Horizontal inequality in the transition to upper secondary education in Spain

Manuel T. Valdés
Universidad Nacional de Educación a Distancia
mvaldes@poli.uned.es

Abstract

Effectively maintained inequality theory posits that a reduction in vertical inequality following the expansion of a level of education will be compensated by an increase in horizontal inequality. Although this theory has been intensely studied in various countries, it has barely been explored in the Spanish case. To fill this gap, I use data from the Survey on the Transition from Education/Training to Labour Market Insertion and analyse the sample of students who completed compulsory education in 2001, right after the expansion of upper secondary education (baccalaureate) in Spain. I study two forms of horizontal inequality: the type of education enrolled in (including which modality is preferred in the academic track) and the time for completion of the academic track. I report that the saturation of baccalaureate in the choice against vocational education triggered substantial inequalities in the preference for the most rewarding modalities of baccalaureate: socioeconomically advantaged students preferred the natural sciences and technology, while disadvantaged students preferred the social sciences, humanities, and arts. In turn, inequality in the time for completion of baccalaureate is mostly vertical as the two most likely results for all socioeconomic groups are to complete baccalaureate in two years or not complete it at all.

Keywords: effectively maintained inequality; educational transitions; horizontal inequality; upper secondary education; academic track, vocational track

Resumen. *Desigualdad horizontal en la transición a la educación secundaria superior en España*

La teoría de la desigualdad efectivamente mantenida postula que la reducción de la desigualdad vertical tras la expansión de un nivel educativo se verá compensada por un aumento de la desigualdad horizontal. Aunque esta teoría ha sido intensamente estudiada en varios países, apenas ha sido explorada en el caso español. Para llenar este vacío, utilizo datos de la *Encuesta de transición educativa-formativa e inserción laboral* y analizo la muestra de estudiantes que terminaron la educación secundaria obligatoria en 2001, justo después de la expansión de la educación secundaria superior en España. Estudio dos formas de desigualdad horizontal: el tipo de enseñanza cursada (que incluye la modalidad preferida en el itinerario académico) y el tiempo invertido en la finalización del itinerario académico. Demuestro que la saturación del bachillerato en la elección frente a la formación profesional desencadenó desigualdades sustanciales en la preferencia por las modalidades de bachillerato más atractivas: los estudiantes de extracción social alta prefirieron Ciencias Naturales y Tecnología, mientras que los estudiantes desfavorecidos prefirieron Ciencias Sociales, Artes y Humanidades. A su vez, la desigualdad en el tiempo invertido en la finalización del bachillerato es mayoritariamente vertical, ya que los dos resultados más probables para todos los grupos socioeconómicos son terminar el bachillerato en dos años o no terminarlo.

Palabras clave: desigualdad efectivamente mantenida; transiciones educativas; desigualdad horizontal; educación secundaria superior; itinerario académico; itinerario profesional

Summary

1. Introduction

Research on the relationship between educational expansion and educational inequality has been intense. Intuitively, a larger level of education offers more opportunities for disadvantaged students. However, educational inequality has proven to be highly resistant to decline in moments of intense educational expansion. Maximally maintained inequality (MMI) theory argues that inequality in a certain educational transition will only be reduced after socioeconomically advantaged students saturate that level of education (Raftery and Hout, 1993). Effectively maintained inequality (EMI) theory also considers qualitative aspects of education and argues that if quantitative differentiation is no longer possible, advantaged families choose to exploit qualitative differences in education (Lucas, 2001). Therefore, the educational expansion that contributes to reducing vertical inequality will bring about new forms of horizontal inequality.

This paper intends to study that hypothesis derived from EMI theory. To this end, I analyse the Spanish case and focus on the transition to upper secondary education (known as *bachillerato* or baccalaureate in the Spanish educational system). I use data from the Survey on the Transition from Education/Training to Labour Market Insertion (ETEFIL) conducted by the National Institute of Statistics of Spain in 2005. This survey offers an excellent research opportunity since it interviewed students who completed compulsory education and faced the transition to upper secondary education in 2001. As this educational level notably expanded until the 1990s (Carabaña, 2013a; Martínez García and Merino, 2011), that should have created significant qualitative inequalities in the cohort of students interviewed in ETEFIL. In particular, I study two qualitative aspects of the education received in upper secondary education: the type of alternative enrolled in (distinguishing not only between academic and vocational education, but also between different modalities in the academic track) and the years spent to complete the academic track. Both aspects would qualitatively distinguish a quantitatively equivalent level of educational attainment.

The results reveal a remarkable degree of horizontal inequality in Spain in the transition to upper secondary education by the turn of the century. These findings are particularly salient for the type of education enrolled in, where I document not only sizeable differences by social origin in the probability of choosing each option, but also divergent modal trajectories: the most likely result for socioeconomically advantaged students is to enrol in baccalaureate in the natural sciences and technology modalities, while disadvantaged students prefer the social sciences, humanities, and arts modalities. In turn, no divergent results were observed in the time invested to complete the academic track. Regardless of social origin, the most likely result for those enrolled in baccalaureate is to finish in two years. However, that cannot obscure the fact that there are substantial differences by social origin in the proportion of students that complete baccalaureate in time.

The paper is structured as follows. In the next section, I present the theoretical framework of the study, the main findings in the empirical research about EMI theory, and the results of the investigation of the Spanish case. Then, I introduce the ETEFIL 2005 dataset, the study variables, and the methodology employed to test EMI theory. Results follow and I finally present the conclusions of my work.

2. Theoretical framework

2.1. Theoretical approaches to the study of the evolution of educational inequality

Scholars have analysed the effect of social origin on academic achievement for decades. Part of that research is based on the study of educational transitions, where the academic career of students is broken down into a sequence of transitions between levels of education. For each of these transitions, a logistic

regression model is fitted, which, unlike linear regression models, does not mistake the evolution of the educational structure for a reduction in educational inequality (Mare, 1980; 1981). This constitutes the sequential transition model, whose application in empirical research supported the hypothesis of persistent educational inequalities: the effect of social origin on academic achievement did not wane across cohorts during the 20th century in spite of a substantial educational expansion (Blossfeld and Shavit, 1993).

A highly influential explanation for these results was elaborated by Raftery and Hout (1993) under the name of maximally maintained inequality (MMI) theory. They argued that, although educational expansion increases the number of slots available in a level of education, not all students are equally ready to occupy them. For them, 'educational stratification works as a queue. The initial phases of educational expansion benefit the privileged families at the front of the queue. Then the benefits pass down the hierarchy' (Hout, 2007:38). The result is that inequality does not decline until there are no more socioeconomically advantaged students left with unfulfilled educational aspirations (Hout, 2006) or, as Raftery and Hout (1993) put it, until advantaged students reach the saturation point. Every extra slot opened by educational expansion from that moment on will be occupied by less advantaged students, forcing inequality to decline. However, if more students finish an educational level but the next one is not correspondingly expanded, a bottleneck is formed where advantaged students again have a competitive advantage and inequality increases. Therefore, saturated educational levels, although more equal, become irrelevant in the process of social stratification, and inequality moves upwards in the educational structure (Gerber and Hout, 1995).

The MMI theory entailed a step forward in the comprehension of the evolution of educational inequality over time. However, Lucas (2001; 2009) argued that MMI theory only considered a quantitative/vertical dimension of education (i.e. how much education has been received) and ignored the horizontal differentiation of all educational systems (i.e. what kind of education has been received). He argued that qualitative aspects of the educational trajectory might also contribute to sustaining the privileges of socioeconomically advantaged individuals. In response, he proposed the effectively maintained inequality (EMI) theory and stated that:

> Socioeconomically advantaged actors secure for themselves and their children some degree of advantage wherever advantages are commonly possible. On the one hand, if quantitative differences are common, the socioeconomically advantaged will obtain quantitative advantage; on the other hand, if qualitative differences are common, the socioeconomically advantaged will obtain qualitative advantage. (Lucas, 2001:1652)

Put simply, those in higher social positions will try to exploit every available educational advantage, knowing that differences both in quantity and quality are consequential in terms of future opportunities. If a certain level of education is saturated by privileged students because of educational expansion, quan-

titative differentiation cannot be exploited anymore, and qualitative aspects of education will gain in relative importance. This means that educational expansion will not necessarily lead to a reduction in inequality, not even after saturation, because although quantitative inequality may be reduced, qualitative inequality will be exacerbated.

