

# Chapter 1

## Basic Education

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## 1. Introduction

This chapter presents a synthesis of the situation in basic education<sup>1</sup> in Brazil and São Paulo State, focusing on primary and secondary education and analyzing pertinent issues and trends. Organized along similar lines to the previous publication (FAPESP, 2002), it covers the period between the mid-1990s and 2007.

Considering the aspects addressed, two points were evidenced by treatment of the data:

- The extensive coverage of the education policies implemented, especially inclusion of the poorest strata of the population in the school systems of Brazil and São Paulo State;
- The persistence of weak learning outcomes, as shown by pupil performance assessments.

It is important to note the improvements made to Brazil's system of educational statistics, a key instrument in the formulation and evaluation of public policy for the sector. Since the mid-1990s, the Anísio Teixeira National Institute for Educational Studies and Research (INEP), an agency of the Ministry of Education (MEC), has been responsible for improving the quality of the information generated, for standardizing concepts and indicators, and for conducting nationwide surveys and assessments.

Particularly in the context of intensifying decentralization, with growing municipalization of primary education and expansion of the networks of secondary schools run by state governments, the maintenance of comprehensive and standardized educational statistics has contributed significantly to the possibility of articulating policies on a national scale.

In the context of the knowledge society, where any economy's international competitiveness depends increasingly on its ability to meet growing demand for high levels of knowledge, education plays a crucial role. The requirements for citizenship and participation in the labor market call for individuals who have a solid general educational foundation and the ability to appropriate new information constantly. Given the immense disparities that characterize Brazilian society, this presents government with daunting challenges, especially the federal tier in terms of defining national policies capable of reducing inequality.

One final introductory point should be noted about this chapter. While we recognize the overarch-

ing importance of education at all levels, especially in today's world, the scope of the chapter is limited to basic education.

The next section deals with the educational context in Brazil in such a way as to assure the continuity of the indicators presented in the previous edition of this publication. It also presents an analysis of school enrollment and attendance by income and age group, for Brazil and São Paulo State.

Section 3 deals with the findings of the main basic education assessment exercises conducted in Brazil by local and international bodies.

Section 4 looks at the evolution of public policy for basic education and the legal framework since 2000, highlighting changes in the legislation on the structure and functioning of schools at all three levels concerned, as well as their funding.

## 2. The educational context in Brazil and São Paulo State

Access to basic education in Brazil advanced toward universalization in the mid-1990s. In primary education, enrollment reached levels above 95% in Brazil overall and in all regions, thanks largely to government policy aimed at maximizing attendance by the entire school-age population.

In secondary education, high rates of growth in enrollments in the 1990s, especially in the second half of the decade, were initially associated with strong expansion of demand, driven by both rising numbers of pupils leaving primary schools and significant numbers of young adults who had dropped out and now went back to school, above all because they realized the need for higher levels of educational attainment in order to enter the labor market.

In conjunction with measures designed to guarantee access to education, pupil retention was another focus for action by the public basic education system. Many state and municipal governments introduced measures and programs to reduce age-grade disparities, particularly by drastically reducing the high fail rates prevailing previously. These included learning acceleration programs and the implementation of cycles in primary education (see Box 1).

1. Basic education in Brazil encompasses early childhood or pre-primary education, primary education and secondary education.

## Box 1 – Organization of primary education in cycles

From 1996 on, the National Education Guidelines & Foundations Act, widely referred to by the acronym LDB (Brazil, 1996c), gave basic education managers numerous possibilities for organizing their school systems in pursuit of improved or guaranteed efficiency in the learning process (LDB, Chapter II, article 23). Organization in cycles was the model that replaced the traditional arrangement based on school years or grades, especially in primary education, because educators had in mind the need to offer pupils in the initial years of primary school a longer period to learn basic literacy skills. São Paulo State pioneered the use

of cycles. In 1983, well before the new LDB, the state's school network introduced the Basic Learning Cycle, reserving the first two years of primary school for the three Rs. In the early 1990s the city of São Paulo reorganized its primary school system into three cycles. In 1998 the state reorganized its primary schools into two cycles in accordance with a recommendation from the State Education Council. The first four years were renamed Cycle I and the fifth to eighth years became known as Cycle II. This is the model now adopted in most parts of Brazil. Whatever the model, however, passing or failing occurs only at the end of each cycle.

