



Grade retention and school drop out in Brazil: How effective are policy programs?

Rosana de Freitas Castro
Universidade Federal da Bahia

Claudia Schuchart
Bergische Universität Wuppertal

Abstract

In Brazil, the goal of total inclusion of school-aged children has been nearly reached. Nonetheless, this quantitative success is not reflected in quality of outcome; repetition and drop out rates are significantly higher than the Latin American average. This problematic situation can be traced back to poverty and its implications. Another reason can be found in the lack of teacher and school quality. Since the mid-1990s, Brazil has developed a wide range of programs and strategies to target the problem of quality in education. We examined three such programs: The conditional cash transfer program ‘*Bolsa Família*’, the implementation of catch-up (remedial) classes (i.e. *Programa Acelera Brasil*), and the ‘School Development Plan’ (*Plano de Desenvolvimento da Escola, PDE-Escola*). We give an overview of the programs and discuss the results of 8 studies which evaluate whether grade repetition, grade passing, drop out, and achievement were affected by the selected programs. Overall, the studies indicate that attendance behaviour is influenced more easily than achievement.

1. Introduction

Although more than 90 % of primary school-age children are enrolled in school in Latin America, the UNICEF goal of ‘universal primary education for all’ (UPE) is far from being reached. In a number of Latin American countries, smooth progression through the primary school system is rather the exception than the rule, particularly among low-income groups in urban slums and rural areas. Many students are locked into cycles of repetition and drop out because repetition is often a prelude to drop out (UNESCO, 2009, p. 67). Apart from its potential damage on UPE, grade repetition is also a source of inefficiency. The financial resources required to provide additional school places for repeaters can be substantial (ibid.).

Brazil is the Latin American country with the highest primary school repetition rates (UNESCO, 2010). Unfortunately, the considerable progress made in the last decades in net enrolment ratios in primary education (UNESCO, 2008) has not been followed by an increase in attendance rates (Klein, 2006). In 2007, the repetition rate for primary education in Brazil was 4 times higher than the Latin American average (18.7 % compared to 5.6 %, UNESCO, 2010, p. 351 ff.) and was exceeded only by some African countries (for instance, Togo 23.7 % and Sao Tomé 24.2 %). Since repetition often leads to drop out, Brazil's drop out rates are also high. Indeed, the percentage of students who complete the last grade of primary education lies 8 % below the Latin American average of 84 % (UNESCO, 2010, p. 358 ff.).

Repetition and drop out are problems which have been recognised by Brazil's federal government for decades. As early as 1944, President Getúlio Vargas observed that out of 1,000 school-aged Brazilian children, only 79 completed the first grade, while only 30 completed their elementary education (Oliveira, 1999, cited by Prado, 2000). However, it took a long time for Brazil to develop political strategies at a national level to combat the problems of quality in education. In 1993, Brazil participated at the world conference 'Education for All' (EFA), initiated by UNESCO in Jomtien, Thailand, where the 'World Declaration on Education for All' was adopted. All signatories agreed on a framework of action to meet basic learning needs. Since the Brazilian educational system is decentralized, however, no national decision-making level existed for implementing the EFA goals. Therefore, the challenge for the federal government was to provide a comprehensive system of incentives in the form of funds and special projects and to coordinate educational policies by cooperating with the State and Municipal Secretaries of Education. Of the variety of strategies developed since then, three major projects can be identified that – among others – aimed to improve the quality of education by reducing drop out and/or repetition rates and supporting grade promotion: The conditional cash transfer program '*Bolsa Família*' (the largest of its kind in the world), the implementation of catch-up (remedial) classes (i.e. '*Programa Acelera Brasil*'), and the 'School Development Plan' (*Plano de Desenvolvimento da Escola, PDE-Escola*), which is part of the school program for school development (*Fundescola*). Evaluation studies in various countries suggest that projects of this kind have some positive effects on repetition and drop out (World Bank, 2007; Cardenas, 2008; Parker, Rubalcava & Teruel, 2008). Accordingly, a glance at the official statistics shows that repetition and drop out rates in Brazil have significantly decreased in the last decades. So far, however, the findings of these evaluation studies have been only partly summarized; therefore, for Brazil it remains unclear to what extent these efforts account for the increase in school quality in Brazil.

The paper will first present data on the development of grade repetition and school drop out in Brazil (2) and the individual and school reasons for these phenomena (3). We will then give an overview of the main political strategies employed to combat

those problems (4) and discuss their impact on drop out and repetition rates on the basis of evaluation studies (5). The article closes with a summary and discussion (6).

2. Education in Brazil: Background, quantity and quality aspects

In economic terms, Brazil has become one of the leading countries in Latin America. However, the country has one of the worst patterns of income distribution in the world (Ferreira Filho & Horridge, 2006): In 2007, 30.8 % of the total population lived in households with an income below the poverty line (*Pesquisa Nacional por Amostra de Domicílios* PNAD, *Instituto Brasileiro de Geografia e Estatística* IBGE). Extreme disparities also exist among the different regions of the country. States in the South and Southeast regions of Brazil have benefited far more from the favorable economic development in the last decades than states in the North and Northeast regions of the country (see table 1): In 2001, around half of the population in the North and Northeast regions lived below the poverty line, compared to around one quarter of the population in the Southeast, South and Midwest regions (*Relatório do Desenvolvimento Humano – Brasil*, 2005, cf. PNUD, 2005). These regional disparities are reflected by the situation of the educational system as well.

In Brazil, basic education is divided into three levels: pre-school education, fundamental (or primary) education and intermediate level education. Until 2006, the fundamental level, mandatory for children aged 7 to 14 years, was divided into 8 grades (four initial levels and four levels of lower secondary education). After 2006, an expansion of the fundamental level was approved in order to incorporate 6-year-old children. This newly-included grade corresponds to the former pre-school, and its aim is to achieve literacy. The third level of schooling, called the intermediate level, covers three years and is attended by students aged between 15 and 17, although attending this level was not mandatory until 2009.

The school day lasts approximately 4 hours and (especially in poorer regions) there are still three daily shifts per school (morning, afternoon, and evening). Using one school building for various shifts per day was one of the methods used to deal with the massive expansion of primary education in the last decades. For instance, the number of enrolled students rose by 20 million between 1970 and 1998, representing a growth of 26 % (table 1).

Net enrolment rates (percentage of school-aged children actually attending primary school) in primary education have increased rapidly, from 67 % in 1970 to 97.5 % in 2008 (table 1). In the last decade, access to this level of education has become almost universal for the population aged 7 to 14. The gap between the most and least developed regions – the Southeast (SE) and the North (N) – was significantly reduced, from 20 % in 1980 (SE = 89.2 %, N = 69.9 %) to 3 % in 2000 (SE = 96.1 %, N = 90.4 %, *Educatabrasil*). This almost universal access to fundamental education is a major breakthrough for education in Brazil. However, many challenges regarding quality and

equity still have to be faced. There are still a number of children without schooling; moreover, many of those who are enrolled either do not learn or progress slowly. Many of these students repeat a grade, and some ultimately abandon their education entirely.