In short, EMI theory emphasised the need to consider qualitative aspects of the educational career and argued that the kind of education received might be as consequential for the future as the amount of education accumulated. Being aware of that and better prepared to exploit all kinds of advantages in the educational system, socioeconomically advantaged parents will encourage their children to choose the preferable types of education, thus generating qualitative differences in quantitatively equivalent educational trajectories (Lucas, 2017).

2.2. Empirical research on effectively maintained inequality theory

Numerous studies have tested MMI and EMI theories over the last three decades. Although it has been sometimes observed that vertical inequality in an educational transition is not reduced until socioeconomically advantaged students reach the saturation point, most of these works have also documented that this decrease in vertical inequality is accompanied by an increase in horizontal inequality (Ayalon and Shavit, 2004; Bar Haim and Shavit, 2013; Boliver, 2011; Hout, 2006; Katrňák et al., 2016; Lucas, 2001; Thomsen, 2015; Torche, 2005).

For starters, significant qualitative inequalities have been found in very different institutional settings, including South Korea, where college attendance is close to being universal (Byun and Park, 2017); South Africa (McKeever, 2017) and Egypt (Langsten, 2015), where large quantitative inequalities still remain; the Czech Republic (Katrňák et al., 2016) and Russia (Jackson et al., 2020), former socialist regimes; China, where elite universities have a margin to select students using criteria other than prior performance (Luo et al., 2018); Israel (Ayalon and Yogev, 2005), a highly stratified society with important cultural differences that are very present in the educational system; or Denmark (Thomsen, 2015), a typical Scandinavian case characterised by low social inequality and a unified curriculum during compulsory education.

Other works have focused on periods of intense educational expansion. Consistently with the EMI theory, the decrease in vertical inequality associated with expansion was accompanied by increasing horizontal inequalities in countries such as Greece (Tsiplakides, 2018), the United States (Andrew, 2017), Italy (Guetto and Vergolini, 2017), or Ireland (Byrne and McCoy, 2017). In contrast, EMI has performed comparatively worse in highly stratified systems such as Germany (Reimer and Pollak, 2010; Weiss and Schindler, 2017). Iannelli et al. (2016) found no increase in the choice of subjects during upper secondary education in Ireland and Scotland when the level expanded, where that choice is highly consequential for entry into higher education. Marks (2013; 2018) studied the transition to university education in Australia and

found that academic ability and prior educational outcomes were more important predictors of the enrolment decision than social origin, and considered this evidence contrary to EMI. However, what EMI argues is not that academic results would be irrelevant after considering social origin or of less importance than social background, but that, after controlling for prior academic results, the most likely result among qualitatively different educational options will diverge by social origin (Lucas, 2018; Lucas and Byrne, 2017).

Unfortunately, research on EMI theory in Spain has been sparse. Some works have reported substantial inequality in the election between academic and vocational education in the transition to upper secondary education (Bernardi and Requena, 2010), but the scarcity of longitudinal databases about educational transitions at the national level hinders the analysis of the evolution of the qualitative and quantitative dimensions of educational inequality over time. In contrast, research on the Catalonian case is more abundant. For instance, Benito and Alegre (2012) found strong evidence of horizontal inequality in the transition to upper secondary and tertiary education in Catalonia. Similarly, Elias and Daza (2017) exploited a longitudinal study in Barcelona and observed for the transition to upper secondary education that the type of school (private, subsidised, or public) is a key mediating factor in the relationship between social origin and educational transitions. Using that longitudinal database for the analysis of the transition to tertiary education, Troiano et al. (2019) reported that socioeconomically advantaged baccalaureate graduates are more likely to prefer university over higher vocational education and high-risk over low-risk university degrees. Furthermore, they documented that these inequalities regarding the field of study at university were particularly salient at low levels of performance. Contrastingly, Triventi (2013) found no differences by educational background in the choice of a prestigious field of study in Spain.

Regarding the evolution of vertical and horizontal inequality over time, García-Andreu et al. (2019) found evidence of increasing social differences in the choice of field of study at university in the province of Alicante between 1994 and 2013, a period characterised by a sharp increase in university enrolment. Similarly, Troiano et al. (2017) examined access to university in Catalonia between 2002 and 2014 and observed that, although inequality in access has not changed over the period considered, inequality in the preference for more expensive and academically demanding degrees had significantly increased.

The present work intends to contribute to these studies on horizontal inequality in Spain by examining two unexplored forms of qualitative differentiation in the transition to upper secondary education: the baccalaureate modality and the completion time.

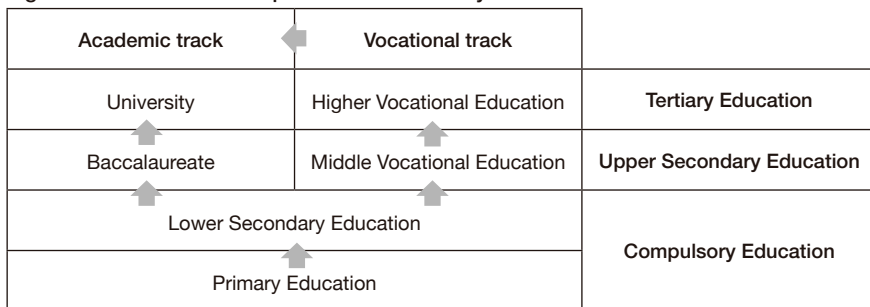## 2.3. Educational inequality in Spain

The current structure of the Spanish educational system was established under the LOGSE Act in 1990. The Act extended compulsory education to 16 years

of age divided into six years of primary education and four years of lower secondary education (ESO). Following the completion of basic education, students are awarded an ESO certificate, which is required to access a stratified upper secondary level divided into baccalaureate (the academic track) and middle vocational education, both with a duration of two years. At the same time, baccalaureate was divided into five modalities: natural sciences, technology, social sciences, humanities, and arts. Although each modality prepares students to pursue specific degrees at university, there was no barrier that limited choices after having completed *Selectividad*, an exam taken by those who have completed baccalaureate and wish to enrol in university. Finally, higher vocational education was created as a two-year vocational program alternative to university. However, university can also be accessed after completing higher vocational education. Figure 1 shows a schematic representation of the educational structure established under the LOGSE Act.

Regarding participation in these different levels of education over time, the Spanish educational system expanded during the second half of the 20th century and different levels were universalised. The expansion in compulsory levels finished during the 1970s (Fernández-Macías et al., 2013) and continued in upper secondary education until the 1990s (Carabaña, 2013a; Martínez García and Merino, 2011), although this level was never universalised. University enrolment grew sharply in the last quarter of the century, reaching a rate of one-quarter of the population aged 18 to 24 by the turn of the century and one-third today (Valdés, 2019).

However, there is no agreement on how educational inequality fared during those decades of educational expansion in Spain. A systematic review of the endeavours dedicated to this task can be found in Fernández Mellizo-Soto (2014). The author concludes that the different methodological approaches, sources of information, and transitions analysed make it difficult to offer a definitive answer. Some studies point to a reduction in educational inequality (Carabaña, 2013a; Di Paolo, 2012; Fernández-Macías et al., 2013), while others find notable stability (Martínez Celorrio, 2013; Martínez García and Merino, 2011).

Figure 1. Structure of the Spanish educational system

Academic track	Vocational track	
University	Higher Vocational Education	**Tertiary Education**
Baccalaureate	Middle Vocational Education	**Upper Secondary Education**
Lower Secondary Education		**Compulsory Education**
Primary Education		

Source: Own elaboration.