Adoption of a system of cycles in primary education<sup>2</sup> was based on the principle that pupils who are consistently failed and fall behind the age-appropriate grade or school year as a result are encouraged to drop out instead of being stimulated to learn more. However, a consensus regarding the cycle system has never emerged among educators or indeed in society as a whole. Initial resistance, certainly the most complex, came from teachers. A significant proportion saw the system as requiring them to pass pupils automatically and believed it would produce effects opposite to those intended, as well as undermining their authority in the classroom. They argued that the cycle system was designed to conceal high school failure and dropout rates, and claimed that it led to an erosion of learning outcomes by passing pupils regardless of the level attained in mastering the syllabus. To answer the latter objection, it is worth noting that the determinants of poor pupil performance are legion and associated with a variety of factors, some of which lie outside the education system. To confine the analysis exclusively to the school environment, several factors influence learning abilities, including teaching methodologies, especially for literacy, clarity on the syllabus to be taught, and training teachers to teach on the basis of such definitions.<sup>3</sup>

The fact is that Brazil's educational indicators have improved significantly<sup>4</sup> since the mid-1990s, owing to a range of demographic factors as well as specific educational policies such as universal access to primary school, increased access to secondary school, pupil retention, and expansion of the supply of youth and adult education.

After a period of vigorous population growth,

which in turn drove a considerable increase in demand for primary education, and later for secondary education, the population stabilized to some extent at the end of the decade (Table 1.1).

Population growth, especially different rates of growth by age group, is a key factor in determining the preconditions that affect the education system. Thus while the Brazilian population grew at an average annual rate of 2.1% in the 1980s, pressuring demand for educational services, the rate fell to 1.4% in the post-2000 period (Table 1.1). In São Paulo State it fell from 2.4% to 1.6% in the same time frame.

Slower population growth, alongside educational flow correction policies and intense inclusion of children in the immediately prior period, led to a lower rate of growth in primary and secondary school enrollments in Brazil during the 2000 than in the 1990s.

In the post-2000 period, enrollment in basic education practically flatlined nationwide in the range of 48 million pupils, falling in primary schools (International Standard Classification of Education, ISCED 1 & 2) and rising moderately in secondary schools (ISCED 3). On the other hand, growth remained significant at the start of the decade in pre-primary education (ISCED 0), and in youth and adult education (known in Brazil by the acronym EJA) (Table 1.2). The highlight in early childhood education was the gradual inclusion of six-year-olds in primary schools, which will intensify as compulsory primary schooling lasting nine years is phased in.<sup>5</sup>

In São Paulo State, primary school enrollments stabilized at around 6 million in the post-2000 period.

2. For a discussion of cycles, see Ribeiro (1991), Silva (2000), and Silva, Davis & Espósito (1996).

3. As a reference for the discussion on factors that influence pupil performance, see Biondi & Felício (2007).

4. On this point the analysis excludes pupil performance indicators. As a reference, see Brazil (1999)

5. The implementation of nine-year primary education is discussed in Section 4 below.

**Table 1.1**  
Annual population growth rate, by major region  
– Brazil & São Paulo State, 1980-2007

Major region	Annual population growth rate (%)		
	1980-1990	1990-2000	2000-2007
Brazil	2.1	1.6	1.4
São Paulo State	2.4	1.7	1.6
North	4.3	2.7	2.3
Northeast	2.0	1.3	1.2
Southeast	2.0	1.5	1.4
South	1.5	1.4	1.3
Central West	3.4	2.3	2.0

Source: IBGE. Projections for population of Brazil by sex and age, 1980-2050. 2004 revision.

Note: See Detailed Table 1.1.

