The academic achievements of immigrant youths in new destination countries: Evidence from southern Europe

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Abstract

This article examines academic achievements of immigrant youths in four new immigration countries: Greece, Italy, Portugal and Spain. The analysis based on the Programme for International Student Assessment (PISA) of 2009 and 2012 reveals large educational achievement gaps between immigrant children and natives in all four south European countries. The achievement gaps shrink substantially after accounting for differences in family backgrounds. The drawbacks faced by immigrant children in these four new immigration countries are due to fewer economic and material resources being available to them. On the other hand, the educational background of parents does not account for immigrant–native differences in academic performance. This stands in contrast to many traditional European immigration countries in which a lack of educational resources explains larger parts of the educational disadvantages of immigrant children. Our findings provide empirical evidence for the very precarious socio-economic integration of adult immigrants in new destination countries who, despite their relatively strong educational credentials, are placed into the lowest occupational positions. Such weak occupational attainments among the parental generation translate into a lack of material resources and investments available to families to foster their children's education.

Keywords: achievement gaps, Greece, Italy, socio-economic status, Spain, Portugal

1. Introduction

The countries of southern Europe have become major destinations for international migrants over the last decade and a growing number of immigrant children nowadays are starting to enter the education systems. Faced with all the difficulties that invariably beset

immigrants in a new country, parents understandably see schooling as the path to a brighter future for their children. For the children of immigrants, an important measure of their structural integration into the receiving society is therefore educational achievement. However, some very recent studies report substantial educational disadvantages faced by immigrant youths in countries of southern Europe, such as in Italy (Barban and White 2011; Mantovani 2008), Spain (Cebolla-Boado and Medina 2011; Vaquera and Kao 2012; Zinovyeva et al. 2011), Greece (Palaiologou 2007) or Portugal (Seabra and Mateus 2011). These national studies, however, look at various academic outcomes making it impossible to establish cross-national comparability. With a few exceptions that either focus on only two countries (Azzolini, Schnell and Palmer 2012) or on a number of countries as a bundle of OECD states (OECD 2012a), comparative research to date on academic achievement gaps in southern Europe has been rare.

With this article we aim to redress this gap by examining common underlying mechanisms of immigrant—native achievement gaps in education comparatively in the four largest countries of southern Europe, namely Greece, Italy, Portugal and Spain. To this purpose we analyse mathematics test scores derived from the Programme for International Student Assessment (PISA) of 2009 and 2012. Such a comparative view into the academic achievements of children of immigrants is important to uncover specific common patterns of disadvantage in countries in which substantial numbers of immigrant children will soon come of age. How big are the immigrant—native educational achievement gaps in southern European countries? What is the role played by generational status? And, finally, what types of familial resources help explain these achievement gaps? Answering these questions will shed light on the educational experiences of these children and may provide an indication of the long-term prospects for their integration into host societies.

Given that research on southern European countries is still in its infancy, our theoretical starting point for explaining academic achievement gaps is derived from the abundant literature on traditional European immigration countries, such as Germany, the United Kingdom and the Netherlands. This strand of research points to one major conclusion: most of the observed disadvantages for children of immigrants in educational achievement may be explained by lower parental resources (Heath and Brinbaum 2007; Schnepf 2008). Once socio-economic family background has been taken into account, the educational disadvantages faced by children of immigrants significantly decrease and often disappear. What makes the four southern European countries interesting from an international perspective is that recent studies indicate weaker effects of socio-economic family background in accounting for achievement differences in these four new destination countries than in most other European countries (Marks et al. 2006; OECD 2012a: 89-93). This weaker contribution in explaining achievement gaps between children of immigrants and native students in Greece, Italy, Portugal and Spain leads to the question of which specific parental resources contribute to the explanation of academic achievement differences between immigrant and non-immigrant youths. Recent immigrant parents in south European countries have relatively high education levels but encounter severe undervaluation of their educational credentials in the labour market (Eurostat 2011: 51-6) and are found to be disadvantaged with respect to the majority populations (OECD 2008; 2010a; Reyneri and Fullin 2011). In this article we build upon these studies, arguing that this over-qualification and the consequent weak socio-economic integration among immigrant parents leads to a

substantial lack of economic and material resources in the family home which are needed by youths to 'succeed' in education. More precisely, we ask to what extent academic achievement gaps are driven by economic and material resources rather than by differences in the parental educational background.

This article is organized as follows: we first provide an overview of the main similarities between the four countries with regard to immigration patterns, immigrant integration and other relevant institutional settings. The theories behind our research questions are summarized in the subsequent section. Our empirical analysis starts by examining the magnitude of the differences in achievement between groups of immigrant children and native students, contrasting differences before and after applying controls for parental family background. Afterwards, we disaggregate the role of family background characteristics into the separate contributions of economic and educational resources to the observed gaps in achievement. We conclude with a summary and discussion of our main findings.

2. The four countries compared

Beyond their geographical traits, Greece, Italy, Spain and Portugal share several commonalities that motivate our comparative research. To begin with, countries in southern Europe have been marked historically by high rates of emigration and were major source countries for 'guest worker' recruitment by north-west European countries. During the past two decades this situation has reversed dramatically for Greece, Italy, Portugal and Spain, making them new and important destinations of international migration flows (Castles and Miller 2003; Colombo and Sciortino 2004; Ribas-Mateos 2004). In these four countries, immigration started to rise between the late 1980s and beginning of the 1990s. However, the most significant inflows to all four countries occurred during the first decade of the twenty-first century, following a combination of increased global migration trends and strong labour force demands in south European economies. All four countries initially experienced an increase in the number of migrants as a consequence of the South-North migration trend (Peixoto 2002; Ribas-Mateos 2004). After the fall of the Iron Curtain, immigration from central and eastern Europe accounted for a large part of the positive net immigration and changed the ethnic composition within this phase of the new immigration period (Cabral and Duarte 2010). Additionally, illegal immigration has increased in all four countries in the past several years. Whereas Greece, Italy, Portugal and Spain hosted altogether about 3.2 million foreigners in 2000, this figure skyrocketed to 11.5 million in 2010.[1] This net increase of eight million immigrants in just one decade accounted for about two-thirds of the overall increase in the foreign population reported within the EU-15. The foreign population in these four south European countries increased at much higher rates than in traditional European receiving countries, such as Germany, the Netherlands, Sweden, the United Kingdom and Austria (see Fig. 1). More precisely, it increased by 4.2 times in Spain, 3.2 times in Italy, 2.6 times in Greece and 2.2 times in Portugal, compared to an increase of only 0.2 times in traditional European immigration countries.