Interestingly, Martínez García and Fernández Mellizo-Soto (2016) observed a reduction in inequality in the drop-out rate in compulsory education for the cohorts born in the 1950s, 1960s, and 1970s, but an increase for those born in the 1980s associated with the implementation of the LOGSE Act.

Nonetheless, these studies have mostly analysed quantitative aspects of inequality, that is, whether a level of education is successfully completed or whether a transition between levels is made, but do not consider how qualitative inequalities may compensate for a hypothetical reduction in quantitative inequality. This work intends to fill this gap and study horizontal inequalities in the transition to upper secondary education for the cohort of students who completed ESO under the LOGSE Act by the turn of the century. This moment constitutes an ideal scenario for this purpose given that the expansion of upper secondary education continued until the 1990s. According to the EMI theory, important qualitative differences in the type of education received in upper secondary education are to be expected after the expansion.

3. Data & Methods

3.1. Data

The data used in this work comes from the Survey on the Transition from Education/Training to Labour Market Insertion (ETEFIL) conducted by the Spanish National Institute of Statistics in 2005. ETEFIL surveyed different samples of students who completed compulsory education, middle vocational education, upper secondary education (baccalaureate), or higher vocational education at the end of the 2000-2001 academic year, and retrospectively asked them what they did the following four years. I employ the sample of students who completed compulsory education in 2001, that is, those who were at risk of making the transition to upper secondary education by the end of the 2000-2001 academic year. This approach permits examining two forms of qualitative differentiation that could have been exploited by socio-economically advantaged students: the type of education enrolled in at the upper secondary education level and the time spent to complete baccalaureate when this is the preferred option.

Regarding the type of education, I employ a four-category variable that captures both vertical (dropping out or enrolling in upper secondary education) and horizontal differentiation (the preferred alternative in upper secondary education): (1) dropping out after completing ESO, (2) enrolling in middle vocational education, (3) enrolling in the social sciences, humanities, or arts baccalaureate (soc/hum/arts baccalaureate) and (4) enrolling in the natural sciences or technology baccalaureate (nat/tec baccalaureate). Note that the qualitative differentiation captured by this variable is consequential in terms of future opportunities and hence potentially used by those in higher social positions to secure advantages for their children. Furthermore, by distinguishing between modalities inside the academic track, this paper differs from previous

studies about this educational transition in Spain that have mostly analysed the distinction between academic and vocational education (Benito and Alegre, 2012; Bernardi and Requena, 2010; Elias and Daza, 2017).

Secondly, I study the timely completion of baccalaureate. As previous research has shown, completing an educational level in time is consequential in educational and occupational terms (Elman and O'Rand, 2004). Socio-economically advantaged students might rush to finish in time so they can distinguish their education from those students who take longer to do so (Zarifa et al., 2018). Since ETEFIL collected information four years after the completion of ESO, it is possible to determine whether baccalaureate was finished in two years (the expected duration of the program), three years, four years, or not finished at all.

To operationalise the social origin of the student, I use the level of education completed by both parents. I distinguish between (1) families where neither parent completed compulsory education, (2) at least one parent completed compulsory education, (3) at least one parent completed intermediate education (post-compulsory non-university education), and (4) at least one parent completed university education.

Besides social origin, an indicator of academic performance is necessary to assess EMI. However, there is no standardised examination at the end of compulsory education in Spain and ETEFIL did not include information about grades during ESO. Instead, I employ the number of times the student was held back a grade before finalizing ESO. As repeating a year during compulsory education is a direct consequence of poor academic performance and is comparatively frequent in Spain (Carabaña, 2013b; Cordero et al., 2014; Ikeda and García, 2014; Méndez and Cerezo, 2018), it offers enough variability to be a key predictor of the outcome of later educational transitions (Bernardi, 2012; Bernardi and Requena, 2010).

Finally, I employ as controls the type of school (public, subsidised, or private), the GDP per capita of the province where compulsory education was finished (indicating the wealth of the region where the student is schooled), the percentage of agrarian GDP (capturing the rural or urban character of the region),[1] gender, and nationality.[2] Descriptive information about all these variables is reported in Table 1. Around 1,000 cases did not offer information about parents' level of education, which leaves an analytical sample of 7,160 students. Results are weighted using the sampling weights provided with the ETEFIL database.

1. Both GPB variables are computed for the year 2001 and divided into three categories corresponding to the terciles of each scale.
2. ETEFIL does not ask the student or parents about their country of birth. This is a problem as Spain has subscribed dual nationality agreements with many different countries, particularly in Latin America, thus making it easy for a student born abroad to acquire Spanish nationality.

Table 1. Descriptive statistics for the variables in the analysis

	N	%
Transition into upper secondary education		
Dropout (Ref.)	350	4.9%
CFGM	985	13.8%
Baccalaureate Soc/Hum/Arts	2,737	38.2%
Baccalaureate Nat/Tec	3,087	43.1%
Outcome of enrolment in baccalaureate		
Not finished (Ref.)	1,185	20.3%
Completed in two years	3,650	62.7%
Completed in three years	892	15.3%
Completed in four years	97	1.7%
Educational background		
Both parents without compulsory education (Ref.)	498	7.0%
At least one parent with compulsory education	2,906	40.6%
At least one parent with intermediate education	1,888	26.4%
At least one parent with university education	1,868	26.1%
Number of years repeated		
Zero (Ref.)	5,234	73.1%
One	1,346	18.8%
Two or more	580	8.1%
Sex		
Female (Ref.)	3,893	54.4%
Male	3,267	45.6%
Nationality		
Non-Spanish (Ref.)	40	0.6%
Spanish	7,120	99.4%
Type of school		
Public (Ref.)	4,435	62.0%
Subsidised	2,363	33.0%
Private	361	5.0%
Regional GDP per capita		
Low (Ref.)	2,098	29.3%
Medium	2,006	28.0%
High	3,056	42.7%
Regional % agrarian GDP		
Low (Ref.)	3,530	49.3%
Medium	2,576	36.0%
High	1,053	14.7%
Total	7,160	

Source: Own elaboration from ETEFIL 2005.

3.2. Empirical strategy

To assess the degree of horizontal inequality in upper secondary education in Spain, I use the test proposed by Lucas. First, I identify different theoretically-relevant profiles of students using variables such as sex, number of repetitions, and nationality. Then, I examine whether any of these types of students (e.g. a Spanish male that never repeated a grade) change their most likely behaviour if moved from the lowest to the highest social position (Lucas, 2001; Lucas and Byrne, 2017). As both dependent variables capture consequential qualitative differentiation in the education received, an alteration of the modal trajectory due to social origin would mean that these qualitative differences are being exploited by socioeconomically advantaged students.

However, Boliver (2016) has been critical of this test, considering that it can neglect important qualitative inequalities and enlarge neglectable ones. Considering those concerns, the analysis has been conducted in three steps. First, I examine the modal decision about upper secondary education and the modal number of years for completion of baccalaureate by educational background. This simple descriptive exercise offers a first impression about EMI and how qualitative aspects of education are being exploited.

Second, a regression model is used to analyse the decision about upper secondary education enrolment and the timely completion of baccalaureate. For this purpose, Lucas (2009) recommended using a probit or logit ordered model. Nonetheless, the parallel regression assumption is not met for this data, so, although less parsimonious, a multinomial regression model is used instead (Andrew, 2017; Byun and Park, 2017; Marks, 2013; McKeever, 2017; Weiss and Schindler, 2017). The equation of the multinomial model is:

$$\ln\left(\frac{P(Y=j)}{P(Y=b)}\right) = \alpha_b + \beta j\ O + \gamma j\ X \qquad j=1,\ \ldots k \text{ and } j \neq b \qquad (1)$$

Where Y is the dependent variable (either type of education enrolled in upper secondary education or time for completion of baccalaureate), j represents the categories in Y, b represents the reference category against which the rest of alternatives are compared, α is a constant, O stands for the social origin of the student, β_j is the coefficient of social origin for alternative j, and X is a vector of controls including the number of repetitions.

