.		No	Yes	Tot.	
<i>Gender</i>								
Male	78.90	21.10	100	4,886	65.30	34.70	100	663
Female	84.20	15.80	100	5,554	54.79	45.21	100	845
N. tot.				10,440				1,508
<i>Area</i>								
North-west	83.42	16.58	100	2,069	63.82	36.18	100	397
North-east	82.75	17.25	100	1,849	82.11	17.89	100	240
Center	84.60	15.40	100	1,957	64.29	35.71	100	300
South and Islands	78.76	21.24	100	4,565	48.48	51.52	100	571
N. tot.				10,440				1,508
<i>Highest parental education</i>								
Lower sec	70.44	29.56	100	3,496	44.62	55.38	100	719
Upper sec	88.73	11.27	100	4,448	73.89	26.11	100	665
Tertiary	94.55	5.45	100	1,737	88.64	11.36	100	124
Missing	72.18	27.82	100	759				
N. tot.				10,440				1,508

Source: ISFOL PLUS, waves 2005-2011, and EDSL ISFOL dataset, 2011.

Figure A.1 - Binomial logistic regression model predicting the probability to drop out for economic reasons for girls (reference category: boys). Average marginal effects and 95% confidence intervals. Model controls for parental education and area of residence



Source: EDSL ISFOL dataset, 2011. Authors' calculations.



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