

Early School-leaving in Spain: evolution, intensity and determinants

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Introduction¹

At the European Council of Lisbon in 2000, the EU countries agreed to become 'the most competitive and dynamic knowledge-based economy in the world, capable of sustaining economic growth with more and better jobs and greater social cohesion' by 2010. This makes the improvement of education and training a cornerstone of development and the failure of European societies to ensure that the vast majority of their citizens has a sufficiently high level of education one of the greatest threats to a long-term development strategy. Hence, it is very important to better understand educational failure and early school leaving in those countries where these phenomena seem persistently high, as in Spain.

Despite being one of the clearest success stories of European economic development (per capita GDP went from 73% of the EU average in 1987 to 95.5% in 2007), the rate of early school leaving (ESL) in Spain is the third highest in the EU, just above Portugal and Malta: according to official figures, it stands at 31.9%, more than twice the EU average. Until the mid-1990s, it was reduced very rapidly, but, for the last 15 years, it has not dropped, if anything it has slightly increased².

Early school leaving is not only an obvious threat to the political goals of becoming the most competitive and dynamic knowledge-based economy. It is also a direct threat to the life chances of those who are affected. Indeed, if we are moving to a knowledge economy, early school leavers will have greater difficulties in finding a place in the economy. In this article, we try to identify which socio-economic groups are more likely to fail in their initial education in Spain. First, we discuss the alternative theoretical interpretations of the patterns of ESL and educational failure, with an approach that draws from sociological and economic literature. Second, we discuss the evolution of educational attainment levels in Spain over the last 50 years using recent Labour Force Survey data to contextualise the current situation. Finally, we present an econometric analysis of the socio-demographic determinants of early school leaving in Spain today, discussing its possible interpretations in the light of existing theories.

But first we must define what is meant by *early school leaving* (ESL) and *educational failure*, two terms frequently used as synonyms in the literature but which refer to different concepts. ESL is defined here (following Eurostat) (http://europa.eu.int/estatref/info/sdds/en/strind/edu_train_sm.htm). as leaving the formal school system before obtaining an upper secondary education degree. The index of ESL is defined as those without higher secondary education and out of education in relation to all those aged between 18 and 24. *Educational failure*, a more restrictive concept, refers to leaving education without having acquired the end of

compulsory education degree (the index being also based on those aged 18–24 and out of education). Therefore, ESL includes educational failure by definition. Although the focus of the article is on early school leaving, we often use this distinction to differentiate between those who obtained basic formal qualifications and those who did not. To a certain extent, this taxonomy can be used as an index of the gravity of the problem.

In order to understand the characteristics of Spanish ESL, one should outline the historical development of the educational system. Compulsory education from the ages of 6 to 9 was first introduced in the 1857 Moyano Act and was extended until 12 in 1901 and until 14 in 1923. These legal steps were reasserted in 1964 and, as many of the previous laws were not respected, especially in the 1970s, the General Education Act also made schooling compulsory until 16, a measure which was reaffirmed in 1990. Last, Spain spends less on education in terms of GDP at all levels than the EU-27, although the differences are much greater in secondary education (26% less) than in primary education (5% less).

Theoretical Framework

Our analysis is based on the sociological and economic literature that deals with the relationship between social inequalities and educational achievement. It has tried to explain the persistent and pervasive fact that, despite the ideology of equal opportunities that is behind the educational systems of all industrialised economies, school children's results tend to reflect the inequality of family resources (UNICEF, 2002). There are two broad types of explanation of the link between social inequalities and educational failure (Martínez García, 2007):

- a) **Reproduction theories:** these theories mainly come from the sociological literature (Bernstein, 1977; Bourdieu & Passeron, 1970), although there are key contributions from radical political economics (Bowles & Gintis, 1976). Their roots can be traced back to the Marxist idea that the result of the capitalist production process is not only the reproduction of its material base, but also of its agents and their social relations (Fernández Enguita, 1985). The mechanisms in which this reproduction took place were formulated by non-Marxist scholars such as Bernstein (1977) and Bourdieu and Passeron (1970). According to these theories, the key mechanism of social reproduction at school is the evaluation of implicit dispositions and cultural habits of children of different social origins. Through early socialisation within the family, they develop class-specific ways of expressing themselves (the codes of Bernstein) or thinking, feeling and acting in the world (the habitus of Bourdieu). The codes and dispositions of upper-class children coincide with the culture which is taught at school: hence, they achieve better results and continue their educational development, whereas children from poor backgrounds are much more likely to fail. The meritocratic ideal of modern educational systems is thus a chimera because merit is interwoven with privilege.
- b) **Rational choice theories:** this approach is the dominating departure point in the Economics of Education (Becker, 1975), although there are also some key contributions from the sociological literature (Breen & Goldthorpe, 2000). Whereas reproduction theories tend to emphasise structures and institutions, rational choice theories emphasise agency: the decision to pursue studies depends on a cost-benefit analysis. Therefore, the link between social