Third, I compute the estimated probabilities of observing each result in both dependent variables for specific profiles of students. I estimate these probabilities for socioeconomically advantaged and disadvantaged students and examine whether the most likely result predicted by the model differs for them (i.e. whether we observe divergent modal trajectories). Such estimations have been calculated using the following expressions:

$$\hat{P}\left(Y=b\,\middle|\,X=x\right) = \frac{1}{1 + \sum_{j=1}^{k} e^{\alpha + \beta_j x}} \qquad (2)$$

$$\widehat{P}\left(Y = j \middle| X = x\right) = \frac{e^{\alpha + \beta_j x}}{1 + \sum_{j=1}^{k} e^{\alpha + \beta_j x}} \tag{3}$$

4. Results

4.1. Descriptive analysis

For starters, Table 2 presents the decision about the type of education received in upper secondary education disaggregated by educational background. First, observe that only 4.9% of those who completed ESO in 2000/2001 did not enrol in upper secondary education the following year. Put differently, almost all students at risk made the transition into upper secondary education. Therefore, if access to this level is not universalised (not all students in a cohort access upper secondary education), it is due to dropout during compulsory education. However, while only 1% of the students with at least one university-educated parent decided to drop out after completing ESO, that percentage rises to almost 13% for students whose parents did not finish compulsory education.

Second, 81.3% of the sample opted for baccalaureate over middle vocational education or dropping out. Nonetheless, that figure rises to 95% when at least one parent completed university education and drops almost 30 percentage points when neither parent completed compulsory education. This clearly indicates a substantial degree of horizontal inequality, but baccalaureate is always preferred to middle vocational education regardless of educational background, so no divergent modal trajectories are found between academic and vocational education. This result highlights the fact that horizontal dimen-

Table 2. Transition into upper secondary education by educational background

| | Transition into upper secondary education | | | | |
| | | Middle Vocational Education | Baccalaureate | | |
	Dropout		Soc/Hum/Arts	Nat/Tec	Total
Both parents without compulsory education	12.7%	25.9%	**34.5%**	27.0%	498
At least one parent with compulsory education	7.2%	19.1%	**39.3%**	34.4%	2,906
At least one parent with intermediate education	3.0%	12.0%	40.8%	**44.2%**	1,888
At least one parent with university education	1.1%	4.1%	35.0%	**59.9%**	1,868
Total	4.9%	13.8%	38.2%	**43.1%**	7,160

Note: Bold figures indicate the modal option for each category of educational background.

Source: Own elaboration from ETEFIL 2005.

sions of education can also be saturated and no longer serve for the purpose of educational differentiation.

Fortunately, it is possible to disaggregate this decision further considering the modality chosen in the academic track. For students with none or one parent that finished compulsory education, the soc/hum/arts baccalaureate is the preferred option in upper secondary education. In contrast, the nat/tec baccalaureate is the preferred option for students whose parents completed intermediate or university education. As the nat/tec baccalaureate led to more prestigious fields of study in higher education and more rewarding occupations, these divergent modal trajectories in upper secondary education reflect horizontal inequality in the sense of EMI. Remember, however, that these descriptive results are not controlled for any variable.

Let us now consider the time for completion of baccalaureate by educational background. Table 3 states that completing baccalaureate in two years is the most likely result regardless of parental education. Nonetheless, that cannot obscure the fact that timely completion is much more likely among students from higher educational backgrounds: while 9 in 10 students with at least one university-educated parent finished baccalaureate in two years, that proportion drops to 2 in 3 students when no parent finished compulsory education. Furthermore, one-fifth of the students had not finished baccalaureate after four years, which is three times more likely among students whose parents did not complete compulsory education than among students with one university-educated parent.

In short, ESO graduates from lower social origins enrol less often in upper secondary education, choose baccalaureate over middle vocational education less often, prefer less prestigious modalities, abandon baccalaureate more frequently and, when they do finish, take longer than their counterparts from higher social positions. As a result, they receive less education in upper secondary education not only in quantitative terms, but also in qualitative terms.

Table 3. Outcome of enrolment in baccalaureate by educational background

		Completion after…		
	Not completed	4 years	3 years	2 years	Total
Both parents without compulsory education	35.3%	1.2%	20.2%	**43.3%**	306
At least one parent with compulsory education	25.8%	1.8%	17.3%	**55.1%**	2,143
At least one parent with intermediate education	20.5%	2.3%	16.6%	**60.6%**	1,605
At least one parent with university education	11.1%	1.0%	10.8%	**77.1%**	1,771
Total	20.3%	1.7%	15.3%	**62.7%**	5,824

Note: Bold figures indicate the modal result for each category of educational background.

Source: Own elaboration from ETEFIL 2005.

4.2. Multivariate analysis

In the next step, I control the results for several variables, including a measure of academic performance (the number of repetitions). Table 4 displays the multinomial logit model for the transition into upper secondary education with dropping out after compulsory education as the reference category. It is clear that the decision about what type of education to enrol in after compulsory education is highly conditional on the educational background of the student. Remember that these results are net of the effect of grade repetitions during compulsory education, which in turn highly discourage the continuation decision and enrolment in the more demanding educational alternatives.

Regarding controls, it is interesting to observe that ESO graduates in private schools preferred to drop out of education rather than enrol in middle vocational education. It seems that vocational education is not a conceivable option in the context of private schools and the students who do not consider themselves capable of succeeding in baccalaureate prefer to abandon the system. In contrast, attending a subsidised instead of a public school makes it more likely to prefer baccalaureate over dropping out and it is irrelevant for enrolment in middle vocational education instead of abandonment.

Furthermore, living in a wealthier region makes it more likely to prefer more prestigious types of education, as occurs with living in a region with a larger agrarian sector. The high supply of non-qualified construction jobs concentrated in non-rural regions at the time the ETEFIL was conducted may account for this result.

Regarding sex, the only statistically significant difference between males and females is observed in the preference for the soc/hum/arts baccalaureate over dropping out. Being male makes that preference half as likely.

Finally, Spanish students are more likely to choose any alternative over dropping out than non-Spanish students, but the difference is only statistically significant in the preference for vocational education due to low statistical power.

Table 5 presents a second multinomial logit model restricted to those students who opted for baccalaureate in the academic year 2001/2002, where not completing the program acts as the reference category. The reduction in sample size makes the number of students without Spanish nationality and the number of students who attended a private school zero for some of the categories in the dependent variable. Therefore, nationality is not included in the model and private and subsidised schools are merged as non-public institutions. Furthermore, a dummy variable has been included indicating the modality of baccalaureate the student enrolled in, together with an interaction term between modality and number of repetitions.