According to official statistics from 2011, foreigners residing in Portugal accounted for around 4.2 per cent of its population, and 7.5 per cent and 7.4 per cent respectively in Italy
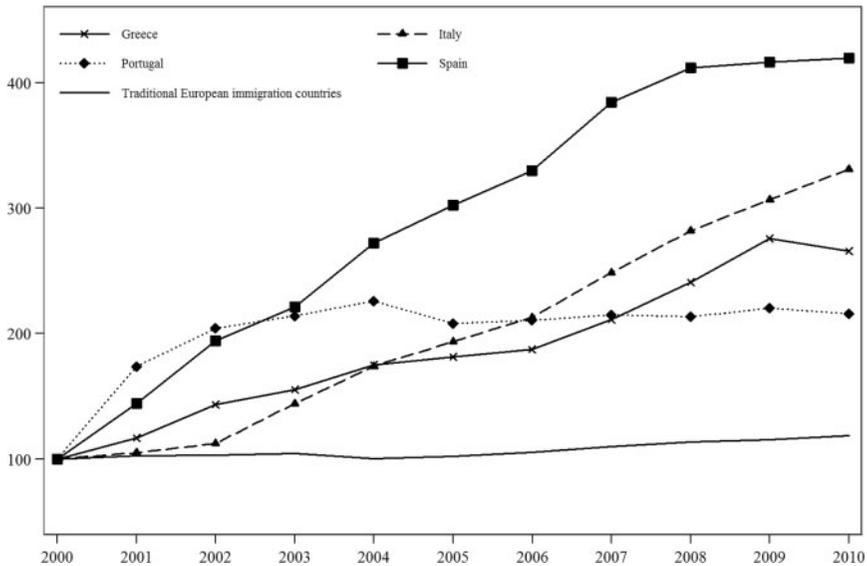
Figure 1. Non-nationals living in Italy, Greece, Portugal, Spain and traditional European immigration countries (2000-2010).
Notes: Base year 2000 = 100. "Traditional European immigration countries" are: Austria, Germany, Netherlands, Sweden and the United Kingdom.
Source: OECD 2012.

and Greece. In Spain, the immigrant population was even larger, at 12.4 per cent of the total population (OECD 2012b).

In spite of the similarities in immigration patterns, there are some differences among the four countries with regard to the national-origin composition of the immigrant population. Immigrants from Ecuador, Colombia, and Romania make up by far the biggest groups in Spain. In Italy most immigrants originate from Romania, Albania, Ukraine, and Poland. Turning to Portugal, the largest groups nowadays are Brazilians, Ukrainians and Cape Verdeans, while the current immigrant population in Greece consists mainly of immigrants from Albania, Bulgaria, Ukraine and Romania, as well as from western Asia and south-central Asia (Baganha 2009; Kreienbrink 2008; OECD 2010a).

Over the last decades, a growth in the immigrant student population has occurred as well. The share of young immigrants in the population of compulsory school age is currently almost nine per cent in Greece and around seven per cent in Italy, Spain and Portugal (Baldwin-Edwards and Apostolatou 2009; Hortas 2008; Zinovyeva et al. 2011). As a result of how recent the immigration is, the vast majority of immigrant children is made up of first-generation youths, with the second generation still marginal and mainly concentrated in younger age groups.

The four countries under comparison additionally share a number of important institutional characteristics that provide immigrants and their children with fairly similar

contexts of reception. These new immigration countries are generally characterized — relative to traditional European receiving countries— by low-productivity economies, significant underground sectors, and a demand for labour that is primarily oriented towards unskilled workers (Fullin 2011; Reyneri and Fullin 2011). As a consequence, immigrants in the four countries experience much lower economic well-being as compared to natives. Immigrants in south European countries are mainly employed in the lowest paid and most insecure labour market positions, even if they often possess strong educational credentials (Reyneri 2003; Reyneri and Fullin 2011). Over-qualification, that is, the condition of being highly educated and employed in a low- or medium-skilled job, is a strikingly relevant problem for immigrants in southern European countries. Differences in over-qualification rates between foreign citizens and native-born persons in Greece, Italy, Portugal and Spain reach 25 percentage points. On the other hand, group differences in over-qualification within traditional European immigration countries, such the Netherlands, Germany, Belgium, Austria or the United Kingdom have been found to be below 10 percentage points (Eurostat 2011: 102-07).

The relatively low socio-economic condition of immigrants in these four countries may be exacerbated further by two common institutional factors: weak welfare regimes and flawed immigrant-integration policies. Firstly, south European countries are characterized by welfare regimes that rely heavily on family resources in place of state expenditure (Ferrera 1996), providing low social protection for immigrants and others whose families lack the means to fulfil this role. Secondly, with regard to immigrant integration, most literature agrees on the fact that the quick and heterogeneous upsurge in migratory inflows caught the four countries ill-prepared to manage the integration of new immigrants. Although some immigration policies have been implemented or reformed recently, illegal entries and extraordinary amnesties are still coupled with poor and weak integration policies in Greece, Italy, Spain and Portugal (Kasimis 2012; Peixoto 2002; Solé 2004).

3. Literature review and expectations

Educational achievement gaps between children of immigrants and majority students are a well-established feature in several north-west European countries (Entorf and Minoiu 2004; Heath, Rothon and Kilpi 2008). According to most literature, family socio-economic background plays a prominent role in driving immigrant-native educational gaps (Kao and Thompson 2003; Schnepf 2008). Among the set of frequently applied socio-economic background variables, parental education is often found to be the most important explanation for educational achievement gaps in several north-west European immigration countries, because immigrant parents hold on average lower educational levels than the majority population (e.g. Kristen and Granato 2007 for Germany; Phalet et al. 2007 for Belgium; or Van de Werfhorst and Van Tubergen 2007 for the Netherlands). Much of the research on north-west European immigration countries is based on the educational performance of children from earlier waves of migration (i.e. labour migration), the most disadvantaged groups in terms of parental education levels. However, recent research demonstrates that parental education also explains large parts of the achievement differences among children

of more recently arrived immigrant groups, such as, for example, children of Polish immigrants in Germany (Edele and Stanat 2011: 196).

One of the main mechanisms through which parental educational background has an effect on school performance is by developing competencies and expectations, which in turn affect children's academic outcomes (Cheng and Starks 2002; Kilpi-Jakonen 2011). More highly educated parents are likely to be more effective when trying to help their children to do well in school and generally have a better knowledge of how to motivate their children to achieve higher levels of education (Lareau 1987; Serpell et al. 2002). They might also be more effective in influencing the decisions of their children at important transition points between certain levels in their educational careers (Buis 2013; Tolsma et al. 2007) and their resources and investments play critical roles in supporting and planning their children's education (Oliver and Shapiro 2006). Moreover, more highly educated parents transmit greater means of cultural capital (better language skills or ways of interacting with others) that are viewed positively by teachers, which in turn might influence the performance of the children. Following research carried out in countries with longer immigration histories we expect that in south European countries immigrant-native differences in educational achievement—estimated after accounting for parental socio-economic background—are smaller than gross differences.

In new immigration countries, however, large segments of the recently arrived immigrant populations are as highly educated as natives (Eurostat 2011; OECD 2012a). Consequently, due to the equal distribution of educational levels we hypothesize that parental education will not substantially contribute to the explanation of achievement gaps between immigrant and non-immigrant youths in these four new immigration countries. While large segments of the recently arrived immigrant populations in the destination countries are as highly educated as natives, they nonetheless end up in the least rewarding and low paid jobs, regardless of their skills (Cabral and Duarte 2010; Chletsos and Roupakias 2012; Kalfa and Piracha 2013; Reyneri and Fullin 2011). Such weak occupational attainment among the parental generation in the four receiving countries translates into a lack of material and economic resources required for an investment into their children's education (Becker 1964; Erikson and Jonsson 1996; Qian and Blair 1999). Affluent families are more likely to be able to afford the direct costs of education, such as tuition, fees, books or additional educational services. Moreover, higher parental occupation status is an important means to ensure wealthier household environments in terms of material resources directly and indirectly important to their children's schooling (such as an adequate space to study, a computer, etc.). Additionally, previous studies have shown that parents with greater material and economic resources are more likely to have higher expectations for their child's education. These higher expectations are communicated by allocating their resources for various educational activities and programmes (Hao and Bonstead-Bruns 1998; Kao and Tienda 1998). Thus, we predict that educational achievement gaps between immigrant and non-immigrant youths in new destination countries will be largely driven by a lack of economic and material resources related to immigrant parents' lower occupational status.