inequalities and educational achievement results from the fact that the social position affects the costs and benefits of studying (Martínez García, 2007). In particular, Goldthorpe and Breen have explained the link between social and educational differentials by asymmetric patterns of risk aversion by class: 'young people have, as their main educational goal, the acquisition of a level of education that will allow them to attain a class position at least as good as that of their family of origin. More simply, the chief concern is to avoid downward mobility' (Breen, 2001, p. 1). The threshold of the minimum acceptable level of educational attainment therefore varies according to the class of origin, which explains the link between the latter and the former. From a purely economic point of view, Becker also emphasises the role of social and economic background factors, which are introduced in a framework of rational choice of the optimal investment in human capital as demand factors that raise the costs of education (Becker, 1975). Yet similar conclusions can be supported departing from the screening theories which argue that education, beyond a basic level, is associated with an increase in productivity but does not cause it, so individuals will demand more education because this makes them distinctive by some kind of signal (Stiglitz, 1975). Although it tends to place more emphasis on the rational choice component of decisions concerning education, the economic literature also refers to the costs of education and family liquidity constraints, since economically disadvantaged families may not have enough resources to fund efficient human capital investments and do not have access to credit. Hence, this framework can also be used to explain social reproduction or systematic differences in educational attainment by class origin.

We focus on a third theory, based on the educational and psycho-pedagogical literature, with a more empirical angle which tries to identify risk factors that increase the likelihood of students dropping out of school. According to this approach, no single risk factor can accurately predict who is at risk of dropping out. Dropouts are not a homogeneous group and dropping out is often described as a long process of disengagement that starts early, with factors building and compounding over time. In Spain, Marchesi (2003) and Salas (2004) are examples of this approach, while, for the US, we can quote the report by Hammond *et al* (2007). Marchesi (2003) identifies six factors that support a multi-level explanation based on the society, the family, the educational system, the school, the classroom and the student. Hammond *et al* (2007) argued that patterns varied across subgroups, regions, and locations, making it essential to collect local data to best predict who will drop out in a particular locality and identify the contributing factors. When measured at a specific grade or school level (elementary, middle and high), they found that low achievement and retention/over age for grade, school engagement, and low socio-economic status significantly impacted on dropout.

Data

The data source used in this article is the Spanish Labour Force Survey (LFS) from the 2nd quarter of 2000 and 2007. Based on a two-stage stratified design, it is the main statistical instrument for measuring activity and employment status in Spain (INE, 2009). It has two advantages over other sources such as the Statistical Indicators of Living Conditions (SILC) or the European Community Household

Panel (ECHP). First, its sample size is much larger³. Second, it contains detailed recent information on educational levels which is relatively homogeneous over time. However, the LFS does not contain information on family income or consumption expenditure, so the analysis of the effects of social and economic factors must necessarily be limited to parents' education, activity and professional status.

Evolution of Early School Leaving and School Failure

The official rate of early school leaving and out of education of those aged 18 to 24 in Spain is 31.9% and the rate of educational failure is 12.9%. But, although these

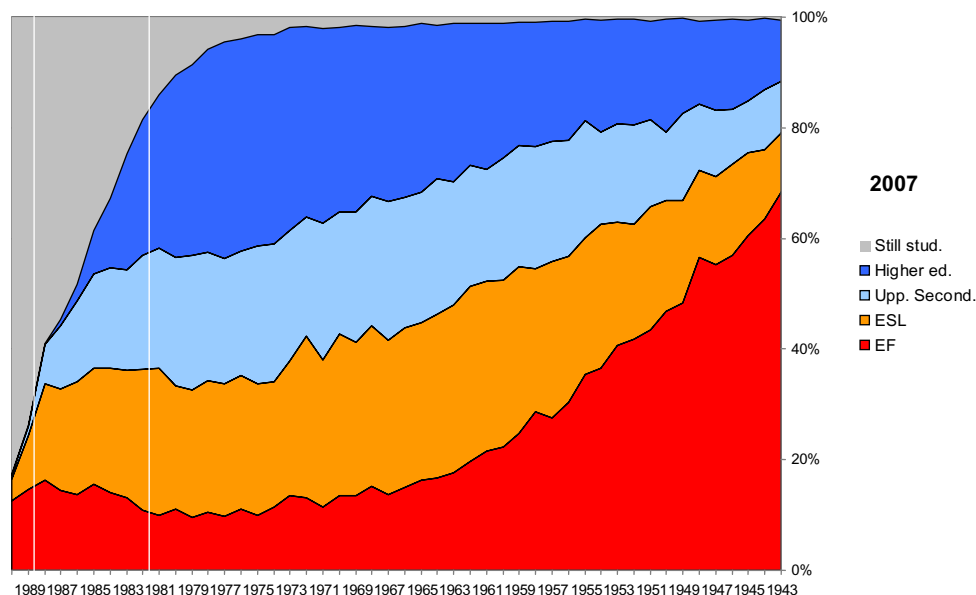


FIGURE 1. Distribution of educational levels according to year of birth in Spain (2007)