As can be observed, timely completion is highly conditional on educational background, particularly in the case of completing baccalaureate in two years instead of not completing it at all. Again, this result is net of the number of repetitions during compulsory education, which is also an important predictor

Table 4. Multinomial logistic model for the transition into upper secondary education

Reference category: Dropping out	Middle Vocational Education			Baccalaureate Soc/Hum/Art			Baccalaureate Nat/Tec		
	OR	SE	Sig.	OR	SE	Sig.	OR	SE	Sig.
Constant	0.285	0.196	0.068	1.937	1.342	0.340	1.349	0.991	0.683
Educational background (Ref: Both parents without compulsory education)	-	-	-	-	-	-	-	-	-
At least one parent with compulsory education	1.268	0.248	0.226	1.708	0.335	0.006	1.881	0.401	0.003
At least one parent with intermediate education	1.860	0.448	0.010	4.396	1.035	0.000	5.811	1.450	0.000
At least one parent with university education	1.861	0.596	0.053	8.691	2.644	0.000	16.374	5.141	0.000
Number of repetitions (Ref: None)	-	-	-	-	-	-	-	-	-
One	1.172	0.200	0.353	0.269	0.043	0.000	0.093	0.016	0.000
Two or more	0.652	0.116	0.016	0.079	0.015	0.000	0.024	0.005	0.000
Type of school (Ref: Public)	-	-	-	-	-	-	-	-	-
Subsidised	1.145	0.205	0.450	1.510	0.257	0.015	1.429	0.245	0.037
Private	0.422	0.212	0.086	1.771	0.736	0.169	1.544	0.638	0.293
Regional GDP per capita (Ref: Low)	-	-	-	-	-	-	-	-	-
Medium	1.551	0.301	0.024	1.483	0.280	0.037	1.546	0.297	0.024
High	2.172	0.476	0.000	1.508	0.318	0.052	1.648	0.354	0.020
Regional % agrarian GDP (Ref: Low)	-	-	-	-	-	-	-	-	-
Medium	1.741	0.312	0.002	1.727	0.297	0.001	2.058	0.360	0.000
High	1.971	0.503	0.008	2.136	0.539	0.003	2.335	0.599	0.001
Gender (Ref: Female)	-	-	-	-	-	-	-	-	-
Male	1.172	0.163	0.255	0.452	0.061	0.000	1.010	0.138	0.941
Nationality (Ref: Non-Spanish)	-	-	-	-	-	-	-	-	-
Spanish	3.472	2.217	0.051	2.636	1.720	0.137	2.441	1.682	0.195

Note: Results are presented in odds ratios (OR) instead of the coefficients of the logit specification.

Source: Own elaboration from ETEFIL 2005.

of the time for completion of baccalaureate. Surprisingly, being enrolled in the nat/tec baccalaureate, commonly considered more demanding modalities, makes it more likely to complete the program in time. To further assess that result, I include the interaction between the number of repetitions during compulsory education and the modality enrolled, wondering if better-prepared students prefer the more demanding modalities and that is the reason why they finish in time more often. Ancillary analyses indicate that the average marginal

Table 5. Multinomial logistic model predicting the time for completion of baccalaureate

Reference category: Not completing baccalaureate	Graduation in 2 years			Graduation in 3 years			Graduation in 4 years		
	OR	SE	Sig.	OR	SE	Sig.	OR	SE	Sig.
Constant	1.598	0.311	0.016	0.627	0.149	0.050	0.026	0.020	0.000
Educational background (Ref: Both parents without compulsory education)	-	-	-	-	-	-	-	-	-
At least one parent with compulsory education	1.520	0.253	0.012	1.110	0.218	0.597	1.794	1.051	0.318
At least one parent with intermediate education	2.044	0.355	0.000	1.371	0.282	0.125	2.733	1.622	0.090
At least one parent with university education	4.463	0.817	0.000	1.574	0.346	0.039	1.919	1.222	0.306
Number of repetitions (Ref: None)	-	-	-	-	-	-	-	-	-
One	0.277	0.035	0.000	0.593	0.091	0.001	0.570	0.224	0.153
Two or more	0.158	0.036	0.000	0.378	0.100	0.000	0.694	0.378	0.502
Modality of baccalaureate (Ref: Soc/Hum/Arts)	-	-	-	-	-	-	-	-	-
Nat/Tec	1.596	0.150	0.000	1.372	0.162	0.007	1.202	0.339	0.515
Number of repetitions * Modality of baccalaureate	-	-	-	-	-	-	-	-	-
One repetition * Nat/Tec	0.269	0.060	0.000	0.702	0.170	0.143	0.566	0.354	0.362
Two repetitions * Nat/Tec	0.462	0.175	0.041	0.308	0.170	0.033	0.756	0.696	0.761
Type of school (Ref: Public)	-	-	-	-	-	-	-	-	-
Subsidised or Private	1.440	0.126	0.000	1.005	0.111	0.967	0.926	0.238	0.764
Regional GDP per capita (Ref: Low)	-	-	-	-	-	-	-	-	-
Medium	0.989	0.110	0.924	0.951	0.127	0.709	0.952	0.326	0.885
High	1.099	0.136	0.445	1.141	0.168	0.371	2.091	0.782	0.048
Regional % agrarian GDP (Ref: Low)	-	-	-	-	-	-	-	-	-
Medium	1.124	0.114	0.248	1.210	0.148	0.120	1.493	0.430	0.163
High	1.289	0.174	0.061	1.382	0.223	0.045	1.032	0.466	0.945
Gender (Ref: Female)	-	-	-	-	-	-	-	-	-
Male	0.633	0.051	0.000	0.796	0.079	0.022	1.216	0.298	0.425

Note: Results are presented in odds ratios (OR) instead of the coefficients of the logit specification.

Source: Own elaboration from ETEFIL 2005.

effect (AME) of modality on the probability of completing baccalaureate in 2 years is only positive when students have not repeated a grade (AME = 0.063, $p \leq .000$) and negative if the student retook a grade (AME = -0.167, $p \leq .000$), thus confirming this idea.

Regarding controls, having attended a non-public institution during compulsory education and being female decrease the probability of taking extra years to finish baccalaureate. In turn, neither the wealth of the region where the student attended compulsory education nor the percentage of agrarian GDP are relevant to predict the timely completion of baccalaureate.

4.3. Estimated probabilities

Finally, Table 6 presents the predicted probability of choosing each alternative after completing compulsory education for different profiles of students (Sex * Nationality * Repetitions). The table is divided into two panels. The probabilities on the left-hand side are computed for students whose parents did not complete compulsory education, while those on the right-hand side are computed for students with at least one university-educated parent. I now examine whether the most likely result predicted for each profile (highlighted in bold) changes between the two panels.

Firstly, it is clear that moving any profile from the lowest to the highest educational background always increases the probability of enrolling in baccalaureate instead of middle vocational education and, in baccalaureate, to prefer the natural sciences and technology modalities over social sciences, humanities, and arts. This result clearly reveals the existence of horizontal inequality. For instance, a male Spanish student that never repeated a course presents a probability of enrolling in the nat/tec baccalaureate that is 24 percentage points higher if he comes from a higher educational background.

However, EMI theory also expects divergent modal educational trajectories. I observe that divergent pattern in 9 of the 12 profiles considered. Take, for instance, a Spanish female who never repeated a grade. If neither of her parents completed compulsory education, the model predicts that she is most likely to enrol in the soc/hum/arts consistency. In turn, if she came from a family with at least one university-educated parent, the most likely result is that she will enrol in the nat/tec baccalaureate. In fact, the nat/tec consistency is never the preferred option for females from the lowest educational background.

Take now a Spanish male who repeated once in compulsory education. The model predicts that he will choose middle vocational education if neither of his parents completed compulsory education and the consistency if at least one parent completed university. In fact, male students from a high educational background always choose the nat/tec baccalaureate unless they repeated twice during ESO. In that case, they choose the soc/hum/arts baccalaureate, but not vocational education.