**Table 1.2**  
Enrollments by level & type of education – Brazil & São Paulo State, 1999-2006

Level & type of education	Enrollments							
	1999	2000	2001	2002	2003	2004	2005	2006
<b>Brazil</b>								
Total basic education	48,064,219	48,332,228	48,514,900	48,838,793	48,667,367	48,737,316	48,356,533	47,777,636
Pre-primary	4,235,278	4,421,332	4,818,803	4,977,847	5,155,676	5,555,525	5,790,670	5,588,153
Primary	36,059,742	35,717,948	35,298,089	35,150,362	34,438,749	34,012,434	33,534,561	33,282,663
Secondary	7,769,199	8,192,948	8,398,008	8,710,584	9,072,942	9,169,357	9,031,302	8,906,820
EJA <sup>(1)</sup> – primary <sup>(2)</sup>	2,112,214	2,272,114	2,636,888	2,788,113	3,315,887	3,419,675	3,395,550	3,516,225
EJA <sup>(1)</sup> – secondary <sup>(2)</sup>	656,572	873,224	987,376	874,001	980,743	1,157,593	1,223,859	1,345,165
<b>São Paulo State</b>								
Total basic education	9,462,328	9,434,638	9,332,254	9,335,589	9,321,878	9,300,044	9,210,216	9,203,047
Pre-primary	1,089,632	1,130,293	1,206,641	1,276,434	1,325,507	1,391,238	1,420,385	1,375,043
Primary	6,325,294	6,225,204	6,092,455	5,993,885	5,896,461	5,862,955	5,875,983	6,014,209
Secondary	2,047,402	2,079,141	2,033,158	2,065,270	2,099,910	2,045,851	1,913,848	1,813,795
EJA <sup>(1)</sup> – primary <sup>(2)</sup>	546,568	562,281	564,456	444,607	463,466	487,875	473,417	433,056
EJA <sup>(1)</sup> – secondary <sup>(2)</sup>	280,298	348,085	387,496	287,756	346,108	388,724	400,147	401,838

Source: INEP/MEC, School Censuses 1999-2006.

(1) EJA = Youth & Adult Education.

(2) Enrollments in face-to-face courses with performance assessment.

Secondary school enrollments fell between 2004 and 2006. Several possible explanations for the fall have been researched. One relates to the economic recovery, which attracted young people into the job market and may therefore have hindered pupil retention. Another is the possibility that pupils migrated to youth and adult education (EJA) to complete their schooling in less time; this may especially have been the case for pupils who lagged behind the age-appropriate grade (Table 1.2).

All these factors combined drove a significant improvement in school attendance, particularly among

children up to 14 years of age. In 2006 in São Paulo State it reached levels similar to those seen in developed countries, even for five- and six-year-olds in pre-primary education<sup>6</sup> (Table 1.3).

Another consequence was a drop in the Brazilian illiteracy rate from 13.8% in 1998 to 10.4% in 2006.<sup>7</sup> In São Paulo State it fell from 6.6% to 5.0% in the same period. It is important to note that illiteracy is increasingly confined to older age groups: in São Paulo State the proportion of illiterates in the population aged up to 25 was under 1% in 2006 (Table 1.4).

**Table 1.3**  
School attendance rate (1), by age group – Brazil & São Paulo State, 2003-2006

Region	School attendance rate by age group (%)			
	5-6 years old		7-14 years old	
	2003	2006	2003	2006
Brazil	78.7	84.6	97.2	97.6
São Paulo State	82.9	90.8	98.5	98.8

Source: CIE/SE-SP. School Census, São Paulo State. 2007 Report.

(1) Number of pupils enrolled in school as a percentage of a specified age group in the total population.

**Table 1.4**  
Illiteracy rates (1) among children & adults, by age group – Brazil & São Paulo State, 1998-2006

Age group	Illiteracy rate among Brazilians aged 15 and over (%)					
	Brazil			São Paulo State		
	1998	2001	2006	1998	2001	2006
<b>Total</b>	13.8	12.4	10.4	6.6	6.0	5.0
15 years old	4.4	2.6	1.5	0.7	0.7	0.1
16 years old	4.5	3.1	1.7	1.0	0.6	0.5
17 years old	4.8	3.2	1.6	0.4	0.8	0.8
18 years old	5.1	3.3	1.8	0.7	1.0	0.3
19-22 years old	5.6	4.6	2.6	1.6	1.2	0.9
23-25 years old	6.8	6.3	3.7	1.6	1.9	0.8
26-30 years old	8.3	6.8	5.1	2.8	2.0	1.6
31-40 years old	10.3	9.3	7.5	3.6	3.4	2.8
41-50 years old	14.7	12.8	10.6	6.6	5.8	4.2
Over 50 years old	30.5	28.2	23.6	17.9	16.3	12.9

Source: IBGE. PNAD 1998, 2001 & 2006 (microdata).

Note: See Detailed Table 1.2.

(1) Illiteracy here means the inability to read and write at least a simple note in the person's mother tongue. The illiteracy rate is the number of illiterates as a percentage of the total population in a given age group.

6. A growing proportion of six-year-olds attended primary school in this period.

7. As a reference, see INEP (2003a).



Educational attainment in terms of average years of schooling improved in the period: in 1995, 33% of Brazilians aged 7 or more had completed at most the second year of primary school and only 14.6% had completed at least the first year of secondary school; by 2006 the former group had fallen to about 22% while the latter had risen to 28% (IBGE, 1995, 2001, 2006).