Source: Authors' analysis from Labour Force Survey (2007).

rates are very high compared to its European neighbours, it must be highlighted that the change in the last quarter of a century has been truly impressive, as shown in Figure 1, which is based on a single year of LFS data (2007), juxtaposing the distribution of five basic educational levels (failure, early dropouts, upper secondary, university, still studying) by year of birth⁴. But it shows that those still educated in the Franco system (born before 1960) had much higher levels of failure and early dropping out (even though the age threshold of compulsory education was lower for them). There is some degree of anachronism in the use of terms here: it can be argued that, for those born before 1960, not having the most basic level of qualification was not a 'failure' and leaving education before upper secondary level would not have been considered as 'early dropping out', at least not for the vast majority of the population. But we can indulge ourselves in this little anachronism to put in context the phenomenal change experienced by Spain in terms of education differentials in the last half century.

The largest decreases in the levels of educational failure concerned those born between 1950 and 1960, whereas the largest decreases in ESL were for those born

between 1960 and 1975. After the 1975 cohort (those aged 32 in 2007), both rates seem to stabilise. This is surprising if we take into account the fact that Spain still had a long way to go to reach the levels of its neighbouring countries. The Spanish educational system made great progress up to the 1990s in decreasing both educational failure and ESL, but it seems to have more or less stalled for the last 17 years. If we look at Figure 1, we can see that the rate of educational failure seems to increase slightly between the cohorts of 1982 and 1984. This was the paradoxical result of an increment of the threshold of compulsory education by two years (from 14 to 16) between the years 1997 and 2000, thereby affecting primarily those born between 1982 and 1984. The fact that the change of threshold increased the level of educational failure makes perfect sense (it makes it harder to obtain the corresponding qualification), but it does not make so much sense in terms of policy and equity. Considering the negative implications of educational failure (in terms of social labelling and stigmatising and access to positions in the socio-economic structure), a change in educational policy that increases by almost 4 points the share of educationally failed youngsters (notwithstanding other advantages this change may have had) does not seem very successful, to say the least.

The share of early school leaving does not increase between the cohorts of 1982 and 1984 because it is not affected by the change of the compulsory education threshold. But there seems to also be a slight increase in the levels of ESL between the cohorts of 1981–1985 and those of 1975–1980 because of the massive increase in immigration between 2000 and 2007. To show the importance of this effect, we have decomposed the results of Figure 1 by nationality, as shown in Figure 2. We have also included the same calculation for the year 2000 in order to compare. The share of immigrants (defined here as non-nationals) in each of the educational attainment categories is indicated by shaded areas. As we can see, in 2000, this group was almost negligible so that it did not affect the rates, but, in 2007, it changed considerably the overall picture. The distribution of the immigrant population in terms of educational level is not the same as the distribution of nationals: especially for those aged 18 to 24, the share of non-nationals with higher education and still studying is significantly smaller, whereas that of those without basic qualifications (defined here as educational failure, EF) or without upper secondary education (ESL) is larger than the equivalent for nationals. Therefore, the rise in immigration has had the statistical effect of increasing the rates of ESL. It is important to note that most of the migrants in Figure 2 did not complete their education in Spain: as the comparison between the two charts shows, they came mostly after 2000, so most or all of their education must have taken place in their countries of origin. But they do increase the rates of educational failure and ESL because those rates are not only based on the population living in Spain, but also on the national Spanish population. Hence, the small increase in the rate of early school leaving in the last few years is arguably not the result of a failure of the Spanish educational system (leaving aside the problem of the increase in the compulsory age of schooling), but of the arrival of large numbers of immigrants with lower educational profiles. This does not mean that the increase in the proportion of people with low qualifications is not, or will not be a problem for the Spanish economy in the years to come, if we accept that the best way to grow and progress economically is to have a highly educated workforce.