Finally, only non-Spanish students with the lowest educational background and at least one repetition are predicted to drop out after completing ESO as

Table 6. Predicted probabilities for the transition into upper secondary education

	Both parents without compulsory education				At least one parent with university education			
	Dropout	CFGM	Baccalaureate Soc/Hum/Arts	Baccalaureate Nat/Tec	Dropout	CFGM	Baccalaureate Soc/Hum/Arts	Baccalaureate Nat/Tec
Male, Spanish, no repetitions	0.06	0.14	0.31	**0.49**	0.01	0.02	0.24	**0.73**
Male, Spanish, one repetition	0.17	**0.46**	0.24	0.13	0.03	0.16	0.40	**0.41**
Male, Spanish, two repetitions	0.31	**0.49**	0.13	0.06	0.09	0.26	**0.34**	0.31
Male, non-Spanish, no repetitions	0.14	0.10	0.28	**0.48**	0.01	0.02	0.23	**0.74**
Male, non-Spanish, one repetition	**0.37**	0.30	0.21	0.12	0.08	0.12	0.38	**0.42**
Male, non-Spanish, two repetitions	**0.59**	0.26	0.10	0.05	0.22	0.18	**0.30**	0.30
Female, Spanish, no repetitions	0.04	0.09	**0.51**	0.36	0.00	0.02	0.42	**0.56**
Female, Spanish, one repetition	0.14	0.32	**0.43**	0.11	0.02	0.10	**0.60**	0.28
Female, Spanish, two repetitions	0.29	**0.38**	0.27	0.06	0.07	0.16	**0.55**	0.22
Female, non-Spanish, no repetitions	0.11	0.06	**0.47**	0.36	0.01	0.01	0.40	**0.58**
Female, non-Spanish, one repetition	0.31	0.21	**0.38**	0.10	0.06	0.07	**0.58**	0.29
Female, non-Spanish, two repetitions	**0.55**	0.21	0.20	0.05	0.16	0.11	**0.50**	0.22

Note: Results come from a multinomial logit model that includes as controls type of school, province GPD, % of agrarian GPD, gender and nationality. Controls are fixed at mean values. Bold figures indicate the modal option for each type of student and category of educational background.

Source: Own elaboration from ETEFIL 2005.

the most likely result. Interestingly, girls are only predicted to enrol in vocational education as the most likely result if they repeated twice during compulsory education and have a low educational background. Moreover, students from a high educational background always chose baccalaureate over any other option, and only prefer the social sciences, humanities, or arts modalities if they repeated a grade.

In Table 7, I repeat the same exercise for the time for completion of baccalaureate. Unlike the previous case, the main conclusion now is that inequality is mostly vertical, as the only divergent modal trajectories for students from a different educational background occur in the vertical dimension: finishing in two years or not finishing at all. In other words, completing baccalaureate in three or four years is never the most likely result for any profile.

Table 7. Predicted probabilities for the completion of baccalaureate

	Both parents without compulsory education				At least one parent with university education			
	Not completed	In four years	In three years	In two years	Not completed	In four years	In three years	In two years
Male, Soc/Hum/Art, no repetitions	0.34	0.01	0.20	**0.45**	0.13	0.01	0.12	**0.74**
Male, Soc/Hum/Art, one repetition	**0.57**	0.01	0.21	0.21	0.31	0.01	0.17	**0.50**
Male, Soc/Hum/Art, two repetitions	**0.68**	0.02	0.16	0.14	**0.43**	0.02	0.15	0.40
Male, Nat/Tec, no repetitions	0.25	0.01	0.21	**0.53**	0.08	0.01	0.11	**0.80**
Male, Nat/Tec, one repetition	**0.66**	0.01	0.23	0.10	**0.44**	0.01	0.24	0.31
Male, Nat/Tec, two repetitions	**0.78**	0.02	0.08	0.12	**0.53**	0.02	0.08	0.37
Female, Soc/Hum/Art, no repetitions	0.26	0.01	0.20	**0.54**	0.09	0.01	0.10	**0.81**
Female, Soc/Hum/Art, one repetition	**0.49**	0.01	0.22	0.28	0.23	0.01	0.16	**0.60**
Female, Soc/Hum/Art, two repetitions	**0.61**	0.01	0.18	0.20	0.34	0.01	0.15	**0.50**
Female, Nat/Tec, no repetitions	0.18	0.01	0.19	**0.62**	0.06	0.00	0.09	**0.85**
Female, Nat/Tec, one repetition	**0.59**	0.01	0.26	0.15	0.35	0.01	0.24	**0.39**
Female, Nat/Tec, two repetitions	**0.72**	0.01	0.09	0.18	0.43	0.02	0.08	**0.47**

Note: Results come from a multinomial logit model that includes as controls type of school, province GPD, % of agrarian GPD, and gender, and the interaction between modality and number of repetitions. Controls are fixed at mean values. Bold figures indicate the modal option for each type of student and category of educational background.

Source: Own elaboration from ETEFIL 2005.

Take, for instance, a male student enrolled in the soc/hum/arts baccalaureate that repeated once during compulsory education. If neither of his parents completed compulsory education, the most likely result is that he will not complete baccalaureate after four years. In turn, if at least one parent completed university education, the most likely result is that he will complete baccalaureate in time. This is the only profile among males where there is a divergent pattern between students from different educational backgrounds.

In the case of females, if they come from a high educational background, the most likely result is always to complete baccalaureate in two years. In turn,

having repeated as much as once during compulsory education is enough to make non-completion the most likely result if no parent completed compulsory education. However, these divergent modal trajectories do not capture horizontal differentiation (how long until finishing baccalaureate) but vertical differentiation (whether or not to finish baccalaureate).

5. Conclusions

Effectively maintained inequality theory argues that qualitative inequality will gain in relative importance in the transition to a certain level of education after educational expansion limits the possibility of vertical differentiation (Lucas, 2001; 2009). Spain is a suitable case to assess that hypothesis since upper secondary education expanded until the 1990s and the only national-scale longitudinal study on educational transitions carried out in Spain precisely interviewed a cohort of students that finished compulsory education in 2001. Therefore, we can assess whether the expansion of upper secondary education was followed by horizontal differentiation regarding the type of education chosen and the timely completion of the academic track.

The results presented in this work partially support that expectation. On the one hand, we observed substantial differences between socioeconomic groups in the probability of enrolling in baccalaureate instead of middle vocational education, and also in the preference for the nat/tec baccalaureate over the soc/hum/art consistency. On top of that, moving from the lowest to the highest social position changed the modal trajectory of students in upper secondary education, which constitutes a more stringent condition to validate EMI theory (Lucas and Byrne 2017). Those from higher educational backgrounds preferred the nat/tec baccalaureate over any other alternative after completing compulsory education, while those from lower educational backgrounds preferred the soc/hum/art baccalaureate.

On the other hand, I do find inequality in the time for completion of baccalaureate, but it is mostly vertical. The only divergent modal results observed between students from different educational backgrounds are completing the program in two years and not completing it all, therefore capturing a quantitative rather than qualitative difference in the education achieved. However, I report a non-neglectable degree of inequality, as the probability of taking three years to finish baccalaureate is twice as large if the student comes from the lowest educational background instead of the highest. As emphasised by Boliver (2016), the non-divergent modal results by educational background cannot obscure the fact that there are substantial inequalities by social origin in how long it takes to finish the academic track in upper secondary education.

Interestingly, these findings also suggest that qualitative dimensions of education can also be saturated by those in advantaged social positions, so they are no longer useful to maintain inequality effectively. This seems to be the case for the differentiation between academic and vocational education in Spain. By 2001, 95% of students with at least one university-educated parent who

were at risk of making the transition to upper secondary education preferred to enrol in baccalaureate over vocational education or drop out. The result of this saturation is the exploitation of a new form of horizontal differentiation: the modality of baccalaureate. Consequently, inequality is not reduced, but only transformed, and hence effectively maintained. Thinking ahead, if that differentiation among modalities of baccalaureate were saturated or perceived as insufficient to secure social advantages, new qualitative differences could arise inside the most prestigious modalities of baccalaureate, such as the selection of certain subjects to configure a more demanding itinerary before university enrolment.

Additionally, the progressive saturation of these forms of differentiation in upper secondary education might trigger strategies to differentiate education at the tertiary level, particularly in the transition to university. If upper secondary education is no longer useful to qualitatively differentiate students' educational paths, those in advantaged social positions will renounce the search for new advantages at that educational level and start the differentiation in the next one (Gerber and Hout, 1995). Since baccalaureate was, by 2001, a saturated level among socioeconomically advantaged students, new inequalities, vertical and horizontal, should have appeared in the next years at university level, such as choosing riskier but more rewarding fields of study (Troiano et al., 2017; García-Andreu et al., 2019). New longitudinal databases with updated information about educational transitions in Spain will help to answer these questions.