Table 1: Enrolment in Brazilian primary education, 1970–2008

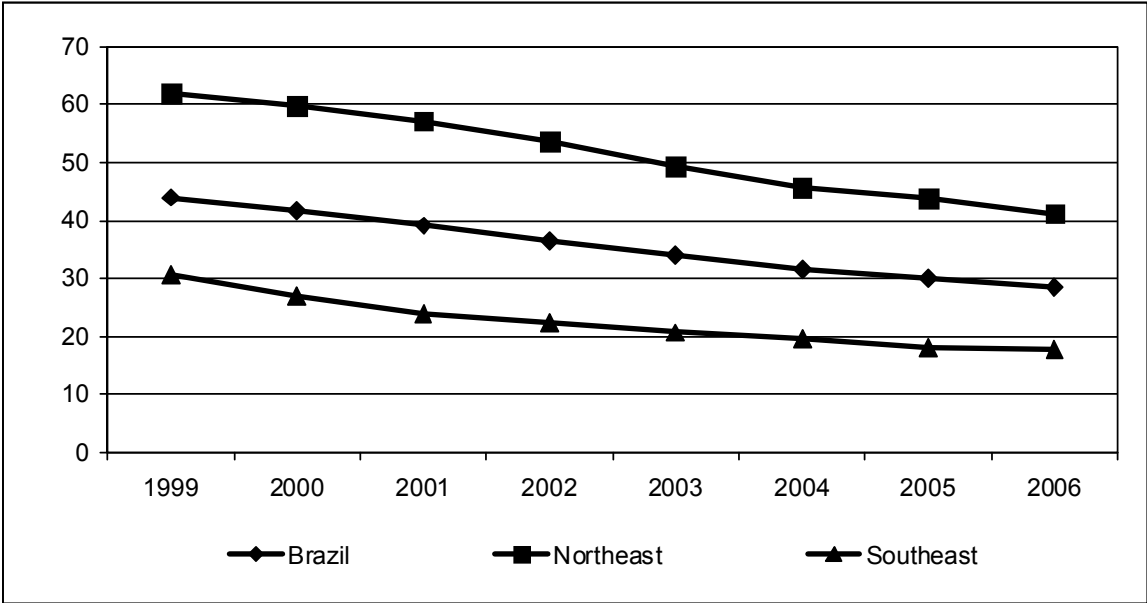
| Year | Total number of students (in millions) | Gross enrolment (%) | Net enrolment (%) |
|------|---|---------------------|-------------------|
| 1970 | 15.892 | 81 | 67 |
| 1980 | 22.598 | 98 | 80 |
| 1991 | 29.204 | 106 | 86 |
| 1998 | 35.793 | 103 | 95 |
| 2008 | 32.087 | 105 | 97.5 |

Source: National Report Brazil, 2000, p. 53; INEP, 2009; IBGE, PNAD, 2009.

These quality problems are reflected by various statistical indicators. Since the gross enrolment rate represents the ratio of all primary school students to all primary school aged children (aged 7 to 14 for the fundamental level) expressed as a percentage, the figures above 100 (table 1) indicate the presence of overage children. In Brazil, a student is considered overage if the age-grade gap¹ is over 2 years. Figure 1 shows that from 1999 to 2006, the proportion of overage students in primary education in Brazil decreased from 44 % to 28.6 %. Despite the decrease in regional differences in enrolment rates over time, differences in the proportion of overage students remain high: In the Northeast region, the percentage of overage students is more than twice as high as in the Southeast (40 % / 19 %).

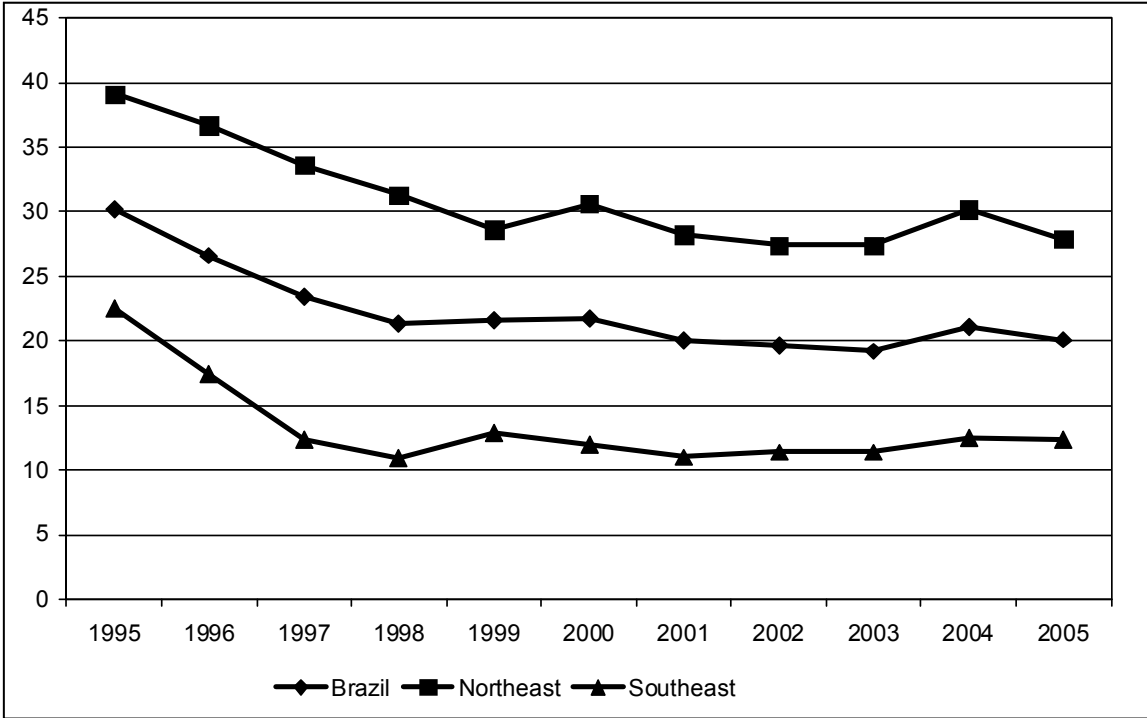
The age-grade gap is often caused by late enrolment and repetition, and/or by students who reenter the system after a period of absence. In 2005, about 20 % of all students in primary education repeated a school year (figure 2) and 6.9 % dropped out of school. For the least developed regions, such as the Northeast, the proportions are obviously larger. In the Northeast region, almost 30 % of all primary level students repeated a grade. In contrast, these rates are about half as high in the Southeast region, where the figures are closer to the Latin American average. Figure 2 shows that the rates of grade repetition decreased rapidly from 1981 until 2000, but remained at a similar level until 2005/2006. Drop out rates decreased in most states from 1981 until 1996/1997 but then remained more or less stable until 2005 (Edudatabrasil, *Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira* INEP, *Ministério da Educação e do Desporto* MEC, no figure presented).

Figure 1: Percentage of overage children in Brazilian primary education (for country and selected regions), 1999–2006



Source: Edudatabrasil, INEP/MEC.

