



Automatic grade promotion and student performance: Evidence from Brazil



Martin Foureaux Koppensteiner*

Department of Economics, University of Leicester, University Road, Leicester LE1 7HR, UK

ARTICLE INFO

Article history:

Received 16 February 2012

Received in revised form 19 December 2013

Accepted 20 December 2013

JEL classification:

I28

I21

O15

H52

Keywords:

Grade retention

Automatic promotion

Incentives to learn

Primary education

Brazil

ABSTRACT

This paper examines the effect of automatic grade promotion on academic achievement in 1993 public primary schools in Brazil. A difference-in-differences approach that exploits variation over time and across schools in the grade promotion regime allows the identification of the treatment effect of automatic promotion. I find a negative and significant effect of about 7% of a standard deviation on math test scores. I provide evidence in support of the interpretation of the estimates as a disincentive effect of automatic promotion. The findings contribute to the understanding of retention policies by focussing on the ex-ante effect of repetition and are important for more complete cost–benefit considerations of grade retention.

© 2014 Elsevier B.V. All rights reserved.

1. Introduction

Grade retention, the practice of holding back students in the same grade for an extra year if they fail to achieve promotion requirements—either in the form of a performance measure or in the form of minimum attendance—is used in many developing and in some developed countries. It is particularly widespread and pronounced in African and Latin American countries, where repetition rates are often as high as 30% (UNESCO, 2008).¹ Historically grade repetition had a prominent role in Brazil and repetition rates in Brazilian primary schools reached 24% in the first grade and 14% in the fourth grade in 2005.²

Retaining students has important consequences both for the individual as well as for schools. Overall, every repeater has the same effect on school resources as enrolling an additional student at that grade and subsequent grades and either leads to compromising per pupil school inputs e.g. through larger class size or to a pressure on public finances

through the additional demand for teachers, classrooms, desks and other inputs.³

Opponents of grade repetition contend that it negatively impacts the retained individual by stigmatizing them and harming their self-esteem, by impairing established peer relationships and generally alienating the individual from school, which may in turn negatively affect academic achievement and increase the probability of dropping-out of school (Holmes, 1989). Furthermore, repeating grades delays entrance of students into the labour market which poses substantial monetary cost on individuals over the life-cycle. In contrast, proponents argue that repetition can improve academic achievement by exposing low performing students to additional teaching and by allowing them to catch up on the curriculum and the content of teaching. This is particularly important if school absence for reasons such as illness in a given school year is the reason for retention. Grade retention may also help to make classes more homogeneous in achievement and therefore easier to teach by improving the match between peers in the classroom (Manacorda, 2012).

There is a small but growing literature on estimating the causal effect of retention on subsequent educational outcomes (Dong, 2009; Eide and Showalter, 2001; Glick and Sahn, 2010; Gomes-Neto and Hanushek,

* Tel.: +44 116 252 2467; fax: +44 116 252 2908.

E-mail address: mfkoppensteiner@le.ac.uk.

¹ 40 out of 43 African countries for which data is available in 2006 use grade retention (and for which average repetition rates exceed 4% in primary school) and 18 out of 23 Latin American and Caribbean countries.

² Data available at <http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx>. UNESCO Institute for Statistics, Data Centre, January 2012.

³ A very rough estimate of the annual cost of repetition on public finances in Brazil using average expenditure per pupil at primary schools in 2006 of \$554 (in constant 2005 US\$) and 18,661,000 students enrolled at primary school and an average repetition rate over all grades of 18.7% (not accounting for loss of students due to drop-out etc.) amounts to approximately 1.9 billion US\$ (all data from UNESCO, 2008).

1994; Jacob and Lefgren, 2004, 2009 and Manacorda, 2012). The results are mixed, with positive as well as negative estimates of the effect of repetition on academic achievement and school drop-out, and the results seem to depend critically on context and age of students.

Considering these mixed empirical findings on the effect on repeaters, the use of public resources and the undesirable consequences for public finances, the persistence of grade retention regimes in many countries is puzzling. This is particularly the case for developing countries where repetition rates are often very high and pressure on public resources is large. Furthermore, repetition increases the age variation in the classroom and repeaters may also directly lead to negative externalities on their peer students (Lavy et al., 2012; Manski, 1993).

A possible explanation for the persistence of grade retention in many countries may be based on the deterrence effect of grade retention.⁴ Grade retention induces students to exert effort as it potentially inflicts substantial costs of repetition on low performers. The ex-ante threat of retention may therefore incentivize students to study in order to avoid being retained. This incentive effect of grade retention may have an important effect on mean student outcomes, as it is not restricted to repeaters only, but may create incentives for a much wider range of students. While the empirical literature on grade retention focuses on the ex-post effect on repeaters, there exists—to the author's knowledge—no research on the ex-ante effect of the promotion regime on academic outcomes of a wider set of students. This analysis examines the effect of removing the deterrence of retention rather than estimating the effect of repetition on repeaters. Automatic grade promotion has been introduced in Brazil on a large scale since the early 2000s partly to accelerate progress towards meeting the Millennium Development Goal of universal primary education and to reducing the cost of larger student cohorts (UNESCO, 2012). I exploit credible exogenous variation in the timing of the adoption of automatic promotion for identification in a difference-in-differences (DiD) setting.