Finally, it is important to acknowledge some limitations of the present study. First, I lack a fine-grained measure of academic performance during compulsory education, which impedes a more comprehensive control of previous academic results. Arguably, the number of repetitions only imperfectly captures the differences in performance among socioeconomic groups. Second, it is important to keep in mind that I work with a sample of students that had completed compulsory education. As the decision to drop out before finishing compulsory education is affected by the socioeconomic origin of the student, we are working with a selected sample in terms of social background. This is a classic problem when working with sequential educational transitions (Cameron and Heckman, 1998). Third, we have no information about horizontal inequalities before the expansion of upper secondary education, so we cannot assess whether and, if so, how much this type of inequality was exacerbated after that expansion. I can only confirm that there were significant horizontal inequalities after the expansion of upper secondary education. Fourth, I use data from 2001, which, although appropriate for this research, is outdated for the analysis of the educational decision-making process nowadays. Fortunately, a new wave of ETEFIL has recently been released, which allows us not only to assess the current decisions of ESO graduates, but also to compare them with those made at the beginning of the 21st century. Despite its shortcomings, however, the present work offers convincing evidence of the existence of relevant horizontal inequalities after the expansion of upper secondary educa-

tion in Spain, not only because we observe different decisions by students of different social origins, but because the modal educational trajectories differ by socioeconomic background.

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Bibliographic references

Andrew, Megan (2017). "Effectively Maintained Inequality in U.S. Postsecondary Progress: The Importance of Institutional Reach". *American Behavioral Scientist*, 61 (1), 30-48.
   https://doi.org/10.1177/0002764216682809.
Ayalon, Hanna and Shavit, Yossi (2004). "Educational Reforms and Inequalities in Israel: The MMI Hypothesis Revisited". *Sociology of Education*, 77 (2), 103-120.
   https://doi.org/10.1177/003804070407700201.
Ayalon, Hanna and Yogev, Abraham (2005). "Field of Study and Students' Stratification in an Expanded System of Higher Education: The Case of Israel". *European Sociological Review*, 21 (3), 227-241.
   https://doi.org/10.1093/esr/jci014.
Bar Haim, Eyal and Shavit, Yossi (2013). "Expansion and Inequality of Educational Opportunity: A Comparative Study". *Research in Social Stratification and Mobility*, 31 (March), 22-31.
   https://doi.org/10.1016/j.rssm.2012.10.001.
Benito, Ricard and Àngel Alegre, Miquel (2012). "The Changing Patterns of Individual and School Effects on Educational Transitions. Evidence from Catalan Data (Spain)". *Educational Research*, 54 (1), 65-87.
   https://doi.org/10.1080/00131881.2012.658200.
Bernardi, Fabrizio (2012). "Unequal Transitions: Selection Bias and the Compensatory Effect of Social Background in Educational Careers". *Research in Social Stratification and Mobility*, 30 (2), 159-74.
   https://doi.org/10.1016/j.rssm.2011.05.005.
Bernardi, Fabrizio and Requena, Miguel (2010). "Desigualdad and puntos de inflexión educativos: el caso de la educación post-obligatoria en España". *Revista de Educación*, Número extraordinario: 93-118.
Blossfeld, Hans-Peter and Shavit, Yossi (1993). "Persisting Barriers: Changes in Educational Opportunities in Thirteen Countries". In: Blossfeld, Hans-Peter and Shavit, Yossi (eds.). *Persistent Inequality: Changing Educational Stratification in Thirteen Countries*, Boulder (Colorado): Westview Press.
Boliver, Vikki (2011). "Expansion, Differentiation, and the Persistence of Social Class Inequalities in British Higher Education". *Higher Education*, 61 (3), 229-242.
   https://doi.org/10.1007/s10734-010-9374-y.

— (2016). "Critically Evaluating the Effectively Maintained Inequality Hypothesis". *British Journal of Education, Society & Behavioural Science*, 15 (2), 1-9. https://doi.org/10.9734/BJESBS/2016/24563.

Byrne, Delma and McCoy, Selina (2017). "Effectively Maintained Inequality in Educational Transitions in the Republic of Ireland". *American Behavioral Scientist*, 61 (1), 49-73.
https://doi.org/10.1177/0002764216682991.

Byun, Soo-yong and Park, Hyunjoon (2017). "When Different Types of Education Matter: Effectively Maintained Inequality of Educational Opportunity in Korea". *American Behavioral Scientist*, 61 (1), 94-113.
https://doi.org/10.1177/0002764216682810.

Cameron, Stephen V. and Heckman, James J. (1998). "Life Cycle Schooling and Dynamic Selection Bias: Models and Evidence for Five Cohorts of American Males". *Journal of Political Economy* 106 (2), 262-333.
https://doi.org/10.1086/250010.

Carabaña, Julio (2013a). "Crecimiento del Bachillerato e igualdad desde los años ochenta". *Revista de Sociología de la Educación-RASE*, 6 (1), 6-31.

— (2013b). "Repetición de curso y puntuaciones PISA. ¿Cuál causa cuál?" En Instituto Nacional de Evaluación Educativa. *PISA 2012. Programa para la evaluación internacional de alumnos. Informe Español. Volumen II: Análisis secundario*, 33-66. Madrid, España.

Cordero, José Manuel; Machón, César and Simancas, Rosa (2014). "La repetición de curso y sus factores condicionantes en España". *Revista de Educación*, 365, 12-37.
https://doi.org/10.4438/1988-592X-RE-2014-365-263.

Di Paolo, Antonio (2012). "Parental Education and Family Characteristics: Educational Opportunities Across Cohorts in Italy and Spain". *Revista de Economía Aplicada*, 20 (58), 119-46.

Elias, Marina and Daza, Lidia (2017). "¿Cómo deciden los jóvenes la transición a la educación postobligatoria? Diferencias entre centros públicos y privados-concertados". *Revista de Sociología de la Educación-RASE*, 10 (1), 5-22,
https://doi.org/10.7203/RASE.10.1.9135.

Elman, Cheryl and O'Rand, Angela (2004). "The Race Is to the Swift: Socioeconomic Origins, Adult Education, and Wage Attainment". *American Journal of Sociology* 110 (1), 123-160.
https://doi.org/10.1086/386273.

Fernández Mellizo-Soto, María (2014). "The evolution of inequality of educational opportunities: A systematic review of analyses of the Spanish case". *Revista Española de Investigaciones Sociológicas*, 147, 107-120.
https://doi.org/10.5477/cis/reis.147.107.

Fernández Mellizo-Soto, María and Martínez García, José Saturnino (2016). "Inequality of Educational Opportunities: School Failure Trends in Spain (1977–2012)". *International Studies in Sociology of Education* 26 (3), 267-87.
https://doi.org/10.1080/09620214.2016.1192954.

Fernández-Macías, Enrique; Antón, José-Ignacio; Braña, Francisco-Javier and Muñoz De Bustillo, Rafael (2013). "Early School-Leaving in Spain: Evolution, Intensity and Determinants". *European Journal of Education*, 48 (1), 150-164.
https://doi.org/10.1111/ejed.12000.

García-Andreu, Hugo; Acebal, Alejandro and Aledo, Antonio (2019). "Higher Education Segregation in Spain: Gender Constructs and Social Background". *European Journal of Education*.
https://doi.org/10.1111/ejed.12377.

Gerber, Theodore P. and Hout, Michael (1995). "Educational Stratification in Russia During the Soviet Period". *American Journal of Sociology*, 101 (3), 611-660.
https://doi.org/10.1086/230755

Guetto, Raffaele and Vergolini, Loris (2017). "Educational Expansion without Equalization: A Reappraisal of the 'Effectively Maintained Inequality' Hypothesis in Children's Choice of the Upper Secondary Track". *European Societies*, 19 (1), 1-27.
https://doi.org/10.1080/14616696.2016.1236283.