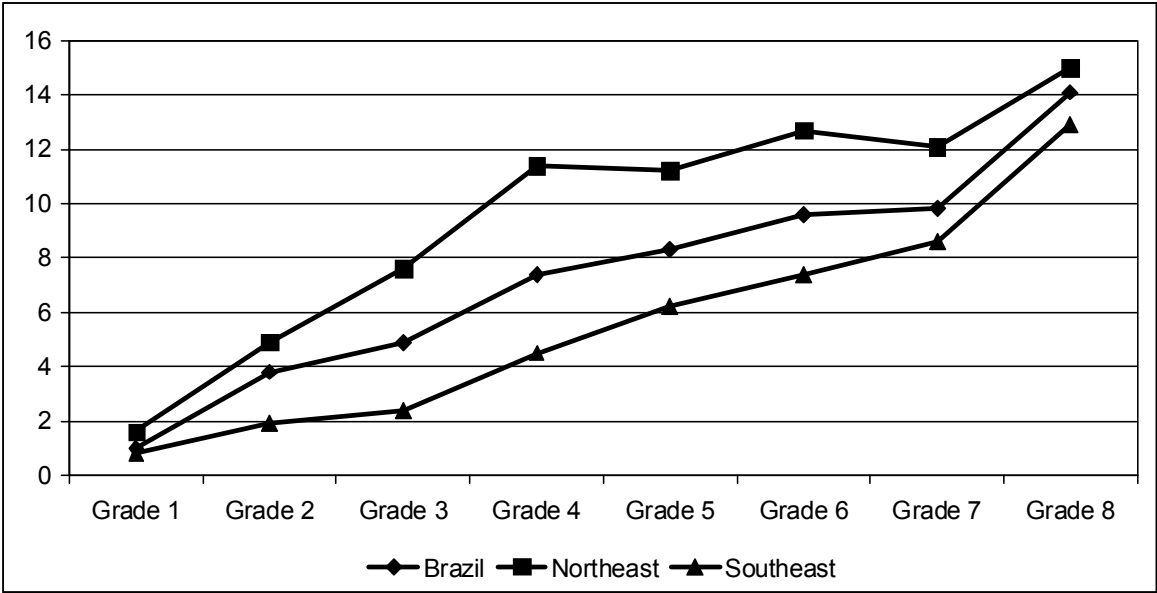
Figure 2: Repetition rates (%) in Brazilian primary education (for country and selected regions), 1995–2005



Source: Edudatabrasil, INEP/MEC.

Repetition rates are highest in the initial years of primary education, while drop out rates increase over time (figure 3). As we will discuss in the next section, this increase in drop out is associated with the low socioeconomic status of the population, especially in the North and Northeast regions, where the drop out rates are much higher between grades 4 and 7. We can also see that the drop out rates for the entire country are very high at the 8th grade level, indicating that a large proportion of students do not enter the intermediate level of education, probably because of their need to enter the labor market. In 2005, approximately 54 % of the students enrolled in grade 1 concluded their primary education (Northeast: 38.7 %; Southeast: 66.6 %). Although the completion rate increased by about 5–10 % in most regions after 1995 (with the exception of the Northeast region), the situation is still unsatisfactory. Due to high repetition rates, students on average need 10 years to graduate from primary education (Northeast: 11.1 % Southeast: 9.2 %; see Edudatabrasil, INEP/MEC).

Figure 3: Drop out rates (%) by grades in Brazilian primary education (for country and selected regions), 2005



Source: Edudatabrasil, INEP/MEC.

Students who have repeated at least one school year perform remarkably poorer on tests in language and mathematics than students who did not (Castro, 2009; Schuchart, 2009). In Castro (2008), the analyses of a large scale evaluation applied in the Northeast state of Bahia in 2004 show that the mean scores of students who repeated at least one grade approached those of students who had not attended school for more than one year. Similar results are obtained using data from the national evaluation system SAEB (Klein, 2006, p. 152). These findings seem to indicate that repetition as practiced by most Brazilian schools does not contribute to the correction of student defi-

ciencies, nor does it result in improved school performance. Furthermore, repetition is associated with reduced self-esteem, negative attitudes towards school, and increased behavioural problems (Brophy, 2006, p. 15, in a brief summary of international studies). It is easy to understand that repetition, low achievement and fragile self-esteem form a vicious circle that often leads to dropping out of school.

Repetition and drop out are associated with high individual and social costs. Adults with incomplete primary education are more often affected by unemployment, poor health and living conditions, and low life expectancy than adults who have completed primary or even intermediate level education. These risks are transferred to the next generation: In Brazil, more than two-thirds of the children whose mothers stayed in school less than 5 years live in families with a per capita income that is only half the national minimum wage or less (UNESCO, 2008). As a result, these children run a higher risk of repetition and drop out than children from wealthier families.

3. Reasons for grade repetition and drop out

Factors that contribute to the shortcomings of primary education are related to school and system quality and also to the socioeconomic conditions of the students. Poverty and its implications like malnutrition, disease, and early parenthood (Cardoso & Verner, 2007) have a strong impact on school attendance behaviour and learning progress. Children from poor families often fail due to health problems, exhibit slower learning progress and cannot keep up with the learning pace of the class. Child labor plays a crucial role here: researchers point out that poor families impede the regular school attendance of their children because these families rely on their children's labor and monetary contributions (Gomes-Neto & Hanushek, 1994; Alves, Ortigão & Franco, 2007). Cardoso and Verner (2007) show that this problem applies to rural areas in particular. Accordingly, the highest amount of grade repetition and drop out in Brazil can be found in the North and Northeast regions, which are primarily agricultural and where around half of the population live below the poverty line.

A longitudinal study by Gonçalves, Rios-Neto and César (2008) deals with data from Brazilian students enrolled in schools in selected Northeast and Midwest states. The cohort was tracked from their enrolment in the 4th grade in 1999 until 2003, when they were expected to finish the 8th grade. It was found that factors related to school quality have less impact on drop out than family background, as measured by socioeconomic status (see also Bedi & Marshall, 1999 for Honduras). In spite of that finding, school quality still plays an important role in repetition and drop out rates. As a result of grade repetition, class size increases significantly. This problem is even more severe in Brazil, where dramatically increasing numbers of students have had to be enrolled in primary education in the last decades. Since grade repetition is associated with motivation and school attitudes, classes with large numbers of repeaters pose more challenges to the teaching and classroom management abilities of teachers.

However, in many countries teachers are not prepared to treat such classes differently (Brophy, 2006) to prevent future repetition and drop out. At the school level, Brazilian schools with high repetition rates also have less experienced teachers and school principals (Schuchart, 2009). At those schools, teachers are less committed to behavioural and pedagogical norms and – from the perspective of students – act in a less supportive manner (*ibid.*). Since these correlations stem from cross-sectional data, it is difficult to say anything about their causal direction. In an earlier study, Armitage, Gomes Neto, Harbison and Holsinger (1986) trace repetition back to poor quality teachers, lack of writing materials, textbooks and a lack of time spent at school. However, Willms and Somers (2001) found that in Brazil, of a number of classroom and school characteristics, only the presence of instructional materials reduces drop out to a small extent.