But in the long run, there is an even more important pattern of change behind the evolution of educational achievement in Spain as depicted in Figure 1. We

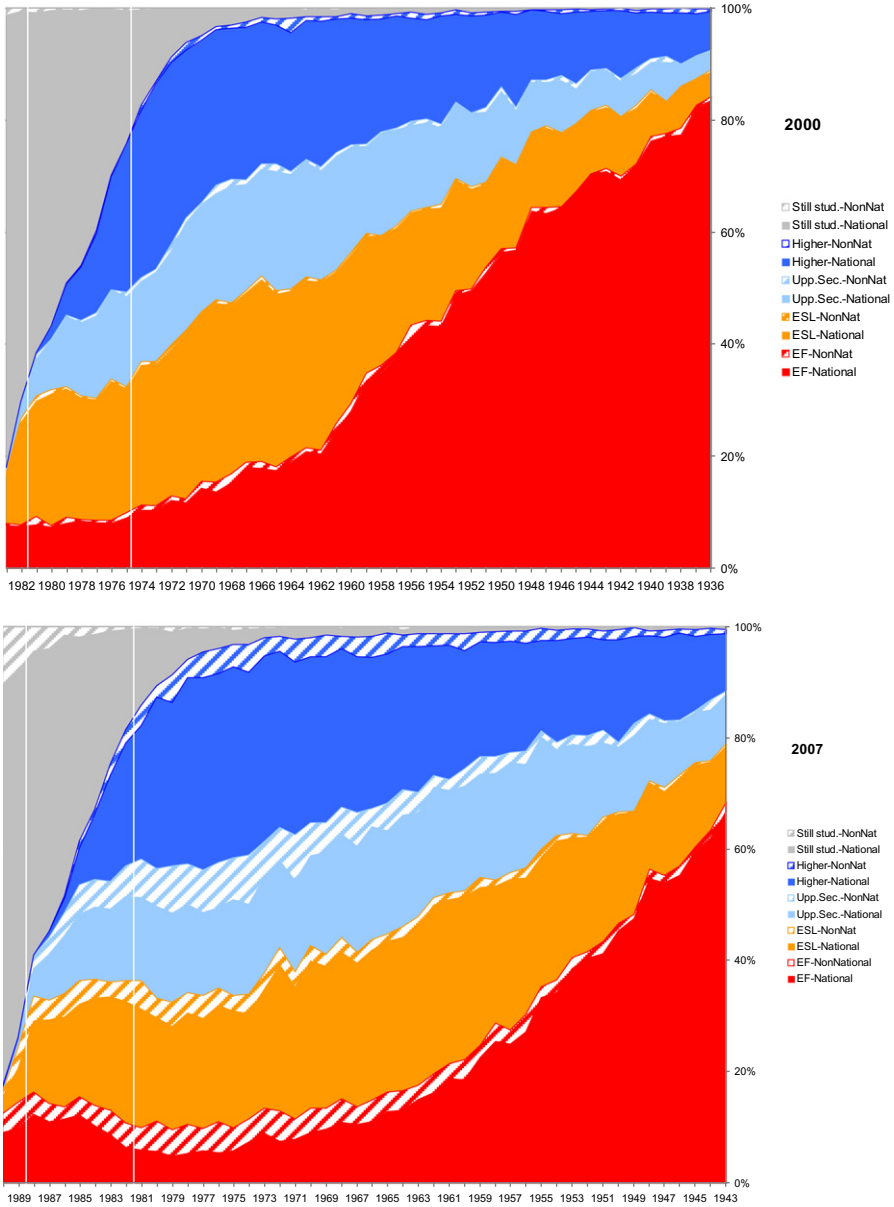


FIGURE 2. Distribution of educational levels according to year of birth by nationality in Spain (2002 and 2007)

Source: Authors' analysis from Labour Force Survey (2000 and 2007).

refer, of course, to the change in the distribution of achievement by sex, shown in Figure 3. As with all industrialised countries, these differentials have reversed spectacularly in Spain in the last half century. For those born before 1960, the share of women without the most basic educational level is much larger than that of men. The reduction in the levels of educational failure was much greater for women than for men throughout the years, until a point (around 1970) when they reached a considerably better position than men. The share of men in the