Hout, Michael (2006). "Maximally maintained inequality and essentially maintained inequality: Crossnational comparitions". *Sociological Theory and Methods*, 21 (2), 237-52.

— (2007). "Maximally Maintained Inequality Revisited: Irish Educational Stratification in Comparative Perspective". In: Hilliard, Betty and Phádraig, Máire N. G. (eds.). *Changing Ireland in International Comparison*. Dublin: Liffey Press.

Iannelli, Cristina; Smyth, Emer and Klein, Markus (2016). "Curriculum Differentiation and Social Inequality in Higher Education Entry in Scotland and Ireland". *British Educational Research Journal*, 42 (4), 561-581. https://doi.org/10.1002/berj.3217.

Ikeda, Miyako and García, Emma (2014). "Grade Repetition". *OECD Journal: Economic Studies*, (1), 269-315.
https://doi.org/10.1787/eco_studies-2013-5k3w65mx3hnx.

Jackson, Michelle; Khavenson, Tatiana and Chirkina, Tatiana (2020). "Raising the Stakes: Inequality and Testing in the Russian Education System". *Social Forces*, 98 (4), 1613-1635.
https://doi.org/10.1093/sf/soz113.

Katrňák, Tomáš; Simonová, Natalie and Fónadová, Laura (2016). "From Quantitative to Qualitative Differences: Testing MMI and EMI in the Czech Secondary School System in the First Decade of the 21st Century". *Research in Social Stratification and Mobility* 46, 157-171.
https://doi.org/10.1016/j.rssm.2016.08.009.

Langsten, Ray (2015). "Effectively Maintained Inequality: Access to Higher Education in Egypt". En Teranishi, Robert; Bordoloi Pazich, Loni; Knobel, Marcelo and Allen, Walter R. (eds.). *Mitigating Inequality: Higher Education Research, Policy, and Practice in an Era of Massification and Stratification*. Emerald Group Publishing Limited.
https://doi.org/10.1108/S1479-358X20150000011004.

Lucas, Samuel R. (2001). "Effectively Maintained Inequality: Education Transitions, Track Mobility, and Social Background Effects". *American Journal of Sociology*, 106 (6), 1642-1690.
https://doi.org/10.1086/321300.

— (2009). "Stratification Theory, Socioeconomic Background, and Educational Attainment: A Formal Analysis". *Rationality and Society*, 21 (4), 459-511.
https://doi.org/10.1177/1043463109348987.

— (2017). "An Archaeology of Effectively Maintained Inequality Theory". *American Behavioral Scientist*, 61 (1), 8-29.
https://doi.org/10.1177/0002764216682989.

— (2018). "Comment: On Ignoring the Literature and Relevant Tests in Evaluating Effectively Maintained Inequality". *Social Science Research*, 71, 1-5. https://doi.org/10.1016/j.ssresearch.2017.08.012.

Lucas, Samuel R. and Byrne, Delma (2017). "Seven Principles for Assessing Effectively Maintained Inequality". *American Behavioral Scientist*, 61 (1), 132-160. https://doi.org/10.1177/0002764216682990.

Luo, Yan; Guo, Fei and Shi, Jinghuan. (2018). "Expansion and Inequality of Higher Education in China: How Likely Would Chinese Poor Students Get to Success?" *Higher Education Research & Development*, 37 (5), 1015-1034. https://doi.org/10.1080/07294360.2018.1474856.

Mare, Robert D. (1980). "Social Background and School Continuation Decisions". *Journal of the American Statistical Association*, 75 (370), 295-305. https://doi.org/10.2307/2287448.

— (1981). "Change and Stability in Educational Stratification". *American Sociological Review*, 46 (1), 72-87. https://doi.org/10.2307/2095027

Marks, Gary N. (2013). "Evaluating Effectively Maintained Inequality: School and Post-School Transitions, Socioeconomic Background, Academic Ability and Curricular Placement". *Social Science Research*, 42 (6), 1635-49. https://doi.org/10.1016/j.ssresearch.2013.07.004.

— (2018). "Response: Issues Surrounding Effectively Maintained Inequality and Educational Transitions". *Social Science Research*, 71, 6-10. https://doi.org/10.1016/j.ssresearch.2017.08.013.

Martínez Celorrio, Xavier (2013). "Tendencias de movilidad y reproducción social por la educación en España". *Revista de Sociología de la Educación-RASE*, 6 (1), 32-48.

Martínez García, José Saturnino and Merino, Rafael (2011). "Formación Profesional y desigualdad de oportunidades educativas por clase social y género". *Témpora*, 14, 1337.

McKeever, Matthew (2017). "Educational Inequality in Apartheid South Africa". *American Behavioral Scientist*, 61 (1), 114-131. https://doi.org/10.1177/0002764216682988.

Méndez, Inmaculada and Cerezo, Fuensanta (2018). "La repetición escolar en educación secundaria y factores de riesgo asociados". *Educación XXI*, 21 (1), 41-62. https://doi.org/10.5944/educXX1.13717.

Raftery, Adrian E. and Hout, Michael (1993). "Maximally Maintained Inequality: Expansion, Reform, and Opportunity in Irish Education, 1921-75". *Sociology of Education*, 66 (1), 41-62. https://doi.org/10.2307/2112784.

Reimer, David and Pollak, Reinhard (2010). "Educational Expansion and Its Consequences for Vertical and Horizontal Inequalities in Access to Higher Education in West Germany". *European Sociological Review*, 26 (4), 415-430. https://doi.org/10.1093/esr/jcp029.

Thomsen, Jens Peter (2015). "Maintaining Inequality Effectively? Access to Higher Education Programmes in a Universalist Welfare State in Periods of Educational Expansion 1984–2010". *European Sociological Review*, 31 (6), 683-696. https://doi.org/10.1093/esr/jcv067.

Torche, Florencia (2005). "Privatization Reform and Inequality of Educational Opportunity: The Case of Chile". *Sociology of Education*, 78 (4), 316-343. https://doi.org/10.1177/003804070507800403

Triventi, Moris (2013). "Stratification in Higher Education and Its Relationship with Social Inequality: A Comparative Study of 11 European Countries". *European Sociological Review*, 29 (3), 489-502.
https://doi.org/10.1093/esr/jcr092.

Troiano, Helena; Dani Torrents, and Lidia Daza (2019). "Compensation for Poor Performance through Social Background in Tertiary Education Choices". *Studies in Higher Education*, September, 1-16.
https://doi.org/10.1080/03075079.2019.1666262.

Troiano, Helena; Torrents, Dani; Sánchez-Gelabert, Albert and Daza, Lidia (2017). "Evolución del acceso a la universidad y de la elección de titulación universitaria entre la población joven en Catalunya". *Cuadernos de Relaciones Laborales* 35 (2), 281-303.
https://doi.org/10.5209/CRLA.56775.

Tsiplakides, Iakovos (2018). "The Effectively Maintained Inequality Hypothesis and Socioeconomic Inequalities in the Greek Higher Education Sector". *Advanced Journal of Social Science*, 2 (1), 23-31.
https://doi.org/10.21467/ajss.2.1.23-31.

Valdés, M. T. (2019). "Efectos primarios y secundarios en la expectativa de matriculación universitaria: La desigualdad como reto del siglo XXI". *Revista Prisma Social*, 25, 332-358.

Weiss, Felix and Schindler, Steffen (2017). "EMI in Germany: Qualitative Differentiation in a Tracked Education System". *American Behavioral Scientist*, 61 (1), 74-93.
https://doi.org/10.1177/0002764216682811.

Zarifa, David; Kim, Jeannie; Seward, Brad and Walters, David (2018). "What's Taking You So Long? Examining the Effects of Social Class on Completing a Bachelor's Degree in Four Years". *Sociology of Education*, 91 (4), 290-322.
https://doi.org/10.1177/0038040718802258.