Few studies analyse the interaction between school quality and family decision making. In their analysis of a longitudinal survey of primary school students in Egypt, Hanushek, Lavy and Hitomi (2006) analyse whether school quality – measured in terms of gains in achievement at the school level – influences drop out behaviour. They emphasize that when individual ability and achievement are equal, a student attending a higher quality school will tend to stay in school, while a student attending a lower quality school will not. In contrast, in their study of Hondurian primary schools, Bedi and Marshall (1999, p. 669) find no clear and consistent effects for school quality on attendance rates. However, there seem to be indirect effects: higher school quality leads to better achievement scores and higher achieving students attend school more regularly than lower achieving students. That may be an indicator for the positive effect of school quality on the parental demand for schooling (for secondary schools in the United States, see also Mora, 1997).

In all, drop out and grade repetition can be traced back to many factors, which highlights the need for public policies that combat poverty as well as educational policies that encourage students to remain in school and preferably to be promoted regularly to successive grades. Brophy (2006) points out that initiatives addressing individual and institutional causes of grade repetition and drop out may be most effective. Since repetition often leads to drop out, and in Brazil the repetition rate is extraordinarily high in all primary education grades, it may be inevitable to address not only the reasons, but the problem itself as well. In the following, programs focussing on various aspects of grade repetition and drop out will be presented.

4. Educational policy efforts

4.1 Political framework

As mentioned above, Brazil has introduced policy strategies at the federal level to fight for increased school quality subsequent to its commitment to EFA. Three major ele-

ments of the national education policy might be mentioned here: Constitutional Amendment 14 (passed in 1996), the ‘National Education and Framework Law’ of the same year, and the ‘National Education Plan’ (Prado, 2000; National Report: Brazil, 2000). Constitutional Amendment 14 facilitated a far-reaching reform of the system of financing education by creating the ‘Fund for the Maintenance and Development of Primary Education and Teacher Improvement’ (*Fundo de Manutenção e Desenvolvimento do Ensino Fundamental e de Valorização do Magistério*, FUNDEF). This fund, which was implemented in all Brazilian states in 1998, redistributes resources proportional to the number of students enrolled in the respective state and municipal primary education system and guarantees that a minimum amount of money will be spent per student per year. Since there was no tax sharing for educational reasons among the states and municipalities before 1998, FUNDEF tackled one of the main roots of the inequity characterising Brazil’s educational system. Constitutional Amendment 53 of 2006 expanded this fund to encompass all basic education (pre-school education, primary education, and middle level education) and was renamed the ‘Fund for the Maintenance and Development of Basic Education and Improvement of Professional Educators’ (*Fundo de Manutenção e Desenvolvimento da Educação Básica e de Valorização dos Profissionais da Educação*, FUNDEB).

The ‘National Education and Framework Law’ (*Lei de Diretrizes e Bases da Educação Nacional*) stipulates the establishment of a ‘National Education Plan’ (*Plano Nacional de Educação*, PNE), which had to contain directions and goals in education for the next ten years. The PNE was implemented in 2001 and, among other goals, aimed to reduce repetition and drop out rates by 50 % in 2010. In 2007, the federal government launched the ‘Plan for the Development of Education’ (PDE), which, beyond determining a set of actions necessary to achieve the goals of the PNE, proposes a systematic vision of education which implies the acknowledgement of the connections between basic education, higher education, technical education and literacy. Based upon these connections, PDE outlines educational programs aiming to achieve reciprocal reinforcement of the different levels of education.

Against this political backdrop, a wide range of programs and actions to reduce repetition and drop out have been introduced by federal and state governments (Prado, 2000, p. 50). Since Brazil is politically decentralized, all programs were administered in a decentralized fashion by states or municipalities. Accordingly, the quality of implementation across states and local governments was considerably heterogeneous.

4.2 Conditional cash transfer programs: *Bolsa Escola / Bolsa Família*

School failure that results from sporadic school attendance related to health and nutrition problems and child labor is addressed by governmental social protection programs and financial incentives to keep children in schools. Since regular school attendance entails not only the direct, but also the indirect costs of time in school – families may

forgo additional incomes if children stay at school – several programs have gone beyond reducing the direct costs of schooling and instead pay the families who keep students at school. These programs are called ‘conditional cash transfer programs’ and have been carried out in many Latin American countries (Parker et al., 2008). In the context of conditional cash transfer programs, payments are made depending on whether conditions such as regular school attendance, compliance with health requirements, etc. are fulfilled. Conditional cash transfer programs represent an institutional advancement in the fight against extreme poverty and inequality. The establishment of conditionalities makes the program a long term policy which aims to provide conditions for its beneficiaries to autonomously generate future income, by means of investment in human capital. The policy seeks to make structural changes in the socio-economic situation of beneficiaries and tries to break the cycle of poverty (Tavares, Pzello, Fernandes & Camelo, 2009).

In Brazil, the *Bolsa Escola* program was implemented at the municipal level in 1995; however, the program had only been adopted by 60 municipalities by 1999 (World Bank, 2001). In 2001, the program was taken up by the federal government and expanded rapidly. By the end of 2001, almost 5 million families in more than 5,000 municipalities were receiving a monthly cash payment (Glewwe & Kassouf, 2010, p. 4). Under Brazil’s social-democratic government, the program was renamed *Bolsa Família* in 2003 and the selection criteria were facilitated: While *Bolsa Escola* only benefited poor families with children aged 6–15 years, *Bolsa Família* includes families in poverty (i.e. monthly per capita income between 40 and 80 US dollars) and families in extreme poverty (i.e. monthly per capita income below 40 US dollars). Poor families are included only if they have children younger than 18, pregnant women, or nursing women, while all families with incomes lower than 40 US dollars per capita can participate in *Bolsa Família* – regardless of the ages of the family members. The sums paid by the program per family range from 12 to 114 US dollars per month; the sum paid in each case is based on monthly per capita income, and the number of children and adolescents (up to three beneficiaries). By 2007, the program had reached more than 11 million families (one-fourth of Brazil’s population) and distributed sums equivalent to 0.5 % of Brazil’s GNP (ibid.). The *Bolsa Família* program requires that each child aged 6–15 is enrolled in school and attends school at least 85 % of the time. Pregnant women and mothers must comply with prenatal care attendance, child growth check-ups, and vaccination schedules (ibid.).

4.3 Programs combating the age-grade gap: Catch-up classes

In Brazil, projects which aim to correct the age-grade gap have existed since the 1950s (Cenpec, 2008), though until relatively recently these projects were scarce. Only during the 1990s did states and municipalities become increasingly interested in comprehensive solutions regarding the problem of the age-grade gap. Two main approaches

can be discerned: automatic promotion, where students are promoted to the next grade at the end of the year regardless of their improvement regarding learning outcomes, and so-called catch-up classes. Catch-up classes are special classes in primary education for students with an age-grade gap of two or more years which enable them to complete the necessary learning, so that they can join the more advanced classes they should be attending at their age. Students in these catch-up classes may pass a maximum of three grades a year in order to progress to the grade appropriate for their age. Since 1995, states such as Maranhão, São Paulo, Bahia and Paraná have implemented catch-up classes. In the state of São Paulo, catch-up classes were implemented in 160 schools in 1996, a number which was increased to 801 in 1997 (Prado, 2000). In 1997, the Ayrton Senna Institute launched the ‘Accelerate Brazil Program’ (*Programa Acelera Brasil*, PAB), which had benefited children in grades 1–4 from 319 municipalities in 18 states by the 2000 school year. In 1998, the program was amplified to 24 states and 719 municipalities. Table 2 shows that in 1998, more than one million students were enrolled in catch-up classes in Brazil; almost half of them lived in the Northeast region, with the highest concentration of students in the state of Bahia. Since the 2000 school year, enrollment in catch-up classes has steadily declined due to lower numbers of overage students and a change in the focus of the Federal Ministry of Education (Cenpec, 2008). Without the support of the federal government, many states and municipalities have withdrawn their commitment to the programs (*ibid.*). As a result of the disappointing findings of the national and state achievement evaluations regarding the strong correlation between repetition and average achievement scores, the issue of the age-grade gap has received increased attention since 2007.