These improvements reflected a very substantial increase in school attendance, due mainly to the inclusion of children from low-income households who had never before had access to formal education. In 1995, 36% of all Brazilians aged 15 and over in households with incomes of less than the minimum wage per person had completed at most the second year of primary schooling, while the proportion reaching the

secondary level (i.e. completing at least the first year of that level) was only 9.7% (Table 1.5). By 2006 the former group had fallen to 23% and the latter had risen to 26%. The same comparison for higher income levels (five times the minimum wage and over) shows these percentages changing very little between 1995 and 2006.

In São Paulo State, one of the pioneers of the expansion of secondary schooling in Brazil, this trend was even more pronounced. Whereas in 1995 only 10.2% of the appropriate-age cohort in families earning up to the minimum wage per person reached secondary school, in 2006 the proportion was 33.3% (Table 1.5).

Alongside mass inclusion of children in the school system and growth in the number of years spent attend-

**Table 1.5**  
Population aged 15 and over by real household income per person (in minimum-wage multiples) and last completed school year – Brazil & São Paulo State, 1995-2006

Last completed school year	Population aged 15 and over (%)											
	Brazil					São Paulo State					Total	
	Real household income per person in minimum-wage multiples <sup>(1)</sup>					Real household income per person in minimum-wage multiples <sup>(1)</sup>						
Less than 1	1-1.99	2-4.99	5+	Not declared	Less than 1	1-1.99	2-4.99	5+	Not declared	Total		
	<b>1995</b>											
<b>Total</b>	60.5	19.4	12.8	5.1	2.3	100.0	40.0	28.6	20.9	8.0	2.6	100.0
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No schooling up to second year of primary education	36.0	14.9	7.4	3.0	25.4	26.4	26.3	14.7	7.4	2.2	11.0	16.7
Year 3-Year 4 of primary education	29.6	26.4	19.1	8.4	21.6	26.4	31.9	28.6	21.3	9.5	19.3	26.6
Year 5-Year 8 of primary education	24.3	29.0	21.4	11.6	18.2	24.0	31.0	32.1	24.2	11.4	20.5	28.1
Year 1-Year 3 of secondary education	9.7	26.6	39.2	38.4	23.0	18.5	10.2	22.1	35.6	36.6	30.4	21.5
Tertiary education	0.4	3.1	12.9	38.6	11.7	4.7	0.6	2.5	11.4	40.3	18.7	7.0
	<b>2006</b>											
<b>Total</b>	50.7	26.2	14.9	7.4	0.8	100.0	34.6	31.3	22.0	11.4	0.7	100.0
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
No schooling up to second year of primary education	22.9	16.8	5.4	4.0	14.4	17.3	14.5	12.7	5.0	3.0	13.1	10.5
Year 3-Year 4 of primary education	20.0	18.9	13.0	7.5	13.5	17.7	19.0	19.4	14.6	7.1	13.1	16.7
Year 5-Year 8 of primary education	30.7	21.6	14.9	10.3	26.8	24.4	32.3	22.2	14.4	10.1	27.5	22.6
Year 1-Year 3 of secondary education	25.7	38.7	48.5	38.4	39.2	33.5	33.3	41.9	47.8	37.6	38.6	39.7
Tertiary education	0.7	4.0	18.2	39.8	6.0	7.1	0.8	3.8	18.2	42.3	7.6	10.4

Source: IBGE. PNAD 1995 & 2006 (microdata).

Note: 1) Column percentages do not always add up to 100% due to rounding; 2) See Detailed Table 1.3.