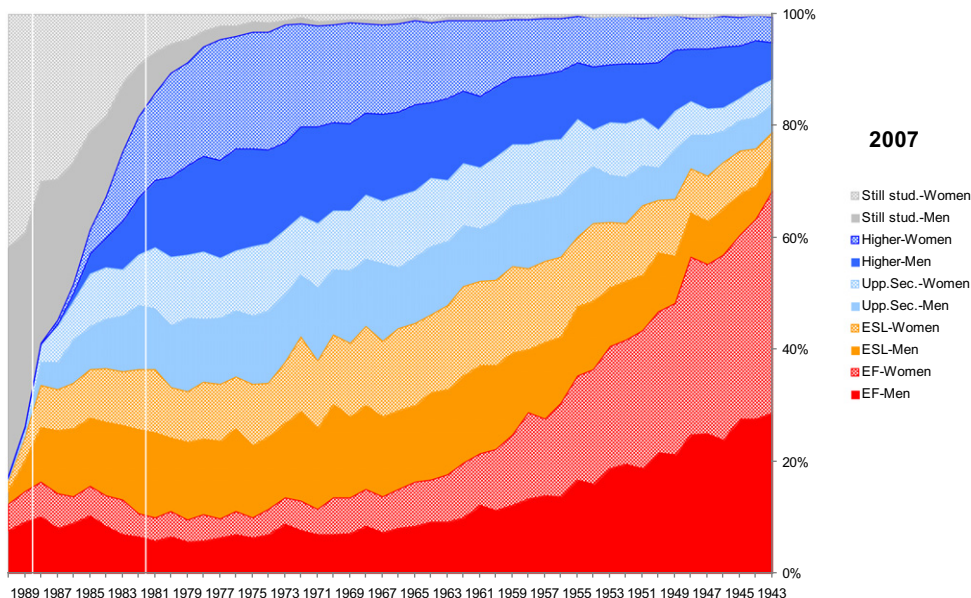


FIGURE 3. Distribution of educational levels according to year of birth by sex. Spain (2007)

Source: Authors' analysis from Labour Force Survey (2007).

categories of educational failure and ESL is from this point more than two-thirds of the total. It is interesting to note that the impact of the extension of years of schooling between 1982 and 1984 only affected men, whereas the impact of immigration seems to affect both.

Empirical Analysis of the Determinants of Early School Leaving and School Failure

Previous Research

Most of the previous studies on this subject come from sociology and education, with only a few taking an economic perspective (we can mention Albert *et al.*, 2000; Petrongolo & San Segundo, 2002; Casquero & Navarro, 2008, 2010; Calero, 2006; Wasgrais & Calero, 2008, and Albert & Davia, 2010). The overall picture is that drop-out from compulsory education is mainly due to family background (the mother's educational level has the greatest impact on the probability of following post-compulsory education), to gender and to the economic cycle, in particular the employment conditions in the local market.

Methodology

Previous studies relied on binomial or multinomial models to analyse the determinants of early school leaving. Petrongolo and San Segundo (2002), using the Labour Force Surveys from 1986, 1991 and 1996 and a bivariate and a *multinomial logistic model* (MNL), try to isolate the effect of the local labour market situation on the probability of staying at school after 16. Calero's (2006; 2008) strategy is also a *multinomial logit*, but his main data source is the ECHP 2000. Several problems can be highlighted in this literature:

- First, Petrongolo and San Segundo consider three possible outcomes (being at school, being out of school and working and being out of school and not working), and Calero four (being out of school and studying in lower-secondary school, upper-secondary school or vocational training). Both apply a multinomial logit model to their data, assuming that *independence of irrelevant alternatives* (IIA) is satisfied, without giving any argument as to why that is the case. The IIA requires that adding a new alternative or modifying the characteristics of one of them does not influence coefficients. If the IIA is not satisfied, estimates will be inconsistent and there are good reasons why this assumption may be violated in the case of the first job after leaving school, as it can hardly be argued that the availability of jobs does not affect the probability of leaving school early. Surprisingly, this is the central hypothesis of that research. In the case of Calero, one can argue that the availability of alternative educational tracks (programmes of curricular diversification in lower-secondary school, upper-secondary education aimed to drive youth to university degrees and work-oriented vocational programmes), which involve different levels of difficulty, can affect the ‘path’ followed.
- Second, these papers define the target group as those aged 16 or 17 at the time of the survey interview. A more appropriate strategy is to centre on dates of birth, which truly determine each person’s schooling level. If one aims to control for biological differences among young people born in the same year, one can include the quarter of birth as a covariate in the econometric model.
- Last, these papers do not address the issue of model choice. That is why, for example, *logit* is preferred to other binary dependent models.

In contrast, our empirical analysis focuses on young people born in 1982 and 1983 when studying 2000 data, and 1989 and 1990 when the 2007 Labour Force Survey is exploited. In order to overcome the problem of satisfying the IIA assumption, we opt for a binary variable model, since our interest is to analyse the determinants of early school leaving and not labour market insertion strategies.

In order to measure migrant status, a reasonable approach is to combine information about nationality and parental country of birth: if a teenager is not Spanish or both parents — or, in the case of single-parent families, the only one — are born abroad, those individuals are ‘labelled’ as immigrants; otherwise, they are considered as locals.

The model is estimated by maximum likelihood using heteroskedasticity-robust standard errors. As is well-known, the interpretation of estimates from *logit* and *probit* models is not straightforward. In both cases, it is common to compute the marginal effect of an infinitesimal change in a dependent variable on the probability of ‘success’, an expression that has to be evaluated at some point. The usual choice is to calculate marginal effects taking as reference the mean of covariates.

Since attention will be focused on family variables in the analysis, only young individuals living with at least one of their parents are included. This excludes from the final sample less than 3% of available observations, so it is not likely to introduce any selection bias.