Table 2: Enrolment in Brazilian catch-up classes (total numbers) in primary education (for country and regions), 1998–2009

| Year | Total | North | Northeast | Southeast | South | Midwest |
|------|-----------|--------|-----------|-----------|---------|---------|
| 1998 | 1.189.998 | 29.454 | 411.719 | 563.964 | 153.789 | 31.072 |
| 2001 | 1.125.665 | 44.513 | 798.403 | 60.146 | 142.698 | 79.905 |
| 2008 | 221.812 | 30.469 | 89.810 | 68.782 | 4.032 | 28.719 |
| 2009 | 270.493 | 32.347 | 84.654 | 123.864 | 6.443 | 23.185 |

Source: Censo Escolar (INEP/MEC).

The aim of PAB was to demonstrate that it is possible to correct the age-grade gap of a large population of primary level students in the public school system in no more than 4 years (Oliveira, 2002). Between 1997 and 2000, a total of 58,258 students in the entire country were part of the program (*ibid.*, p. 6). Oliveira (2001, 2002) points out that PAB was not simply intended to accelerate students’ progress, but was also

meant to consolidate their school career and enable them to complete school. PAB included a rich variety of diagnostic and training materials for teachers and working materials (books, maps, journals) for students who were able to read and write. Since 20–40 % of delayed students were identified as illiterate, these students had to be taught to read and write before entering PAB. An important feature of the program was the implementation of systematic internal and external evaluations. Teachers participated in weekly supervisions and biweekly meetings organized by local coordinators, including evaluation, exchange of experiences and cooperative planning of future classroom activities. Data was collected regarding the daily participation of students in the classroom, the presence of teachers at meetings, the work of supervisors and local coordinators, and classroom activities. An external institute (*Fundação Carlos Chagas*) collected achievement data on language and mathematics before and after the implementation of the program (ibid.).

The state of Bahia (Northeast region) further developed the concept of PAB and enlarged its scope from the elementary level to the intermediate level (Oliveira, 2001). Since 40 % of all overage students in grades 1–4 were identified to be illiterate, the program ‘Education for Victory’ (*Educar Para Vencer*, EPV) at the elementary level was divided into two parts: a program focusing on illiterate students in grades 1–4 and a program focusing on literate students in grades 1–8. Students successfully passing a literacy course were to subsequently progress to the next grade or to join a catch-up class (ibid.). The program was initiated in 2000 in 45 municipalities (24,474 students), and expanded to 126 municipalities in 2001. Although the program was conceptualized for a period of 4 years, it was implemented for only 2 years at the school level to avoid the perpetual installation of “special classes for delayed students” (Oliveira, 2001, p. 4). The program for grades 5–8 was divided into two parts, A and B, each of which lasted one year. Students participating in part A were to successfully complete 80 % of the achievement tasks for grade 4 students in the national evaluation test SAEB and to join part B in the following year. Like the PAB, teachers and students participating in EPV were accompanied by supervisors and coordinators at the municipal level.

4.4 Programs aiming to improve school quality:

Fundescola and the ‘School Development Plan’ (PDE-Escola)

Delegation of responsibilities to schools and communities has been implemented by a wide range of countries all over the world (De Grauwe, 2005; Fullan & Watson, 2000). In the design of these educational policies, school-based management (SBM) has become an accepted model to empower schools and enhance parental involvement (Cardenas, 2008). A general definition of SBM has been presented by De Grauwe (2005, p. 271): “School based management involves the transfer of decision-making power on management issues at school level”. However, there is great variation in the

type of decisions transferred and in those who receive the authority to make these decisions (ibid.). According to Bracho (2003), SBM is based on two assumptions: First, the decentralisation of decision-making power to the school level is the best way of achieving a more efficient allocation of resources, and second, promoting the involvement of parents, schools and communities will result in increased political legitimacy, as educational authorities are made more aware of the needs of local constituencies.

In Brazil, SBM has been tested in varying forms and to varying degrees since 1982 (Cardenas, 2008). One of the most recent programs is the Fund School Program (*Fundescola*), which originated from a financial agreement between the Federal Ministry of Education and the World Bank and which provided the conditions for SBM. The main concern of *Fundescola* was to promote various tools to improve the quality of schools and to ensure a longer-term attendance of students in public primary education (Oliveira, Fonseca & Toschi, 2005). At the national level, the *Fundescola* program has the following objectives: 1) to increase the number of students graduating from primary education by 70 %; 2) to increase the number of students who are promoted to the next grade in elementary education by 15 %; 3) to increase the number of students who at least attain an average level of achievement (Oliveira et al., 2005)². The selection of schools for the program is based on region and income: Schools with high numbers of poor children in crowded areas of the most impoverished Brazilian regions (the North, Northeast and Midwest) were chosen.

The *Fundescola* program favors the development of actions to be planned in tandem with other government educational programs, including (amongst others) the ‘Program of Direct Financial Resources to Schools’ (*Programa Dinheiro Direto na Escola*, PDDE), the ‘Program for the Management of Learning’ (*Programa Gestão da Aprendizagem Escolar*, GESTAR) and the ‘School Development Plan’ (*Plano de Desenvolvimento da Escola*, PDE-*Escola*) (Oliveira et al., 2005). The latter is considered to be a major tool in assisting the transformation of schools from “rigid and unfocused bureaucracies to dynamic environments that maximize learning for all children” (Amaral Sobrinho & Almeida Neto, 2001, cited by Carnoy, Gove, Loeb, Marshall & Socias, 2008, p. 23). The PDE-*Escola* can be understood as a set of guidelines that directs schools to diagnose their most serious problems and to develop their own plans to address these problems. The *Fundescola* program then provides funds to support schools in reaching their goals. In 1998, the project began with a group of 401 schools in 9 states, and was extended to more than 5,600 schools in 2001 (Carnoy et al. 2008, p. 23). More than a million dollars were spent on the program.