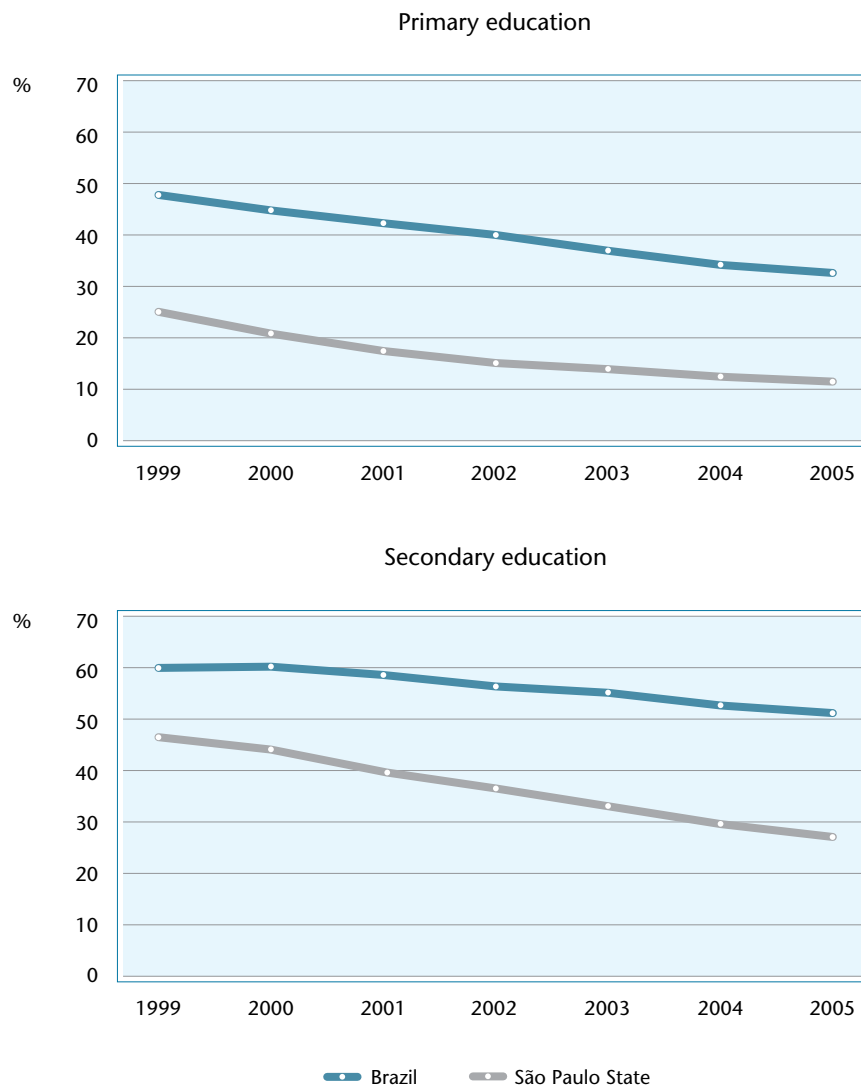
(1) Deflated by IBGE's National Consumer Price Index (INPC); September 2006 prices and minimum wage.

ing school, the age-grade distortion in primary and secondary education has improved significantly in both Brazil and São Paulo State (Figure 1.1). Nevertheless, much remains to be done to reduce this distortion further.

With the improvement in pupil flows, the average time taken to complete primary schooling fell by about

one year in both Brazil and São Paulo State between 1995 and 2004. In addition to the benefits accruing from this decrease in itself, it tends to act as an incentive to further study, as pupils who complete primary school at the right age are under less pressure from the need to seek employment (Table 1.6).

**Figure 1.1**  
Age-grade distortion (1) in primary & secondary education – Brazil & São Paulo State, 1999-2005



Source: INEP/MEC.

Note: See Detailed Table 1.4.

(1) Age-grade lag here means pupils who are two or more school years behind the age-appropriate grade (Year 1 of primary school for seven-year-olds, Year 2 for eight-year-olds, and so on). Age-grade distortion is the ratio of the number of pupils with an age-grade lag in a given school year or grade to the total number enrolled in that grade. The ratio for primary education applies only to total primary enrollment; similarly for secondary education.

**Table 1.6**  
Average time taken to complete primary education – Brazil & São Paulo State, 1995-2004

Region	Average time taken to complete primary education (in years)									
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Brazil	11.3	10.8	10.3	10.1	10.1	10.2	10	9.9	9.9	10.1
São Paulo State	9.8	9.3	8.7	8.5	8.6	8.7	8.7	8.7	8.6	8.7

Source: INEP/MEC. Edudatabrasil.

### 3. Learning outcomes in basic education

**B**razil has unquestionably achieved significant success in including the school-age population in the formal education system in recent years. What has been debated since the turn of the millennium is that this expansion has come at the cost of eroding quality standards. Other countries, such as South Korea, have managed to universalize education while raising the level of quality in terms of pupil performance and learning outcomes.

It is also important to note that expansion occurred in the public education system, especially in the context of fiscal adjustment by the Brazilian state, which in itself determined severe restrictions despite the constitutional earmarking of funds for investment in education. Argentina's education system and learning outcomes, for example, have recently deteriorated as a result of the economic crisis.

