



Determinants of grade retention in France and Spain: Does birth month matter?

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Abstract

In France and Spain, children born in the same calendar year start school together, regardless of maturity differences due to their birth month. This paper analyses the educational impact of birth month on the probability of grade retention controlling by other covariates. Using the PISA 2009 database for both countries, we do identify a great impact on grade retention since students born in the last months of the year are between 70% and 80% more likely to repeat a grade than children born in the first months of the same year. We conclude that policy interventions are required in those countries to ensure that individuals are not unfairly penalized by their birth month.

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1. Introduction

The phenomenon of grade retention in France and Spain affects around one third of all students and has become a considerable obstacle to future economic growth. According to the OECD's PISA 2009 report, over 30% of 15-year-old students from both countries had repeated at least

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one grade. Several studies provide empirical evidence that students who repeat an academic year (from now on repeaters) are at greater risk of school failure, and this variable is a good predictor for early school leaving (Benito, 2007; Calero, Choi, & Waisgrais, 2010; Jimerson, Anderson, & Whipple, 2002). Therefore, this is a central issue for European governments, and the Europe 2020 strategy encourages educational policy measures to reduce school dropout rates to under 10% by 2020.

School failure has negative consequences for both individuals and the efficiency of the whole economy. On the one hand, early school leaving generates major labour insertion problems and a higher risk of social and economic exclusion. This is a major concern given the severity of the current European economic crisis where the unemployment level among young people is extremely high in some countries. On the other hand, school failure is associated with a lower stock of human capital and lower labour force productivity, higher social public expenditure, and lower economic growth prospects (Asteriou & Agiomirgianakis, 2001; Duval & de la Maisonneuve, 2010; Hanushek & Kimko, 2000; Psacharopoulos, 2007).

France and Spain have the ideal education system for examining the effect of birth month on student achievement, due to the fact that those students born in the same calendar year start school in the same academic year. By law, pre-primary education is optional and free from three- to five-year-olds. Compulsory education starts with primary education; pupils enter primary school in September of the year that pupils turn six, continuing for just ten years until pupils reach the age of 16 at the end of secondary education. As the cut-off date is January 1st, students born in January are almost one year older than their classmates born in December. Previous research provides evidence of a maturity gap between children born in January and December; therefore, this policy could potentially have an impact on students' future academic performance if teachers confuse maturity with learning ability (Allen & Barnsley, 1993).

In this context, the aim of this paper is to evaluate whether a pupil's relative age with his/her age cohort may have a significant long-term effect on the specific problem of grade retention in the French and Spanish education systems. For the purpose of causal identification, one of the key issues of this research is to show that birth month is an exogenous variable in the analysis. To do this, we demonstrate that parents do not target birth dates on the basis of their children's expected future academic performance; besides, there are legal constraints preventing parents from choosing their children's enrolment cohort. Therefore, we have a natural experiment framework in which we can distinguish the cause-effect relationship between birth month and the probability of repeating any year from any accidental correlation.

As mentioned above, grade retention has a number of negative effects on students, ranging from problems of self-esteem to higher school dropout rates (Agasisti & Cordero, 2013; Jimerson et al., 2002; Manacorda, 2012). Were birth month found to matter, this would place a constraint not only on the efficiency of the economy of these both countries but also on the equal opportunities policy established by the Spanish and French Education Acts (*Ley Orgánica de Educación* and *Code de l'Éducation*, respectively),¹ and it would justify the search for public education policies designed to avoid or reduce this problem.

The paper is structured as follows. The following section summarizes the existing literature about the analyzed topic. Section 3 presents and justifies the experimental design together with the database. Section 4 presents the empirical results, and the article winds up with the main

¹ Both laws state that education must ensure equal opportunities, educational inclusion and non-discrimination. Education should act as a means to offset personal, cultural, economic and social inequalities, especially any caused by disability.

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