5. Evaluation studies

Various information sources were used to identify studies for this review. First, the available data bases and internet sources (ERIC, Google Scholar) were searched. In

addition, other reviews of outcome research were used to identify additional studies. Third, as studies were identified, the reference lists of these studies were checked in order to find other potential studies. For its inclusion in the present review, a study had to meet the following criteria: a) the study had to be an outcome study that evaluated the intervention and measured some degree of change, b) the measures had to be of a quantitative nature, c) the sample had to include students in primary education and d) the study had to be published in an official context (for instance, by the Federal Ministry of Education) or in a scientific journal. Overall, few Brazilian evaluation studies exist for the selected subject areas. Applying these four criteria, we found 8 studies which, admittedly, differ remarkably in quality. Since different design and sample characteristics impede the simple comparison of study results, we provide some basic information on study characteristics before presenting the main findings. An overview is given in table 3.

5.1 Bolsa Escola / Bolsa Família

Since conditional cash transfer programs have been implemented in many Latin American countries, their impact on education has been evaluated in several studies. Most of these studies show a positive influence on enrolment and promotion to higher grades and a negative influence on drop out (for an overview, see Parker et al., 2008; Glewwe & Kassouf, 2010). Findings vary on the degree of effects and on the effects for different groups (girls vs. boys, elementary vs. intermediate level students). In Brazil, a number of evaluation studies have been conducted, of which we only consider those focusing on educational outcomes. The first evaluations were done in the Brazilian Federal District, where the program was initiated. Waiselfisz, Abramovay and Andrade (1998) collected data from 1,071 beneficiaries and non-beneficiaries in grades 5–8 in 1997 when the first year of *Bolsa Escola* was completed. Additionally, they analysed a subsample of the 1997 national evaluation data (SAEB) for 3,226 grade 4 students, including 697 beneficiaries. They found lower repetition rates for beneficiaries compared to non-beneficiaries (ibid., p. 132) and no achievement differences in grade 4 between the two groups (ibid., p. 134). Similar results are provided by an analysis carried out by the World Bank (2001), which also found a higher grade passing rate among beneficiaries compared to the state level in general. However, these studies did not account for initial differences between the groups of beneficiaries and non beneficiaries (Glewwe & Kassouf, 2010, p. 3), and provided no detailed information on sample characteristics.

More recent studies use large collections of survey data. De Janvry, Finan and Sadoulet (2009) collected the school records of 290,517 children over the 1999–2003 period (two years before the *Bolsa Família* program started, and three years after the program began) in 5 states in the Northeast region. Information on attendance and drop out rates and beneficiary status was available for each child for each year. Controlling

for time effects, their estimates suggest that *Bolsa Família* reduced drop out rates by about 8 percentage points for beneficiaries (ibid., p. 15). Due to the lack of student and household characteristics, however, this estimate is somewhat imprecise.

Glewwe and Kassouf (2010) use Brazilian school census data from 1998 to 2005 to create a panel of schools by merging the census data from this period. In 2005, 107,243 schools had data for the entire period of time. The explanatory variable was whether at least one student at the school participated in the *Bolsa Família* program. The authors estimate regressions that control for fixed effects based on year and school, and composition characteristics. In grades 1–4, the presence of the *Bolsa Família* program at schools reduces the drop out rates (grade passing rates) by 0.3 (0.5) percentage points after one year and by about 0.5 (1.0) percentage points after two years. In grades 5–8, the program reduces drop out rates and raises grade passing rates by about 0.3 percentage points. Accumulated effects over time are not reported for this group. For grades 1–4, the program seems to have different effects on schools depending on their characteristics (e.g. the presence of libraries, TV programs, or computer labs), but overall it is difficult to interpret the results systematically. While this study is methodologically elaborate, it suffers from a lack of individual data. The aggregated data base allows no estimation of individual benefits or benefits of sub-groups such as girls or black students.

Overall, as in other Latin American studies on conditional cash transfer programs, the four studies examined here demonstrate that the *Bolsa Escola/Bolsa Família* programs help to reduce drop out and to enhance promotion rates (for an overview, see table 3 at the end of this article).

5.2 Catch-up classes

Only few studies have evaluated the impact of catch-up classes. One such study, carried out by Oliveira (2002), bases its analyses of PAB on a study carried out by a non-governmental institute, the Carlos Chagas Foundation (*Fundação Carlos Chagas*). Data was collected annually from participants from 1997 to 2000. The sample consists of 51,340 students in 24 municipalities, which are compared to school census data at the national level (ibid., p. 184). The comparison indicates that the drop out rates of beneficiaries were lower and grade passing rates were higher over the duration of the program (no exact figures are provided). In 2001, former participants who had been promoted to the next grade were compared to regular students: about 65 % (77 %) of all former beneficiaries (regular students) were promoted to the next grade, while about 10 % (25 %) dropped out of school (ibid., p. 191). Furthermore, tests taken from the National Basic Education Evaluation System (SAEB) were applied to a subsample of participants and a descriptive comparison was made with the average national achievement test scores. The results show that graduates of catch-up classes do not reach the nation's average achievement level in mathematics and language.

In order to evaluate the EPV program in the state of Bahia, data was collected from 46,896 beneficiaries in grades 1–8 by state education authorities in the 2000 school year. Oliveira (2001) compared this data to the school census data from that year. Of all students enrolled in catch-up classes in elementary education, 9.7 % dropped out of school (2000 school census data: 16 %). At the end of the school year, 96.6 % of all students still enrolled were promoted to the next grade (2000 school census data: 85.8 %, Oliveira, 2001, p. 8). A majority of beneficiaries (60 %) even skipped the next grade and were instead transferred two grades ahead (*ibid.*).³ In contrast, grade passing rates (59 %) are remarkably low in grades 5–8, mainly due to high drop out rates (24.4 %, Oliveira, 2001, p. 13; in comparison, the state average grade passing rate is 75.7 %, while the state average drop out rate is 14.6 %). Furthermore, the average achievement of students participating in catch-up classes in mathematics and Portuguese was compared to the achievement data of regular students in grade 4 which was derived from a state-wide evaluation study. At the elementary level, there was no difference between the two groups (*ibid.*, p. 11). At the intermediate level, students in catch-up classes in grades 5–8 were compared to regular students in grade 4, the idea being that EPV participants who successfully completed 80 % of the grade 4 achievement test would possess the ability level required to be transferred to part B of EPV. However, both regular students and EPV participants only successfully completed about 50 % of the test requirements on average. Given the age and the intensive learning experience of EPV participants, their slight advance of 3.5 points in Portuguese and 2.6 points in mathematics is far lower than expected.

The rather disappointing results of catch-up classes in achievement tests are substantiated by an evaluation of the program in the state of São Paulo (Placco, André & Almeida, 1999). The sample included 1,954 students who stayed in catch-up classes for one year and then graduated successfully, and regular students in grades 4 and 5. Former graduates of catch-up classes in grades 4 and 5 scored significantly lower on mathematics and language tests than regular students in the same grades (Placco et al., 1999, p. 68). Since overage students often have low levels of self-esteem due to their repeated experiences of school failure, catch-up classes often aim to sustain aspects of these students' personalities. However, results of the same study indicate that regular students with high self-esteem outnumber catch-up class graduates with high self-esteem by as much as two to one (urban schools, grade 4: 54.3 % / 25 %; grade 5: 48.7 % / 22.9 %, *ibid.*, p. 66).