4. Data and methods

4.1 Data

We use data on student competency collected by the Programme for International Student Assessment (PISA). PISA assesses the extent to which 15-year-old students near the end of compulsory education have acquired some of the competencies in reading, mathematics, and science to meet real-life challenges. In order to achieve a sufficiently large sample we pooled data from the two most recent waves of the survey (2009 and 2012).

4.2 Variables

4.2.1 *Dependent variable.* We focus on students' scores in mathematics tests as a dependent variable.[2] In order to assess students' mathematical literacy, the PISA survey contained questions on a wide variety of practical situations which required some degree of mathematical insight in order to be solved. Together they constitute a broad range of mathematical competencies. In our analyses we follow the approach suggested by PISA and use the five plausible values, final sampling weights, and 80 replicate weights provided with the data.[3]

4.2.2 *Generational status.* Previous studies indicate that one major factor of differentiation is immigrant generational status, with second-generation immigrants tending to outperform the first generation because they do not directly face the hurdles of migration and the difficulties of adapting to new contexts, languages, and schools. Moreover, differences might appear among first-generation immigrant students according to their age at arrival, with those arriving at younger ages tending to outperform late-arrived immigrants in terms of educational achievement. We therefore classify sampled students by combining information on students' and parents' places of birth (abroad vs. host country) and information on students' age of arrival. We divide the sample into the following categories: (1) natives (children with at least one native-born parent); (2) second-generation immigrants (native-born children whose parents are both foreign-born); (3) early-arrived immigrants (foreign-born children who arrived between the ages of one and six and therefore before compulsory school begins in all four countries); and (4) late-arrived immigrants (foreign-born children who arrived between the ages of seven and fifteen). We use a strict definition to identify first- and second-generation immigrants as individuals with both parents born abroad. Although children of mixed parentage are of quantitative relevance in the four countries, we do not distinguish them from native students because the vast majority are native-born and they perform equally well with non-immigrant students.

4.2.3 *Family background.* We measure family background and the availability of educationally relevant parental resources at home through three variables. First, parental education captures the human capital within the family. This variable is the highest educational level of the two parents and has been coded by category, following the International Standard Classification of Education (ISCED). The variable includes the categories primary or lower secondary education (ISCED 1-2), upper secondary education (ISCED 3-4) and

post-secondary/tertiary education (ISCED 5-6). Second, we use the highest occupational status of parents by including the International Socio-Economic Index of Occupational Status (ISEI). This index is a standardized measure for socio-economic characteristics of parental occupation and is based on the 1988 International Standard Classification of Occupation (ISCO88) which allows for cross-national comparisons (Ganzeboom and Treiman 1996). Finally, as an additional measure of well-being and family wealth, we consider a PISA-constructed index of home possessions, which encompasses several material resources possessed at home (e.g. a place to study, a personal computer, and other indicators of family wealth). The index of home possessions was devised by PISA through applying weighted likelihood estimates, standardized to have a mean of 0 and a standard deviation of 1 at the international level.

4.2.4 *Additional control variables.* In addition to our main independent variables of interest, we use a wide set of control variables to account for structural differences within and across countries. To begin with, we use a set of variables at the school level. Although the education systems of the four countries share a large number of important characteristics (OECD 2010b), they differ in the existence of different school tracks and the extent of the private school sector. These characteristics might have an impact on the magnitude of the immigrant-native achievement gaps because it is well known that achievement differences tend to be larger in more differentiated education systems (Hanushek and Wößmann 2006). We therefore control for these institutional variations to ensure that these factors do not alter our results. To begin with, we make use of a categorical variable indicating the specific track in which the student is enrolled. In Italy, this variable is coded as follows: academic schools, technical schools, and vocational schools (including vocational training courses) and lower secondary schools. In Greece and Portugal, this variable has three categories: academic schools, vocational schools and lower secondary schools. This variable is not used in Spain because Spain has a comprehensive system consisting of one integrated track for students up to age 16. In Spain and Portugal, we use school ownership as an indicator of horizontal differentiation of the education systems. We introduce school ownership as a dummy variable, distinguishing public schools from semi- or fully private schools. Next to the school level variables, we control for the effect of coming from a nuclear family by using a binary variable that allows us to adjust for variations in family structure. Previous research using PISA data has shown that students coming from single-parent families on average perform worse on mathematical literacy (OECD 2004). Another relevant background characteristic that affects pupils' scholastic abilities is host country language proficiency (Marks 2005). We take account of the language spoken at home as a dummy variable, which takes on the value 1 if the student declares that they usually speak an official host-country language (or a national dialect) at home, and the value 0 otherwise. We further control for gender, age, region, and the type of community in which the school is located (from rural areas to large cities).

The four samples in our analysis contain some missing values on our independent variables of interest and we deal with this through listwise deletion, removing all cases with any missing values on the main variables.[4] Descriptive statistics of our dependent variable and selected independent variables are displayed in Table 1.

Table 1. Descriptive statistics of the main variables used in the analyses

Variable		Greece				Italy			
		Natives	Immigrants			Natives	Immigrants		
			second-generation	early-arrived (1-6)	late-arrived (7-15)		second-generation	early-arrived (1-6)	late-arrived (7-15)
Dependent variable									
Mathematical literacy	group mean	467.0 (2.35)	428.2 (6.36)	417.8 (4.57)	390.6 (17.31)	491.8 (1.25)	455.5 (8.17)	445.2 (4.17)	424.8 (3.97)
Independent variables									
Highest parental educational level (%)	Primary/Lower Secondary Educ.	11.7	8.2	18.2	18.1	22.0	23.9	23.8	18.3
	Upper secondary education	35. 8	48.0	49.4	39.1	46.3	38.3	37.5	46.1
	Tertiary education	52.5	43.8	32.4	42.8	31.7	37.8	38.6	35.6
Home possessions	Min (−6.9) Max (4.2)	−0.1 (0.02)	−0.6 (0.06)	−0.8 (0.04)	−0.9 (0.08)	0.1 (0.00)	−0.5 (0.03)	−0.5 (0.03)	−0.8 (0.04)
Highest parental occupational status	Min (16) Max (90)	50.1 (0.48)	40.3 (1.03)	32.4 (0.96)	32.3 (1.32)	47.7 (0.17)	39.0 (0.90)	35.1 (0.64)	33.9 (0.58)
%		91.4	3.4	3.9	1.3	94.2	1.5	1.9	2.4
N (unweighted)		8,806	334	371	121	55,533	893	1,082	1,441

(continued)

Table 1. Continued

		Portugal				Spain			
		Natives	second-generation	early-arrived (1-6)	late-arrived (7-15)	Natives	second-generation	early-arrived (1-6)	late-arrived (7-15)
Dependent variable									
Mathematical literacy	group mean	492.2 (2.40)	450.2 (6.99)	481.3 (10.48)	447.6 (7.58)	490.4 (1.38)	464.0 (5.04)	446.6 (4.79)	423.1 (3.46)
Independent variables									
Highest parental educational level (%)	Primary/Lower Secondary Educ.	50.2	39.8	26.1	31.6	27.0	30.4	27.1	26.0
	Upper secondary education	24.0	28.0	29.5	24.0	27.0	20.9	30.6	30.2
	Tertiary education	25.8	32.2	44.4	44.4	46.0	48.7	42.3	43.8
Home possessions	Min (−6.9) Max (4.2)	0.3 (0.02)	−0.0 (0.07)	−0.0 (0.10)	−0.4 (0.06)	−0.1 (0.01)	−0.4 (0.04)	−0.6 (0.03)	−0.8 (0.03)
Highest parental occupational status	Min (16) Max (90)	43.7 (18.67)	40.5 (19.80)	39.5 (19.34)	38.5 (18.35)	47.1 (0.40)	45.2 (1.59)	38.7 (1.32)	37.5 (0.67)
%		93.8	2.7	1.3	2.2	90.3	1.2	2.8	5.7
N (unweighted)		10,768	308	145	256	42,580	499	1,225	2,669

Notes: Variables used as controls in the multivariate analyses are not displayed here. Standard errors are given in parentheses. Estimates use all five plausible values (for mathematical literacy), the final student weights and the 80 replicate weights provided by PISA. Source: PISA pooled data 2009 and 2012, own elaboration.