I find that the introduction of automatic promotion significantly reduces academic achievement measured by math test scores of fourth graders by 6.7% of a standard deviation. Quantile DiD results show that the strongest treatment effect can be found for the lower part of the test score distribution with considerably smaller effects in the tails of the distribution. This is consistent with an interpretation of the estimates as a disincentive effect of automatic promotion and the paper provides additional evidence in support of this interpretation. There is no evidence that the results are caused by teacher or school responses to the introduction of automatic promotion. Teachers are no more or less likely to assign and correct their students' homework, and class size is unaffected by the policy introduction. Because there is only limited information on teaching practices available it is not possible to rule out completely the possibility of unobserved systematic teacher responses to the policy. The timing of the policy change limits the potential for changes in the student composition of the test cohorts and I provide strong evidence that the socio-economic composition is unaffected by the policy and unlikely biases the estimates. There is also no evidence that the estimates are affected by systematic changes in student mobility across schools or by strategic test taking behaviour.

The remainder of the paper is organized as follows. Section 2 provides information on the school system in Brazil and in the state of Minas Gerais. Section 3 presents the data. Section 4 describes the natural experiment and outlines the assignment of schools to treatment. Section 5 introduces the empirical strategy. The results, their interpretation and falsification exercises are presented in Section 6 and Section 7 concludes.

⁴ Manacorda (2012) is the first to point out such a deterrence effect of retention in the literature. A related argument of a deterrence effect is discussed by Angrist et al. (2002) in relation to school vouchers and by Jacob (2005) in relation to high stakes testing in the US.

2. The school system in Brazil and Minas Gerais

Primary school is compulsory in Brazil for children between the ages of 7 and 14 and consists of eight years of schooling (MEC, 1996).⁵ Public schooling is free at all ages and enrolment in primary and secondary schools is open to students of all ages.

The Brazilian educational system has undergone substantial changes during the last two decades and has achieved considerable progress in expanding access to education. Starting from a primary school net enrolment rate of 85% in 1991, Brazil achieves today almost universal primary school enrolment with a net rate of 95% (UNESCO, 2008). Primary school completion and youth literacy rates have improved notably, but the country continues to suffer from high repetition and drop-out rates.⁶

The national conditional cash transfer programme *Bolsa Família*, formerly *Bolsa Escola*, which is a means-tested monthly cash transfer to poor households conditional on school enrolment and regular attendance among other conditions, plays a significant role for the rise in school enrolment and attendance of school age children (De Janvry et al., 2006).⁷

This analysis focuses on the state of Minas Gerais, the second most populous state in Brazil with an estimated population of about 19 million (IBGE, 2007). Minas Gerais contributes 10% to the Brazilian GDP and is among the most developed states in Brazil (OECD, 2005). The education system of Minas Gerais is among the most advanced and in national performance tests students regularly perform among the top (INEP, 2007).

According to state legislation, the State Secretariat of Education (SEE) has extensive authority to plan, direct, execute, control and evaluate all educational activities in Minas Gerais. Based on the far-reaching decentralization of education in Brazil, the SEE transfers authority to a large extent to Regional Authorities for Education (Superintendências Regionais de Ensino: SREs) and directly to the municipalities. SREs and municipalities therefore play a major role in the provision of schooling and the implementation of educational policies.⁸ Municipal schools account for more than half (56%) of all primary schools and state schools, that are directly under the control of the SEE, account for 22% of all schools. Besides the public provision of education private schools play an important role and account for the remaining 22%.⁹

3. Data description

This study uses data from two sources. Information on school characteristics comes from the annual Brazilian school census that is conducted by the National Institute for the Study and Research on Education (INEP) under the control of the Federal Ministry of Education (MEC). The Brazilian school census compiles data annually from all primary and secondary schools in Brazil. The exceptionally rich data includes information on the location and administrative dependence of schools, physical characteristics (quantity of premises and class rooms, equipment and teaching material), the participation in national, state

⁵ The school entry age has recently been lowered to 6 years and primary school has been extended to 9 years.

⁶ The overall repetition rate in primary schools in Brazil in 2006 was 18.7% and the total drop-out rate for primary school was 19.5% (UNESCO, 2008).

⁷ The conditionalities of *Bolsa Família* require a minimum school attendance of 85% and extend to the fulfilment of basic health care requirements such as vaccinations of the children and pre and postnatal medical consultations for pregnant women. Monthly per capita income in the household cannot exceed R\$120 (US\$57 in 2006) to remain eligible for the transfer. See Lindert et al. (2007) for a comprehensive description of the programme.

⁸ The installation of FUNDEF, a federal fund established in 1996 with the aim of redistributing state and municipal resources back to (mainly) municipalities according to student numbers contributed to the improvement of the control of municipalities over educational decisions. See de Mello and Hoppe (2005) for an analysis of FUNDEF.

⁹ There are also 28 federal schools in Brazil which are under the direct control of the federal government; the single federal school in Minas Gerais has not been included in the dataset.

Download English Version:

<https://daneshyari.com/en/article/5094656>

Download Persian Version:

<https://daneshyari.com/article/5094656>

[Daneshyari.com](https://daneshyari.com)