The selection of the variables included in the multivariate analysis is based on the theoretical framework presented above. More particularly, the following covariates have been included:

- a) Individual socio-demographic characteristics. The variables included in the model are sex, age and nationality.
- b) Family characteristics. This set of covariates is linked to the influence of the affective and emotional context on educational outcomes. More particularly, the absence of one of the parents, household size and the number of siblings are considered.
- c) Socio-economic background. Available resources play a role in the chain of reproduction of social inequalities. In order to control for these factors, we include two sets of fictitious (*dummy*) variables referred to as mother's educational attainment and father's activity and professional status.
- d) Regional variables. There is a non-negligible number of factors potentially affecting early school leaving — such as local youth unemployment rate, types of economic activities in their living area or school quality — about which our data source does not offer any information. Therefore, to (at least partially) control for this source of unobservable heterogeneity, 18 regional dummies were included in the econometric specification.

Descriptive Statistics

The descriptive evidence is shown in Table I. Several features are worth mentioning, such as the decrease in family size from 2000 to 2007, a substantial improvement in mothers' schooling levels and the impressive growth in the proportion of migrants among those aged between 16 and 17.

Estimation Results

Estimates yielded by *probit* and *logit* are virtually identical both in terms of McFadden R^2 and the share of correctly predicted outcomes. Therefore, for the sake of simplicity, only econometric results from the logist model are discussed here. Because *logit* coefficients only give information about the sign of the effect of covariates, we only discuss marginal effects evaluated at means (Table II).

- a) *Individual socio-demographic characteristics*. First, being a woman has a statistically significant and negative effect on the probability of being out of school too early of around 7% in both 2000 and 2007. Table II also reports the effects of the other variables for both sexes, showing that most are much stronger for boys. Not only are girls more likely to finish their secondary education, but the effect of social origin is also considerably milder. As indicated earlier, the age variable is included mostly for controlling purposes and its results have no interest on their own. Finally, nationality is especially interesting. With the exception of females, this variable was not statistically significant in 2000; however, in 2007, when there was a much higher proportion of foreigners in Spain, being an immigrant had a statistically significant and positive effect on the probability of having left school, especially in the case of male teenagers (5.7% versus 1.9% for women). This suggests difficulties of integration of foreigners aged 16 and 17 in the Spanish educational system and amplifies the statistical impact of immigration on the rate of early school leaving.
- b) *Family characteristics*. While household size and the number of brothers and sisters do not seem to have a very strong impact on the probability of leaving school early (especially in 2007), the absence of one of the parents from the household clearly reduces the probabilities of finishing secondary education.

TABLE I. Main descriptive statistics

	Year 2000						Year 2007					
	Total		Men		Women		Total		Men		Women	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Proportion of out of school children	0.221	0.415	0.261	0.440	0.177	0.382	0.190	0.392	0.237	0.426	0.140	0.347
Proportion of females	0.481	0.500	—	—	—	—	0.483	0.500	—	—	—	—
Proportion born in 1982/1989	0.513	0.500	0.522	0.500	0.503	0.500	0.508	0.500	0.503	0.500	0.513	0.500
Proportion with foreign nationality	0.015	0.120	0.013	0.114	0.016	0.126	0.147	0.354	0.155	0.362	0.139	0.346
Household size	4.485	1.214	4.483	1.219	4.488	1.210	3.458	0.906	3.446	0.851	3.470	0.961
No. of siblings	1.359	0.956	1.350	0.951	1.368	0.962	1.202	0.893	1.209	0.898	1.195	0.888
Proportion in households with absent mother	0.037	0.188	0.035	0.184	0.039	0.193	0.027	0.161	0.031	0.174	0.021	0.145
Mother with less than lower-secondary education	0.497	0.500	0.513	0.500	0.480	0.500	0.277	0.447	0.272	0.445	0.282	0.450
Mother with only lower-secondary education	0.222	0.416	0.221	0.415	0.224	0.417	0.307	0.461	0.302	0.459	0.311	0.463
Mother with university education	0.110	0.313	0.104	0.305	0.117	0.322	0.175	0.380	0.183	0.386	0.168	0.374
Proportion in households with absent father	0.124	0.330	0.117	0.322	0.132	0.338	0.161	0.367	0.156	0.363	0.166	0.373
Father employed in agriculture	0.060	0.237	0.064	0.245	0.055	0.229	0.043	0.203	0.044	0.206	0.042	0.201
Father employed in construction	0.133	0.339	0.143	0.350	0.121	0.326	0.176	0.381	0.174	0.379	0.179	0.384
Father is a manager	0.037	0.189	0.034	0.182	0.040	0.196	0.037	0.188	0.040	0.196	0.033	0.179
Father is a professional or technician	0.088	0.283	0.087	0.281	0.089	0.285	0.121	0.326	0.110	0.313	0.133	0.340
Father is a qualified worker	0.048	0.213	0.047	0.212	0.048	0.214	0.047	0.211	0.044	0.206	0.049	0.216
Father is a non-qualified worker	0.101	0.302	0.102	0.302	0.101	0.302	0.171	0.376	0.178	0.382	0.163	0.370
Father is employed	0.744	0.436	0.752	0.432	0.736	0.441	0.746	0.435	0.751	0.433	0.741	0.438

Source: Authors' analysis from Labour Force Surveys.