As a proportion of the total number of PISA respondents, foreign-born students (early-arrived and late-arrived immigrants) account for 8.5 per cent in Spain, 5.2 per cent in Greece, 4.3 per cent in Italy, and 3.5 per cent in Portugal (see Table 1). In contrast, second-generation immigrant students account for only slightly more than one per cent of the PISA respondents in Italy and Spain, 2.7 per cent in Portugal, and 3.4 per cent in Greece. The distribution of the different groups reveals a common trait of new immigration countries and reflects how recent immigration is.

When turning to the mean achievements in mathematical literacy, we observe similar trends and generational patterns in all four new immigration countries. Natives tend to perform better than immigrant youths in general, while late-arrived immigrants systematically underperform all other generational groups in mathematics. The differences compared to natives are impressively large and are particularly pronounced in Greece. In general, early-arrived immigrants perform better than late-arrived immigrant youths but are still lagging behind second-generation immigrants and natives (with the exception of early-arrived immigrant youths in Portugal).

The relatively high educational qualifications of recent adult immigrants reported in previous studies are also reflected in the composition of our sample, where the percentage of parents with a tertiary educational level does not vary substantially between immigrants and natives in Italy, Spain and Portugal. At the same time, parents of immigrant youths hold less prestigious jobs as compared to native parents in all four countries. They also possess fewer resources (evident in the index of home possessions) relevant for children's educational chances, which is most likely a result of the integration into lower segments of the labour market. Families of second-generation students possess more relevant resources than those families who arrived later, but still lag behind parents of the majority school population in Greece, Italy, Portugal and Spain.

5. Results

5.1 Achievement gaps

Our first aim is to investigate the achievement gaps between natives and immigrant youths in each of the four south European countries under study. We are interested in the relative outcomes of immigrant students within each host society and in comparing achievement gaps across the four countries. Therefore, we regress mathematics scores on our generational status groups using linear regression models. As stated above, all models use the five plausible values and incorporate final student weights and 80 replicate weights following the approach recommended by PISA (OECD 2009). We fit a series of model specifications, progressively adding covariates to assess how variations in family background characteristics account for immigrant-native achievement gaps. The first model (M1) includes our basic control variables—age, sex, region, and area of residence—and incorporates generational status as the main independent variable of interest. This first model shows that in all four new immigration countries, immigrant children are significantly lagging behind native students in the test subject. The achievement gaps in mathematics are particularly pronounced in Greece, Italy and Spain. Although this observation applies to almost all

immigrant children in these three countries, the greatest achievement gaps are found for foreign-born students who arrive after the age of six. In Greece and Italy, the size of the gap between late-arrived immigrants and native students reaches around 80 points for mathematics. In Spain, the gap of this lately arrived group is slightly smaller than in Greece and Italy, but still very pronounced with 73 points. Interestingly, late-arrived immigrants in Portugal have an achievement gap of only 48 points difference with native students.

Early-arrived immigrants and especially second-generation students display some progress over late-arrived immigrants. More precisely, immigrants who arrive before the commencement of compulsory school are situated between those arrived later and second-generation immigrants. But even if second-generation immigrant students tend to outperform immigrant children who arrived at later ages, they never reach the level of natives. Their gap relative to natives is always significant and ranges between a minimum of roughly 38 points (in Spain) to a maximum of 45.5 points (in Portugal). In sum, a weak association between age at arrival and educational achievement seems to take place in south European countries, with second-generation immigrants often outperforming late-arrived immigrants but still lagging behind natives in all countries. The findings for Portugal, however, deviate slightly from this generational pattern. Immigrant children and the second generation underperform native Portuguese students in mathematics whereas early-arrived immigrants perform as well as natives.[5]

Model 2 (M2) adds parental education and occupation as well as home possessions to the achievement gap analysis. The results displayed in Table 2 indicate that the previously observed patterns change after modelling predictors at the family level. Taking account of family background substantially reduces the performance gap in mathematics for immigrant children within all four south European countries. The gap drops clearly for all three groups of immigrant youths within all four countries. A strong contribution of family background can be observed for Greece, Italy and Spain—especially for foreign-born youths. However, even after controlling for family background, none of the groups catches up with natives in the three countries.

In additional analyses (not shown in Table 2, but available upon request) we allowed for different returns to parents' characteristics between immigrant and native families and paid particular attention to parental education, suspecting the existence of negative returns for immigrant children. Our results reject this presumption: significantly negative interaction terms were only found in Greece and disappeared once other social background variables were included. Overall, family background plays a key role in each of the four countries but it is still far from being sufficient to explain the immigrant-native gaps. We will come back to the role played by family background characteristics in the next section by disaggregating the separate contributions of the different types of family resources to the observed achievement gaps.

Finally, the last model (M3) incorporates all control variables to adjust for additional individual and school level characteristics (family structure, language spoken at home, tracking and school ownership).[6] Holding these variables constant fully explains the remaining achievement differences in mathematics among native and immigrant youths in Greece. Hence, net of family background and all other individual and school-level controls, children of immigrants fare as well as their Greek classmates. The same does not happen so clearly in the other three countries. Testing for the variables in Model 3

Table 2. Linear regression estimates of immigrant-native achievement gaps in mathematical literacy in Greece, Italy, Portugal and Spain

	Greece (N = 9,632)			Italy (N = 58,949)		
	M1	M2	M3	M1	M2	M3
Generational status						
Natives	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Second generation	−39.9***	−21.9***	−8.6	−40.6***	−19.6***	−17.7***
	(6.6)	(5.9)	(5.6)	(5.1)	(4.7)	(4.3)
Early arrived	−50.0***	−19.6***	5.7	−58.1***	−32.9***	−21.7***
	(5.0)	(5.1)	(5.8)	(4.6)	(4.7)	(4.2)
Late arrived	−78.7***	−47.2**	−3.7	−80.5***	−52.0***	−29.0***
	(18.1)	(17.4)	(17.6)	(3.4)	(3.7)	(4.0)
Highest parental occupational status		1.1***	0.8***		1.0***	0.5***
		(0.1)	(0.1)		(0.0)	(0.0)
Home possessions Index		13.6***	8.4***		14.6***	6.4***
		(1.5)	(1.3)		(0.7)	(1.2)
Highest parental education						
Primary/Lower Secondary Educ.		*Ref.*	*Ref.*		*Ref.*	*Ref.*
Upper secondary Ed.		16.3***	6.2*		14.3***	3.9**
		(3.7)	(3.1)		(1.8)	(1.5)
Tertiary Education		20.0***	9.7**		2.6	−6.8***
		(3.9)	(3.4)		(2.3)	(1.8)
Controls						
Age	YES	YES	YES	YES	YES	YES
Male	YES	YES	YES	YES	YES	YES
Language	—	—	YES	—	—	YES
Family structure	—	—	YES	—		YES
School track	—	—	YES	—	—	YES
School ownership	—	—	—	—	—	—
School context	YES	YES	YES	YES	YES	YES
Region	—	—	—	YES	YES	YES
Year	YES	YES	YES	YES	YES	YES
Constant	8627.1**	8429.8***	8819.6***	−2284.1	−686.8	2183.2
	(2995.9)	(2451.7)	(2105.4)	(1903.9)	(1701.4)	(1650.9)
R2	0.05	0.17	0.29	0.13	0.21	0.37