Overall, the evaluation studies cited here have several shortcomings. First, and most importantly, none of them account for initial differences between participants and non-participants. Thus, it is unclear to what extent characteristics such as age, family background and cognitive capacity account for the differences between beneficiaries and regular students. Second, information on sample and test characteristics is rarely provided, so it is not clear what general conclusions can be drawn from the data. Bear-

ing these caveats in mind, the positive effects on repetition and drop out in initial primary education have to be treated with caution (see table 3 for an overview). The same is true for the heterogeneous effects on promotion rates for all levels of primary education. In order to find out whether catch-up classes can work or not, more detailed studies should be conducted.

5.3 PDE-*Escola*

Despite the high expectations placed on school-based management, the findings on its impact on school quality vary. Most of the evaluation studies conducted in Latin America show a positive impact on enrolment rates, a moderate negative impact on drop out and repetition rates, and little to no positive impact on student achievement (Cardenas, 2008; World Bank, 2001, p. 8). In an early study, Paes de Barros and Mendonça (1999) showed for the 1981–1993 period in Brazil that democratic and decentralized innovations in school management (transfer of funds to school, creation of school councils, and election of school principals) had a modest positive impact on the repetition rate and the age-grade gap at state level. Against the background of the *Fundescola* program, Carnoy et al. (2008) analysed the effectiveness of PDE for the 1998–2001 period. The authors expanded the traditional dummy-variable approach by assessing *how* PDE was implemented in schools and are therefore able to better determine the mechanisms linking PDE participation to student outcomes (ibid., p. 23).

The study is based on longitudinal data collected from 1998 to 2001 in 176 PDE and non-PDE schools on school and student characteristics (grades 4–6) as well as student achievement in mathematics and Portuguese. The impact of PDE on individual academic achievement, grade passing and drop out rates was analysed. Impact analyses on achievement scores were conducted at the individual level. Since measures of drop out and grade passing were only available from school census data, the analyses could only be conducted at the school level. Using multivariate analyses, Carnoy et al. (2008) controlled for student and family characteristics, teacher and school characteristics, and parents' school selection (i.e. whether parents actively chose a school or not).

PDE was found to have no effect on student achievement. However, within the schools participating in the PDE program, achievement scores in both mathematics and Portuguese were higher in schools that received higher funding (ibid., p. 29). Spending money on furniture and learning materials proved to be most effective, even though it is not readily obvious why purchasing new chairs and desks should enhance student learning. The results on grade passing are more favorable for the PDE program: For grade passing, the PDE program has significant and positive effects. Since the models control for school characteristics like average teacher education and average parental education, the effect of PDE cannot be traced back to initial differences between schools. In order to know if the increase in grade passing is related to an im-

provement in teaching and learning, the authors control for average test scores in mathematics and Portuguese. The remaining effects of the PDE program indicate that the increase in passing rates is not related to an improvement in academic achievement (ibid., p. 36). Regarding drop out rates, PDE schools have no statistically significant effects when controlling for observable differences. The analyses on grade passing and drop out are not extended by analyses on *how* PDE affects the improvements presented.

In all, the study by Carnoy et al. (2008) confirms the results of the earlier Brazilian study of Paes de Barros and Mendonça (1999) and other Latin American studies by demonstrating that school based management strategies can have moderate positive effects on attendance behavior.

6. Summary and discussion

Primary education in Brazil is plagued by high grade repetition and drop out rates. A large proportion of students do not complete grade 8. Even those students who manage to master primary education exceed the intended time of 8 years by about two years on average. This problematic situation can be traced back to poverty and its implications like malnutrition, diseases, early parenthood, and child labor. Another reason can be found in the lack of teacher and school quality. Teachers and schools are often not prepared to deal with high numbers of grade repeaters and to prevent drop out.

Since the mid-1990s, Brazil has developed a wide range of programs and strategies to fight the problem of quality in education. We concentrated on three such programs which address different aspects of the problem: Conditional cash transfer programs such as *Bolsa Escola/Bolsa Família* intended to tackle poverty; programs on school based management such as the 'School Development Plan' (PDE-*Escola*) intended to increase individual school quality; and programs on catch-up classes for overage students address the problem of repetition directly. Since the Brazilian educational system is decentralized, the federal government was only able to define the political and financial framework. Goals and general strategies were developed as part of Brazil's national education plans, and financial conditions were provided by programs such as FUNDEF and *Fundescola*.

In this article, we have given an overview of evaluation findings on the impact of the programs selected. We discussed 8 studies which evaluated whether grade repetition, drop out, grade promotion and achievement were affected by the selected programs. For the *Bolsa Escola/Família* program, the four studies examined here demonstrate a reduction in drop out rates, and one of them highlights an increase in promotion rates. Overall, these positive results correspond to the evaluation findings on similar programs in Latin America. However, a study by the Getulio Vargas Foundation (FGV, 2009) on the individual reasons for school drop out among 15 to 17-year-

olds shows that 40.3 % name the lack of intrinsic interest while 27.1 % name the need for work and income as motive for their decision to drop out. Thus, policies for the provision of educational credit, granting of scholarships and conditional cash transfers have limited potential, as they only affect socioeconomic conditions which influence attendance behavior. As cited above, some studies indicate that poor school and classroom quality lead to a decrease of individual demand for schooling because parents and students may not invest in education if they do not expect certain benefits (Hanushek et al., 2006; Bedi & Marshall, 1999; Mora, 1997). This leads to the conclusion that the Brazilian school system must undergo a profound reform in order to become more interesting and attractive for parents and students.

The findings on catch-up class programs were heterogeneous. First of all, studies in this field lack methodological standards and consist only of descriptive comparisons and (if at all) bivariate testing. Given the goal of reducing the age-grade gap among students, the programs cannot be considered successful: For instance, the proportion of overage students in Bahia decreased only slightly during the period of the EPV program. Often the progress of the students is restricted to the period during which they participate in those classes, when they receive more individual attention from their teachers and when they feel more comfortable with fellow students who are experiencing similar difficulties (Placco et al., 1999). Qualitative studies indicate that often schools lacked adequate space, teachers were not properly prepared to use the learning material provided by the programs, and funds were not always received in time to carry out planned activities. The catch-up classes may have theoretically been a good initiative, but because of these and similar shortcomings, their impact on the further learning progress of their students is limited.

Only one study was carried out in Brazil to analyse the impact of PDE-*Escola* on student outcomes. Since Carnoy et al. (2008) control for a wide range of initial school and student differences, their findings can be considered very reliable. They find that PDE schools show higher promotion rates, which are, however, not related to improvements in learning outcomes. The authors consider the gains in grade passing to be “artificial” (Carnoy et al., 2008, p. 28), but give rise to the concern that standardized tests are hardly ever perfect measures of learning in schools. Since programs based on the idea of school-based management invite schools to develop their own strategies according to the problems they identify, it is not surprising that analyses on ‘what generally works’ have only led to inconclusive findings. Overall, the study by Carnoy et al., as well as other Latin American studies on school-based management, indicates that problems of repetition, drop out, and the age-grade gap are more easily affected than achievement. In fact, repetition rates and the percentage of overage students in Brazil have trended downward in recent years, but the national educational assessments that have been conducted since the 1990s (National Assessment of Basic

Education; SAEB/INEP/MEC) show no significant improvement in the achievement of Brazilian students (Klein, 2006, p. 148).