TABLE II. *Logit* estimates of the probability of being out of school between the age of compulsory education and the age of finishing upper secondary education. Spain (2000 and 2007)

	2000 (born in 1982 and 1983)			2007 (born in 1990 and 1991)		
	Total	Males	Females	Total	Males	Females
Female (male = 1)	-0.078*** (0.009)			-0.072*** (0.010)		
Born in 1982/1989 (born in 1983/1990 = 0)	0.069*** (0.009)	0.090*** (0.015)	0.049*** (0.011)	0.039*** (0.010)	0.057*** (0.016)	0.019* (0.010)
Foreign nationality (Spanish = 0)	0.105 (0.076)	-0.040 (0.102)	0.264** (0.111)	0.067*** (0.025)	0.059 (0.038)	0.068** (0.030)
Household size	-0.019 (0.022)	-0.081** (0.037)	0.037 (0.028)	-0.008 (0.012)	0.025 (0.040)	-0.021* (0.012)
Household size squared	0.002 (0.002)	0.008*** (0.003)	-0.003 (0.002)	0.001 (0.001)	-0.002 (0.005)	0.002* (0.001)
No. of siblings	-0.016 (0.017)	0.005 (0.029)	-0.027 (0.020)	0.000 (0.013)	-0.001 (0.024)	-0.006 (0.014)
No. of siblings squared	0.012*** (0.004)	0.010 (0.007)	0.011** (0.005)	0.006 (0.004)	0.008 (0.007)	0.005 (0.004)
Absent mother (mother in the household = 0)	0.399*** (0.069)	0.420*** (0.087)	0.450*** (0.112)	0.220*** (0.063)	0.242*** (0.087)	0.234** (0.099)
Mother with less than lower-secondary education	0.190*** (0.021)	0.223*** (0.031)	0.164*** (0.029)	0.138*** (0.022)	0.140*** (0.032)	0.135*** (0.032)
Mother with only lower-secondary education	0.143*** (0.031)	0.147*** (0.045)	0.142*** (0.047)	0.044** (0.017)	0.037 (0.026)	0.048** (0.022)
Mother with university education	-0.043 (0.033)	-0.056 (0.054)	-0.037 (0.039)	-0.046** (0.019)	-0.046 (0.031)	-0.036* (0.020)
Absent father (father in the household = 0)	0.012 (0.021)	-0.027 (0.031)	0.053* (0.030)	0.056** (0.023)	0.095** (0.042)	0.029 (0.023)
Father employed in agriculture	0.130*** (0.027)	0.144*** (0.039)	0.125*** (0.038)	0.067** (0.029)	0.103** (0.050)	0.030 (0.028)
Father employed in construction	0.100*** (0.018)	0.124*** (0.028)	0.081*** (0.023)	0.073*** (0.018)	0.132*** (0.030)	0.019 (0.017)
Father is a director	-0.056*** (0.019)	-0.072** (0.032)	-0.038* (0.022)	-0.039* (0.021)	-0.059* (0.033)	-0.018 (0.027)
Father is a professional or technician	-0.053** (0.027)	-0.074* (0.044)	-0.035 (0.033)	-0.081*** (0.015)	-0.143*** (0.020)	-0.029 (0.020)
Father is a qualified worker	-0.008 (0.021)	0.017 (0.037)	-0.023 (0.022)	0.049* (0.027)	0.069 (0.045)	0.035 (0.029)
Father is a non-qualified worker	0.037** (0.017)	0.083*** (0.029)	0.000 (0.017)	0.036** (0.014)	0.063** (0.025)	0.018 (0.015)
Father is employed	-0.086*** (0.017)	-0.096*** (0.026)	-0.071*** (0.021)	-0.056*** (0.019)	-0.061* (0.031)	-0.041** (0.021)
Wald test (χ^2 with K degrees of freedom)	616.1***	343.0***	254.3***	457.6***	247.6***	206.2***
No. of observations	4,880	2,540	2,298	3,677	1,870	1,807
McFadden R ²	0.171	0.160	0.174	0.176	0.173	0.181
Correctly predicted (%)						
Failures	95.8	93.5	98.4	97.6	95.9	98.8
Successes	20.3	25.2	10.1	15.1	23.5	8.3
Total	79.8	75.6	84.3	83.4	80.3	87.3

Heteroskedasticity-robust standard errors in brackets. *** significant at 1%; ** significant at 5%; * significant at 10%. Notes: Intercept and regional dummies were also included in the model. In the model for females in 2000 a region was excluded from the estimation since failure was perfectly predicted by the model.