(continued)

Table 2. Continued

	Portugal (N = 11,477)			Spain (N = 46,973)		
	M1	M2	M3	M1	M2	M3
Generational status						
Natives	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*	*Ref.*
Second generation	−45.5***	−30.7***	−25.8***	−38.1***	−27.0***	−23.3**
	(7.1)	(7.3)	(5.8)	(7.7)	(7.7)	(7.5)
Early arrived	−13.2	−1.0	14.5	−51.2***	−33.2***	−29.3***
	(10.2)	(9.5)	(7.7)	(4.0)	(4.0)	(3.8)
Late arrived	−47.9***	−25.8***	−3.3	−73.0***	−50.0***	−46.1***
	(7.9)	(7.2)	(8.2)	(4.2)	(3.7)	(3.6)
Highest parental occupational status		1.2***	0.7***		0.9***	0.9***
		(0.1)	(0.1)		(0.0)	(0.0)
Home possessions Index		17.5***	10.3***		15.9***	14.4***
		(1.3)	(1.0)		(2.2)	(0.9)
Highest parental education						
Primary/Lower Secondary Educ.		*Ref*	*Ref*		*Ref.*	*Ref.*
Upper secondary Ed.		17.5***	7.8***		12.8***	12.7***
		(2.2)	(2.1)		(2.6)	(2.2)
Tertiary Education		16.5***	11.4***		13.5***	13.5***
		(2.8)	(2.3)		(2.6)	(2.7)
Controls						
Age	YES	YES	YES	YES	YES	YES
Male	YES	YES	YES	YES	YES	YES
Language	—	—	YES	—	—	YES
Family structure	—		YES	—		YES
School track	—	—	YES	—	—	—
School ownership	—	—	YES	—	—	YES
School context	YES	YES	YES	YES	YES	YES
Region	YES	YES	YES	YES	YES	YES
Year	YES	YES	YES	YES	YES	YES
Constant	−3012.8	−7384.2**	−4349.3*	84.4	3883.6*	2577.8
	(3013.0)	(2248.6)	(1779.6)	(1889.1)	(1788.0)	(1782.8)
R2	0.06	0.23	0.44	0.11	0.21	0.22

Notes: *significant at 10%, **significant at 5%, ***significant at 1%. Standard errors are given in parentheses.
Models use all five plausible values, the final student weights and the 80 replicate weights provided by PISA.
*Source:* PISA pooled data 2009 and 2012, own elaboration.

further contributes to the reduction of the achievement gap in mathematics among the late-arrived immigrants in Portugal, but the disadvantage of the second generation persists (−25.8).[7] In Italy and Spain, the observed achievement differences between native and immigrant students remain large and significant. Nevertheless, in Italy the reduction in the gap estimates is particularly evident for first-generation immigrants, especially if late-arrived. This latter result points to the key role of 'tracking' in shaping immigrant-native educational gaps, as it might be explained by the pronounced segregation of late-arrived youths into the least prestigious school paths in the country (Azzolini and Barone 2013; Barban and White 2011).

5.2 Disaggregating family background effects: the role of parental education and economic resources

Thus far, we have been interested in the size of achievement differences between groups of immigrant children and native students, contrasting differences before and after controlling for family background. Our results reveal that socio-economic family background is one of the strongest predictors of achievement differences between immigrant youths and their native counterparts in mathematical literacy within all four southern European countries. We considered economic and educational resources available in the family of origin simultaneously because we aimed to examine the overall contribution of family background on immigrant-native achievement gaps. Nevertheless, economic resources might be a much more powerful explanation of the gaps as compared to educational resources in the family of origin because, as argued and seen above, immigrant parents in the four countries have similar educational levels to the native population but a much lower occupational status.

One way to explore the differential contribution of family resources to the immigrant-native gaps is to test how disparities between groups would alter under a hypothetical situation in which immigrant children's characteristics are made similar to those of native students. In other words, would immigrant children's achievement increase or decrease if they had the same distribution of educational and economic family resources as native students? To pursue this question, we carry out a series of Blinder-Oaxaca counterfactual decompositions (Blinder 1973; Oaxaca 1973). This method is useful in quantifying the separate contribution of specific characteristics to group differences. The technique allows us to disaggregate the mean achievement gaps between natives and children of immigrants into a part that is explained by differences in either educational or economic resources, and a residual part that is not explained by differences in family characteristics and is due to unobserved factors.[8] The variables used in this analysis are the same as employed in Model 2 presented above. As a robustness check, we ran additional analyses in which we modelled the decomposition separately for all types of resources. These additional analyses yielded the same results, thus reinforcing our substantive conclusions.

The results of the decompositions are displayed in a series of graphs (Fig. 2, a-d) showing the percentage contribution to the achievement gaps of the three family background indicators: highest parental education, home possessions and the highest occupational status of
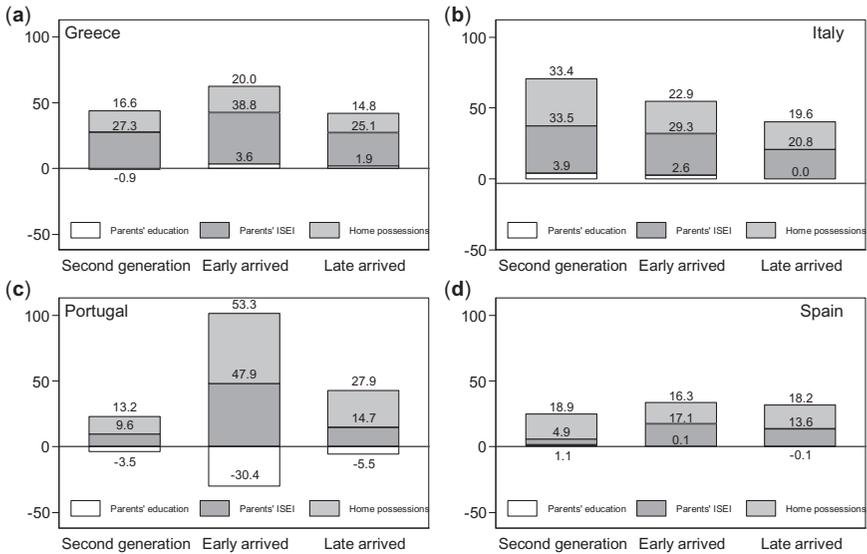
Figure 2. Blinder-Oaxaca decomposition of immigrant-native achievement gaps in mathematical literacy in Italy, Greece, Portugal and Spain: percentage contribution to the gaps of parental education, parental occupational status (ISEI) and home possessions.
Notes: Models are controlled for age, sex, region and area of residence. Models use all five plausible values, final student weight and the 80 replicate weights provided by PISA.
Source: PISA pooled data 2009 and 2012, own elaboration.

the parents (ISEI). Positive percentages indicate that the gap would be reduced while negative percentages show increasing gaps for immigrant youths if they had the same distribution of resources as natives.

In line with our expectations, decomposition results reveal that parental education (white bars) plays a negligible role in accounting for immigrant-native differences in the four new immigration countries. The different distributions of educational qualifications across immigrant and native families explains at best 3.6 per cent of the immigrant-native educational gaps for early-arrived immigrants in Greece and 3.9 and 1.1 per cent for the second generation in Italy and Spain, respectively. In Portugal, the contribution of parental education is even significantly negative for all the groups, as immigrant parents possess on average higher educational attainment than the native population. Hence, if immigrant parents had exactly the same education as native parents, their children's achievement would be unaltered in Greece, Italy and Spain, while in Portugal it would even increase.