In Brazil there is a growing demand for education. Brazilians are increasingly aware of the importance of education, and many parents enroll their children in the hope of providing them the opportunity to seek a better future. According to Klein (2006, p. 158), two goals must be pursued to ensure efficiency and quality of education: repetition and drop out rates must be lowered to values below 5 % and 1 % (respectively) and at least 75 % of students shall achieve a satisfactory proficiency at the end of a grade. The programs analyzed in this paper have some potential to reduce repetition and drop out, but leave much to be desired in terms of improving performance. The implementation of educational programs by schools and their teachers should take into account the results of national evaluation programs, particularly analyses on the most common mistakes committed by students. Thus, programs should increasingly focus on the implementation of effective teaching methods which are tailored to the reality of students. Moreover, teachers should be more well-versed in the content they teach. Finally, we can say that Brazilian education has evolved over recent decades, but a long and difficult way still lies ahead.

Table 3: Impacts of policy programs in Brazil

| Impact indicator | Program | Impact of program | Groups | Years under evaluation | Sample | Study type | Authors |
|------------------|------------------------|------------------------|---------------------------------|------------------------|--|------------------------------|-------------------------|
| Repetition | Bolsa Escola | Lower rates | Grade 4 | 1997 | 1.071 beneficiaries and non-beneficiaries (Federal district) | descriptive | Waiselfish et al., 1998 |
| | | | Grades 5–8 | 1997 | 3.226 beneficiaries and non-beneficiaries (SAEB data, metropolitan district) | descriptive | |
| | | | 10–14-year-olds | 1995–1996 | Beneficiaries (no sample characteristics provided) School census data | descriptive | World Bank, 2001 |
| Drop out | Catch-up classes (PAB) | Reduction Increase | Grades 1–4 | 1997–2000 | 51.340 participants of catch-up classes in Brazil School census data | descriptive | Oliveira, 2002 |
| | | | Grades 3–6 | 2001 | Graduates from catch-up classes Regular students | descriptive | Oliveira, 2002 |
| | Bolsa Escola | Reduction | 10–14-year-olds | 1995–1996 | Beneficiaries (no sample characteristics provided) School census data | descriptive | World Bank, 2001 |
| | Bolsa Família | Reduction | Primary and secondary education | 1999–2003 | 290.517 beneficiaries and non-beneficiaries, Northeast region | multivariate analyses | de Janvry et al., 2007 |
| | Bolsa Família | Reduction Reduction | Grades 1–4 Grades 5–8 | 1998–2005 | 107.243 schools | multivariate multivariate | Glewwe & Kasouf, 2010 |
| | Catch-up classes (EPV) | Reduction | Grades 1–4 | 1997–2000 | 13.484 participants of catch-up classes (state of Bahia) School census data | descriptive | Oliveira, 2001 |

| Impact indicator | Program | Impact of program | Groups | Years under evaluation | Sample | Study type | Authors |
|------------------|------------------------|-------------------|-----------------|------------------------|---|--------------|-----------------------|
| | Catch-up classes (EPV) | Increase | Grades 5–8 | 1997–2000 | 33.412 participants of catch-up classes (state of Bahia) School census data | descriptive | Oliveira, 2001 |
| | Catch-up classes (PAB) | Reduction | Grades 1–4 | 1997–2000 | 51.340 participants of catch-up classes in Brazil School census data | descriptive | Oliveira, 2002 |
| | PDE | Reduction | Grades 3–6 | | Graduates from catch-up classes; Regular students | descriptive | Oliveira, 2002 |
| | | no difference | Grades 4–6 | 1998–2001 | 179 PDE and non-PDE schools | multivariate | Carnoy et al., 2008 |
| Promotion | Bolsa Escola | Higher rates | 10–14 year-olds | 1995–1996 | Beneficiaries (no sample characteristics provided) School census data | descriptive | World Bank, 2001 |
| | Bolsa Escola | Higher rates | Grades 1–8 | 1998–2005 | 107.243 schools | multivariate | Glewwe & Kasouf, 2010 |
| | Catch-up classes (EPV) | Higher rates | Grades 1–4 | 2000 | 13.484 participants of catch-up classes (state of Bahia) School census data | descriptive | Oliveira, 2001 |
| | Catch-up classes (EPV) | Lower rates | Grades 5–8 | 2000 | 33.412 participants of catch-up classes (state of Bahia) School census data | descriptive | Oliveira, 2001 |
| | Catch-up classes (PAB) | Increase | Grades 1–4 | 1997–2000 | 51.340 participants of catch-up classes in Brazil School census data | descriptive | |
| | | reduction | Grades 3–6 | 2001 | Graduates from catch-up classes in Brazil; Regular students | descriptive | Oliveira, 2002 |
| | PDE | Higher rates | Grades 4–6 | 1998–2001 | 179 PDE and non-PDE schools | multivariate | Carnoy et al., 2008 |

| Impact indicator | Program | Impact of program | Groups | Years under evaluation | Sample | Study type | Authors |
|------------------|------------------------|--------------------|-----------------|------------------------|--|--------------|-------------------------|
| Achievement | Bolsa Escola | No difference | Grades 5–8 | 1997 | 3.226 beneficiaries and non-beneficiaries (national evaluation data, Federal District) | Descriptive | Waiselfish et al., 1998 |
| | Bolsa Escola | No difference | 10–14-year-olds | 1995–1996 | Beneficiaries (no sample characteristics provided) National Evaluation data | Descriptive | World Bank, 2001 |
| | Catch-up classes (PAB) | No difference | Grades 1–4 | 1997–2000 | No data provided | T-Test | Oliveira, 2001 |
| | Catch-up classes (PAB) | Higher achievement | Grades 5–8 | 1997–2000 | 5.860 participants of catch-up classes 27.174 regular grade 4 students (state of Bahia) | T-Test | Oliveira, 2001 |
| | Catch-up classes (PAB) | Lower achievement | Grades 3–6 | 1997–2000 | Graduates from catch-up classes Regular students | Descriptive | Oliveira 2002 |
| | Catch-up classes | Lower achievement | Grades 4–5 | 1997 | 1.954 students Graduates of catch-up classes and regular students, state of São Paulo | Descriptive | Placco et al., 1999 |
| | PDE | No difference | Grades 4–6 | 1998–2001 | About 4.919 students in 179 PDE and non-PDE schools | Multivariate | Carnoy et al., 2008 |

Notes

1. An individual is of appropriate age for a grade if he or she entered school at age 7 and progressed one grade each year. The age/grade gap is defined as the difference between the actual current age of an individual and the appropriate age for the grade he or she is attending.
2. This objective refers to grades 4 and 8 and defines different percentages for different regions (Northeast, North, and Midwest).
3. 72.4 % of students participating the literacy part of the program were considered to be literate at the end of the year and were promoted to the next grade. Oliveira (2001) discusses the high numbers of students who remained illiterate (27.6 %) and points out that in all, the program was successful in making the vast majority of students literate, who on average had attended school for three years without making any progress in reading and writing.

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