Source: Authors' analysis from Labour Force Surveys.

This influence is generally more acute in 2007 than in 2000. But the effect of the absence of the mother is the most impressive. Particularly, in 2000 and 2007, other things being equal, this variable increases the probability of being an early school leaver by more than 45% and 20%, respectively.

c) *Socio-economic background.* First, it is remarkable how the mothers' educational level conditions the educational achievement of their children. Having

a mother with less than secondary education has a statistically significant and positive effect on being out of school at 16 and 17 of almost 20% in 2000 and roughly 14% in 2007, with a slightly larger impact for male teenagers. The fathers' activity and professional status also has a great impact on the probability of early school leaving, the effect being again stronger for male than for female teenagers. Those whose father is employed, especially if in a job with great prestige, have a considerably lower risk of leaving school early. We included dummy variables for two sectors which traditionally have a low educational profile and still employ more people than in most EU countries: agriculture and construction. It is interesting to see that the children of agricultural and construction workers are significantly more likely to leave school early, with the effect being much stronger for male than for female teenagers (these occupations are traditionally male-dominated). This could suggest a sector-specific pattern of social reproduction which could partly explain the standstill in the upgrading of educational achievement, considering the key role played by construction (and other low-skilled sectors such as tourism, not included in the model) in the Spanish economic development of the last 15 years.

Conclusion

This article tried to shed light on the phenomenon of early school leaving in contemporary Spain. First, by putting it in its historical context, we have shown that around the mid-1990s there was a change in the previous trends of generalised educational upgrading which is partly explained by the phenomenon of mass immigration. Other internal factors, not considered in this research, such as the weaknesses of the vocational system or the lack of 'custom made' educational itineraries, must have contributed to this standstill. Second, by looking at the micro-level determinants of early school leaving in Spain, we have shown that there was a clear element of social reproduction because the parents' educational attainment and socio-economic position have a strong impact on the risks of teenagers leaving school before attaining the level of education that the EU considers necessary to function in a knowledge economy.

The recent massive wave of immigration has greatly affected the rates of early school leaving, magnifying a problem that was already quite formidable. We have shown that this has affected the rates of early school leaving in two ways, one which can be argued to be partly a statistical artefact and another which is undisputedly substantive. The statistical artefact derives from the fact that many young immigrants came to Spain after having left their initial education (before finishing upper secondary education). They affect the index of early school leaving in Spain even if they have not been part of the Spanish educational system. However, when we looked at the micro determinants of early school leaving using data for teenagers still at school-age, the results for 2007 show that teenagers of immigrant origin are considerably more likely to leave school before obtaining their upper-secondary titles. Problems of social or educational integration are likely to be behind this higher risk of educational failure.

The small increase in the rates of early school leaving in Spain in the last few years can be explained by this massive wave of migration, which can be understood as an external factor and therefore not directly the result of a failure of the educational or social system to ensure the adequate levels of education of the

population. Yet after the mid-nineties the secular decrease of educational under-achievement that had been so clear in the previous 30 years came to a standstill. Why this was the case would require another study, but it seems plausible that there is a link between the model of economic growth in the last 15 years and the (hopefully only temporary) standstill of educational upgrading. After all, a model of growth based on the construction sector and low-skilled services does not require a very highly educated population. The rapid pace of growth of low-skilled employment in the last few decades could easily absorb most of the people that left education before obtaining their upper secondary qualifications. Many of these low-skilled — but relatively well rewarded — jobs were filled by male early school leavers. In this sense, the recent standstill of the rate of ESL may reflect a rather realistic (or ‘rational’) evaluation of part of the population of the employment opportunities that they would face after leaving education. The problem is, of course, that this model of economic development was totally unsustainable in the long run, as the current calamitous state of the Spanish economy shows. Most of the Spanish early school leavers who could make a rather handsome living by working in construction or some low-skilled services now find themselves unemployed, and their chances of returning to their previous jobs in the near (or even not so near) future seem negligible. Spain may be doomed to suffer the implications for economic and social development of having neglected the need to prepare its population for a knowledge society which is yet to come, but which may, after all, be the only way out of the current economic disaster.

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NOTES

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2. In Spain, the rate of ESL has remained at around 31% since 1996. For the whole of the EU, this rate was reduced from 21.6% to 16.9% between 1996 and 2007.
3. While the LFS samples more than 60,000 households, both the ECHP and the SILC include information about barely 10,000 families.

4. Those aged between 18 and 24, the basis for the Eurostat rate of ESL, are indicated by the two white lines in the figure.

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