A completely different story comes to the fore when considering home possessions (light grey bars) and the highest parental occupational status (dark grey bars). These two proxies of family wealth and economic well-being contribute largely and significantly to the observed achievement gaps in each of the four countries. Economic resources exert the greatest effects in Greece, Italy and Portugal. In these three countries, the highest parental occupation status and level of home possessions each contribute for some generational

groups to up to over 30 per cent of the gaps. Although highly significant, the contribution of economic resources to the gap is weaker in Spain, ranging from between 13 per cent and 18 per cent for each type of resource. This lower relative contribution of economic resources might be in relation to the structure of its education system. Spain has a comprehensive education system with delayed selection into different tracks, while the remaining three countries have some sort of tracking before the age of 15. As it is well documented that school choices mediate the association between social origins and achievement (Hanushek and Wößmann 2006; Van de Werfhorst and Mijs 2010), this process might be the reason for these differences between the countries and the lower contribution of economic resources in Spain.

In spite of these country differences, the results clearly indicate that in each of the four countries immigrant-native differences in educational achievement are explained by the families' economic and material resources rather than by parental education: if immigrant children had available the same economic and material resources as their native counterparts, their relative disadvantage would be significantly reduced. These findings confirm our expectation that achievement differences between immigrant and non-immigrant youths in new destination countries are largely driven by a lack of economic and material resources.

In additional analyses (not shown) we replicated the decompositions on a sample of north-west European countries, namely Austria, Denmark, France, Germany, Sweden, the Netherlands and the United Kingdom, altogether constituting 'traditional immigration countries' (Buchmann and Parrado 2006; Hillmert 2013). Economic disparities also play a major role in these traditional immigration countries, but the effects are smaller than in south European countries. Most importantly, and contrary to what we found in the four south European countries analysed in this article, parental educational background contributes substantively and significantly to the observed immigrant-native gaps in educational achievement. Thus, the disadvantages faced by immigrant children in the four new immigration countries are due to the fewer economic and material resources available to them, while the educational background of parents does not account for immigrant-native differences in academic performance. This result stands in contrast to traditional European immigration countries.

6. Summary and conclusion

The main purpose of this article was to redress the lack of comparative research on academic achievement differences between immigrant and non-immigrant youths in south European countries. We compared Greece, Italy, Portugal and Spain since they became major destinations for immigrants over the last decade and share notable similarities in their institutional settings. Additionally, national studies report that recent immigrant parents in these new destination countries possess relatively high levels of education but encounter severe undervaluation of their educational credentials in the labour market and are found to be disadvantaged with respect to the majority populations. Whether this very pronounced over-qualification—which markedly distinguishes the situation in new immigration countries from traditional European immigration countries—has implications for

our understanding of the underlying mechanisms for the pronounced achievement gaps was at the heart of our empirical inquiry. We therefore investigated the precise contribution of parental economic and material resources in explaining academic achievement gaps between immigrant and non-immigrant youths in southern Europe.

We found sizeable educational achievement gaps in mathematical literacy between immigrant youths and natives in all four south European countries. Our results suggest the existence of a weak but negative association between age at arrival and achievement. If immigrant children arrive after the age of six (when compulsory education starts), they face the largest disadvantages in educational achievement. Second-generation and early-arrived immigrants perform on average better than late-arrived immigrants but they do not reach the level of natives.

We assumed that these pronounced immigrant-native achievement gaps shrink substantially after accounting for differences in family socio-economic backgrounds between immigrants and natives. Our results confirm that the drawbacks faced by immigrant youths in new immigration countries are indeed to a large extent due to fewer family resources available to them. However, in contrast with much of the existing literature on immigrant-native achievement gaps, our analysis revealed that the educational background of parents plays a very marginal role in accounting for academic achievement gaps between natives and immigrant youths in the four south European countries. Of course, parental education is an important resource for the academic achievements of all children. However, our decomposition analysis unequivocally demonstrates that parental education is an extremely weak predictor of immigrant-native achievement gaps because adult immigrants in southern Europe hold largely similar educational levels to those of their native counterparts. In other words, it is not a lack of 'educational' resources at home which leads to the severe educational disadvantages for immigrant youths in new immigration countries. This finding stands in contrast to traditional European immigration countries in which a lack of educational resources explains larger parts of the educational disadvantages of immigrant children. Instead, as our results from the decomposition analyses indicate for the four south European countries, attention should be paid to the economic and material resources possessed by families. We demonstrated that the estimated differentials would decrease by substantial amounts if immigrant youths had the same economic resources as native students. These findings provide an additional empirical confirmation of the very precarious socio-economic integration of adult immigrants in new destination countries who, in spite of their relatively strong educational credentials, are placed into the lowest occupational positions. Such weak occupational attainment among the parental generation translates into a lack of material resources and investments that families can afford in order to support their children's education in new immigration countries.

The relative importance of 'economic' family resources to account for achievement differences closely resembles findings in other European new immigration countries, notably Finland and Ireland (Fanning et al. 2011; Harinen and Sabour 2014).[9] In Finland, for example, children of immigrants whose parents have experienced a strong over-qualification on the labour market were found to be disadvantaged relative to the majority student population (Kilpi-Jakonen 2011, 2012). Lower levels of school achievement by immigrant youths at the end of comprehensive school in Finland can largely be explained by lower levels of parental resources. Moreover, among children of immigrants, parental education

has a smaller effect than among the majority, whereas parental income has a larger effect in average grades (Kilpi-Jakonen 2012: 174). Taken together, immigrant youths in new European immigration countries seem to depend more on parental resources that help them to be successful in school while achievement differences are less driven by parental educational background. This finding is particularly pronounced in countries in which the parental immigrant generation experiences over-qualification on the labour market.

In conclusion, our results illustrate that the four south European countries show fairly similar patterns with respect to educational performances of immigrant children and the underlying factors for the observed academic disadvantages. Nevertheless, minor variations between the four new immigration countries appeared and might be an area for future research. In particular, forthcoming studies should investigate country-of-origin compositional effects which were beyond the scope of this article due to data limitations. Moreover, longitudinal data are needed to provide adequate insights into the academic achievement processes of immigrant youths across generations in these four new destination countries from a comparative perspective.

Acknowledgements

Notes

1. We used 'nationality' instead of 'place of birth' because the latter information is not collected annually in all four countries.
2. We decided to focus on mathematical literacy over reading since the former is less dependent on linguistic abilities in the host country language and therefore our results are less affected by different country-of-origin compositions in the four destination countries. We nevertheless replicated all empirical results presented in this article with reading literacy as a dependent variable. The results of this additional analysis did not vary substantially from the ones presented in this article and are available upon request.
3. All analyses including our dependent variable mathematical literacy are based on the five plausible values and estimated means, regression coefficients, standard errors and decomposition analyses are obtained following the approach suggested by PISA (OECD 2009). To account for the survey design, all analyses are estimated using final student weights and the 80 replicate weights provided by PISA to retrieve correct estimates of standard errors. More precisely, we apply the BRR method with a Fay adjustment factor of 0.5 (Kreuter and Valliant 2007).

4. The total amount of missing values on the main variables of interest was small (approximately five per cent in each of the four countries) and almost equally distributed across immigrant groups and native students. Missing values on some of the control variables (included in Model 3) were coded as distinct categories.

5. Some of these patterns might be driven by national composition of the immigrant student populations. Due to data limitations, we cannot control for country of origin effects in all four countries (the information is missing in Italy and Spain). But we replicated the same analyses for Portugal and Greece including information on country of origin which provided strong robustness of our results because gap estimates remained unaltered when adding country of origin information. In Portugal some small changes in the magnitude of the parameters—but not in the generational patterns—are detected, but they disappear once we include family background (results available upon request).

6. Additional models were estimated including other controls at the school level (i.e. school socio-economic and immigrant composition, the proportion of first-generation immigrants enrolled in each school, indices of educational resources and autonomy, and the practice of streaming). Our results proved to be highly robust to these additional controls.

7. After holding all variables constant (Model 3), second-generation immigrants in Portugal perform relatively as poorly as their counterparts in Italy and Spain, while the remaining two generational groups perform as well as natives in Portugal. This finding is somehow counter-intuitive as compared to the other countries in which we observe a weak association between age at arrival and educational achievement. In additional analyses we tested whether this deviant finding is driven by country-of-origin compositions. Results indicate that the observed pattern presented in Table 2 remains even after including information on country of origin. Future research should further investigate this finding for Portugal.

8. This twofold decomposition of immigrant–native differentials can be formulated as

$$Y_n - Y_i = \beta_n X_n - \beta_i X_i = \beta_n(X_n - X_i) + X_i(\beta_n - \beta_i)$$

Y_n and Y_i are mean achievement for natives and each immigrant group respectively, X_n and X_i are mean values of independent variables included in the models and, finally, β_n and β_i are vectors of the estimated coefficients for the two groups. The term $\beta_n(X_n - X_i)$ identifies the explained part of the differences and is calculated using the coefficients of models estimated on the native populations (in each country) as reference. Decompositions using coefficients from models which pooled immigrants and natives together were also estimated, yielding similar results.

9. In 2011, foreigners residing in Ireland accounted for around 12 per cent of the total population, almost resembling the numbers for Spain (OECD 2012b). Large parts of the more recent immigrant population originate from new European member states (EU-2004) (Faas and Fionda 2014: 405) and have been found to have a strong human capital profile (Fanning et al. 2011: 2). The foreign population in Finland has more than tripled since the beginning of the 2000s, with young adults under 30 forming almost half of the immigrant population (Harinen and Sabour 2014: 311). In sum, both

countries can be characterized as 'new immigration countries' but differ to a great extent from the four south European countries in their institutional settings and in the composition of their immigrant population.

References

Azzolini, D. and Barone, C. (2013) 'Do They Progress or Do They Lag Behind? Educational Attainment of Immigrants', Children in Italy: The Role Played by Generational Status, Country Of Origin and Social Class', *Research in Social Stratification and Mobility*, 31: 82-96.

——, Schnell, P. and Palmer, J. (2012) 'Educational Achievement Gaps Between Immigrant and Native Students in Two New Immigration Countries: Italy and Spain in Comparison', *The Annals of the American Academy of Political and Social Science*, 643/1: 46-77.

Baganha, M. I. (2009) 'Portugal', in Fassmann, H., Reeger, U. and Sievers, W. (eds), *Statistics and Reality: Concepts and Measurements of Migration in Europe*, pp. 263-80. Amsterdam: Amsterdam University Press.

Baldwin-Edwards, M. and Apostolatou, K. (2009) 'Greece', in Fassmann, H., Reeger, U. and Sievers, W. (eds), *Statistics and Reality. Concepts and Measurements of Migration in Europe*, pp. 233-62. Amsterdam: Amsterdam University Press.

Barban, N. and White, M. J. (2011) 'Immigrants' Children's Transition to Secondary School in Italy', *International Migration Review*, 45/3: 702-26.

Becker, G. (1964) *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*. New York: Columbia University Press.

Blinder, A. S. (1973) 'Wage Discrimination: Reduced Form and Structural Estimates', *The Journal of Human Resources*, 8: 436-55.

Buchmann, C. and Parrado, E. A. (2006) 'Educational Achievement of Immigrant-Origin and Native Students: A Comparative Analysis Informed by Institutional Theory', *International Perspectives on Education and Society*, 7: 345-77.

Buis, M. L. (2013) 'The Composition of Family Background: The Influence of the Economic and Cultural Resources of both Parents on the Offspring's Educational Attainment in the Netherlands between 1939 and 1991', *European Sociological Review*, 29/3: 593-602.

Cabral, S. and Duarte, C. (2010) 'Employment and Wages of Immigrants in Portugal', Banco de Portugal, Economics and Research Department, Working Paper No. 31.

Castles, S. and Miller, M. J. (2003) *The Age of Migration: International Population Movements in the Modern World*. New York: Guildorf Press.

Cebolla-Boado, H. and Medina, L. G. (2011) 'The Impact of Immigrant Concentration in Spanish Schools: School, Class, and Composition Effects', *European Sociological Review*, 27/5: 606-23.

Cheng, S. and Starks, B. (2002) 'Racial Differences in the Effects of Significant Others on Students' Educational Expectations', *Sociology of Education*, 75/4: 306-27.

Chletsos, M. and Roupakias, S. (2012) 'Native-Immigrant Wage Differentials in Greece: Discrimination and Assimilation', MPRA Working Paper No. 39862.

Colombo, A. and Sciortino, G. (2004) 'Italian Immigration: The Origins, Nature and Evolution of Italy's Migratory Systems', *Journal of Modern Italian Studies*, 9/1: 49-70.

Edele, A. and Stanat, P. (2011) 'Pisa's Potential for Analyses of Immigrant Students' Educational Success: The German case', in Cowen, R., Kotthoff, H.-G. and Pereyra, M. A. (eds), *Pisa Under Examination: Changing Knowledge, Changing Tests, and Changing Schools*, pp. 185-206. Rotterdam: Sense Publishers.

Entorf, H. and Minoiu, N. (2004) 'PISA Results: What a Difference Immigration Law Makes'; IZA Discussion Paper No. 1021.

Erikson, R. and Jonsson, J. (1996) *Can Education be Equalized? The Swedish Case in Comparative Perspective*. Oxford: Westview Press.

Eurostat (2011) *Migrants in Europe: A Statistical Portrait of the First and Second Generation*. Brussels: European Commission.

Faas, D. and Fionda, R. (2014) 'Ireland', in Stevens, P. A. J. and Dworkin, G. A. (eds), *The Palgrave Handbook of Race and Ethnic Inequalities in Education*, pp. 402-19. Basingstoke: Palgrave Macmillan.

Fanning, B., Haase, T. and O'Boyle, N. (2011) 'Well-Being, Cultural Capital and Social Inclusion: Immigrants in the Republic of Ireland', *Journal of International Migration and Integration*, 12/1: 1-24.

Ferrera, M. (1996) 'The "Southern Model" of Welfare in Social Europe', *Journal of European Social Policy*, 6/1: 17-37.

Fullin, G. (2011) 'Unemployment Trap or High Job Turnover? Ethnic Penalties and Labour Market Transitions in Italy', *International Journal of Comparative Sociology*, 52/4: 284-305.

Ganzeboom, H. B. G. and Treiman, D. J. (1996) 'Internationally Comparable Measures of Occupational Status for the 1988 International Standard Classification of Occupations', *Social Science Research*, 25: 201-39.

Hanushek, E. and Wößmann, L. (2006) 'Does Educational Tracking Affect Performance and Inequality?' *Economic Journal*, 116/510: 63-76.

Hao, L. and Bonstead-Bruns, M. (1998) 'Parent-Child Differences in Educational Expectations and the Academic Achievement of Immigrant and Native Students', *Sociology of Education*, 71/3: 175-98.

Harinen, P. and Sabour, M. H. (2014) 'Finland', in Stevens, P. A. J. and Dworkin, G. A. (eds), *The Palgrave Handbook of Race and Ethnic Inequalities in Education*, pp. 308-37. Basingstoke: Palgrave Macmillan.

Heath, A. F. and Brinbaum, Y. (2007) 'Explaining Ethnic Inequalities in Educational Attainment', *Ethnicities*, 7/3: 291-306.

——, Rothon, C. and Kilpi, E. (2008) 'The Second Generation in Western Europe: Education, Unemployment and Occupational Attainment', *Annual Review of Sociology*, 34: 211-35.

Hillmert, S. (2013) 'Links Between Immigration and Social Inequality in Education: A Comparison among Five European Countries', *Research in Social Stratification and Mobility*, 32: 7-23.

Hortas, M. J. (2008) 'Territories of Integration: The Children of Immigrants in the Schools of the Metropolitan Area Of Lisbon', *Intercultural Education*, 19/5: 421-33.

Kalfa, E. and Piracha, M. (2013) 'Immigrants' Educational Mismatch and the Penalty of Over-Education', IZA Discussion Paper Series, 7721.

Kao, G. and Thompson, J. S. (2003) 'Racial and Ethnic Stratification in Educational Achievement and Attainment', *Annual Review of Sociology*, 29: 417-42.

—— and Tienda, M. (1998) 'Educational Aspirations of Minority Youth', *American Journal of Education*, 106/3: 349-84.

Kasimis, C. (2012) *Greece: Illegal Immigration in the Midst of Crisis*. Washington: Migration Information Source (MPI).

Kilpi-Jakonen, E. (2011) 'Continuation to Upper Secondary Education in Finland: Children of Immigrants and the Majority Compared', *Acta Sociologica*, 54/1: 77-106.

—— (2012) 'Does Finnish Educational Equality Extend to Children of Immigrants?', *Nordic Journal of Migration Research*, 2/2: 167-81.

Kreienbrink, A. (2008) *Spain*. Osnabrück: FOCUS Migration Country Profile No 8.

Kreuter, F. and Valliant, R. (2007) 'A Survey on Survey Statistics: What is Done and Can Be Done in Stata', *Stata Journal*, 7/1: 1-21.

Kristen, C. and Granato, N. (2007) 'The Educational Attainment of the Second Generation in Germany: Social Origins and Ethnic Inequality', *Ethnicities*, 7/3: 343-66.

Lareau, A. (1987) 'Social Class Differences in Family-School Relationships: The Importance of Cultural Capital', *Sociology of Education*, 60/2: 73-85.

Mantovani, D. (2008) 'Gli Studenti Stranieri Sui Banchi di Scuola in Emilia Romagna', in Gasperoni, G. (ed.), *Le Competenze Degli Studenti in Emilia-Romagna: I Risultati di Pisa 2006*, pp. 161-96. Bologna: Il Mulino.

Marks, G. N. (2005) 'Accounting for Immigrant Non-Immigrant Differences in Reading and Mathematics in Twenty Countries', *Ethnic and Racial Studies*, 28: 925-46.

——, Cresswell, J. and Ainley, J. (2006) 'Explaining Socioeconomic Inequalities in Student Achievement: The Role of Home and School Factors', *Educational Research and Evaluation*, 12/2: 105-28.

Oaxaca, R. (1973) 'Male-Female Wage Differentials In Urban Labor Markets', *International Economic Review*, 14/3: 693-709.

OECD. (2004) *Learning for Tomorrow's World: First Results from PISA 2003*. Paris: OECD Publishing.

OECD (2008) *A Profile of Immigrant Populations in the 21st Century: Data from OECD Countries*. Paris: OECD Publishing.

—— (2009) *PISA Data Analysis Manual*, 2nd edn. Paris: OECD Publishing.

—— (2010a) *International Migration Outlook 2010*. Paris: OECD Publishing.

—— (2010b) *PISA 2009 Results: Overcoming Social Background: Equity in Learning Opportunities and Outcomes (Vol. II)*. Paris: OECD Publishing.

—— (2012a) *Untapped Skills: Realising the Potential of Immigrant Students*. Paris: OECD Publishing.

—— (2012b) *International Migration Outlook 2012*. Paris: OECD Publishing.

Oliver, M. L. and Shapiro, T. M. (2006) *Black Wealth, White Wealth: A New Perspective on Racial Inequality*. New York/London: Routledge.

Palaiologou, N. (2007) 'School Adjustment Difficulties of Immigrant Children in Greece', *Intercultural Education*, 18/2: 99-110.

Peixoto, J. (2002) 'Strong Market, Weak State: The Case of Recent Foreign Immigration in Portugal', *Journal of Ethnic and Migration Studies*, 28/3: 483-97.

Phalet, K., Deboosere, P. and Bastiaenssen, V. (2007) 'Old and New Inequalities in Educational Attainment: Ethnic Minorities in the Belgian Census 1991-2001', *Ethnicities*, 7/3: 390-407.

Qian, Z. and Blair, S. L. (1999) 'Racial/Ethnic Differences in Educational Aspirations of High School Seniors', *Sociological Perspectives*, 42/4: 605-25.

Reyneri, E. (2003) 'Immigration and the Underground Economy in New Receiving South European Countries: Manifold Negative Effects, Manifold Deep-Rooted Causes', *International Review of Sociology*, 13/1: 117-43.

—— and Fullin, G. (2011) 'Labour Market Penalties of New Immigrants in New and Old Receiving West European Countries', *International Migration*, 49/1: 31-57.

Ribas-Mateos, N. (2004) 'How Can We Understand Immigration in Southern Europe?', *Journal of Ethnic and Migration Studies*, 30/6: 1045-63.

Schnepf, S. V. (2008) 'Inequality of Learning amongst Immigrant Children in Industrialised Countries', IZA Discussion Paper Series, 3337.

Seabra, T. and Mateus, S. (2011) 'School Achievement, Social Conditions and Ethnicity: Immigrants' Children in Basic Schooling in Portugal', *Portuguese Journal of Social Science*, 10/1: 73-86.

Serpell, R., Sonnenschein, S., Baker, L. and Ganapathy, H. (2002) 'Intimate Culture of Families in the Early Socialization of Literacy', *Journal of Family Psychology*, 16/4: 391-405.

Solé, C. (2004) 'Immigration Policies in Southern Europe', *Journal of Ethnic and Migration Studies*, 30/6: 1209-21.

Tolsma, J., Coenders, M. and Lubbers, M. (2007) 'Trends in Ethnic Educational Inequalities in the Netherlands: A Cohort Design', *European Sociological Review*, 23/3: 325-39.

Van de Werfhorst, H. G. and Mijs, J. J. B. (2010) 'Achievement Inequality and the Institutional Structure of Educational Systems: A Comparative Perspective', *Annual Review of Sociology*, 36: 407-28.

—— and Van Tubergen, F. (2007) 'Ethnicity, Schooling, and Merit in the Netherlands', *Ethnicities*, 7/3: 416-44.

Vaquera, E. and Kao, G. (2012) 'Educational Achievement of Immigrant Adolescents in Spain: Do Gender and Region of Origin Matter?', *Child Development*, 83/5: 1560-76.

Zinovyeva, N., Felgueroso, F. and Vázquez, P. (2011) 'Immigration and Students' Achievement in Spain: Evidence from PISA', Serie Capital Humano y Empleo-FEDEA, Documento de Trabajo 2008-37.