In the Brazilian case, funding issues must be seen alongside problems internal to the education sector that negatively influence learning outcomes, relating particularly to aspects of the curriculum, classroom methods, teacher training, and school management.<sup>8</sup>

Implementation of national student assessment systems along similar lines to those already used in developed countries enabled learning outcomes to be quantified and provided a basis for research into the factors that influence them.<sup>9</sup>

Educational evaluation as a scientific activity began in the 1940s, developed more intensely since the

1960s and has been closely associated with processes for measuring outcomes. For this reason, measuring and evaluating are often confused (Vianna, 1989).

“Measurement is an operation of quantification in which numerical values are assigned in accordance with predetermined criteria to characteristics of individuals in order to verify the quantity of such characteristics they possess. Quantitative indicators obtained by measurement identify the individual's status with regard to one or more characteristics. Measurement is only the first step in evaluation; it is often a very important step, but it is not a necessary or sufficient condition for evaluation to be effected. Measurement may lead to evaluation, but evaluation takes place only when value judgments are expressed. [...] Evaluation means determining the value of something for a particular purpose. [...] Thus evaluation refers to systematic or formal activities geared to establishing the value of educational phenomena, whatever they may be.” (Vianna, 1989, p. 20).

According to Vianna (1989), the aim of both educational evaluation and research is to obtain a better understanding of educational phenomena, but whereas research aims to draw conclusions from the information collected based on generalization, evaluation is particularly instrumental for decision making.

Large-scale standardized assessment exercises focusing on the processes and outcomes of education systems have been widely performed around the world. In most countries, such assessment exercises are designed to contribute to the formulation of more effective public policies, to enhance the management of schools and education systems generally, and to serve as an instrument for collaboration and ongoing

8. For a discussion of perceptions of teaching and schools among pupils, teachers and other participants in public and private education, see Abramovay & Castro (2003). The research in question relates to secondary education.

9. As a reference for the discussion on evaluation of educational systems in Brazil, see Vianna (2000).

learning within such systems. Assessment also facilitates well-grounded discussion of what pupils can and should learn in each education cycle, as well as helping define curriculum standards and characteristics. Moreover, as the results are analyzed and interpreted inside schools and the education system generally, and disseminated in comprehensible form to pupils and families, it is expected that they will have an impact on teaching practices and learning motivations. Lastly, it should be stressed that the responsibility for acting on the results of such assessments should not be shouldered by any one group of actors but should be shared among all stakeholders in the education system. Even more importantly, such action requires a proper balance between support from the different actors involved and the resulting performance requirements imposed on teachers and schools (Ravela et al., 2008).

### 3.1 Domestic indicators

Implementation of a national evaluation system for basic education began in the 1990s.<sup>10</sup> The Basic Education Evaluation System (SAEB) was introduced in 1995, and the National Middle-School Exit Exam (ENEM) in 1998. The performance assessment process was consolidated during the following decade, both by the creation of new national programs such as Enceja<sup>11</sup> and Prova Brasil,<sup>12</sup> and through upgrades to and expansion of existing programs.

SAEB results for the period 1995-2001 showed a downtrend in pupil performance across basic education.<sup>13</sup> The performance of Year 4 primary school pupils in Portuguese and mathematics fell in all regions of Brazil. The same was true of pupils in the final year of both primary and secondary school.

The 2003 results pointed to a tenuous recovery.<sup>14</sup> In 2005, this improvement continued for Year 4 of primary school, but the results for Year 8 and for Year 3 of secondary school worsened again (Figure 1.2).

A breakdown of Year 4 results by region shows the Northeast in last place in both absolute and relative terms. For Brazil as a whole, the fall between 1995 and 2005 was more pronounced in Portuguese (-8.4%) than in mathematics (-3.7%). In the latter discipline, the South was the only region that managed to recover after ten years, slightly superseding the 1995 level (Detailed Tables 1.5 and 1.6).

A breakdown by state shows Acre to have been the only state with improving scores for Portuguese in Year 4 of primary school between 1995 and 2005. In mathematics, improvements were seen in Acre, Espírito Santo, Rio de Janeiro, Paraná, Rio Grande do Sul, and the Federal District. São Paulo State performed below the average for the Southeast region in both disciplines.

The situation was worse for Year 8 than Year 4, with Portuguese scores falling 9.8% nationwide between 1995 and 2005. The Southeast came last among regions, with São Paulo State significantly influencing the results owing to a drop of 12.0%, more than in any other state. Mathematics scores displayed the same trend (Detailed Tables 1.7 and 1.8).

For Year 3 of secondary school, Portuguese scores fell 11.2% nationwide and 14.4% in São Paulo State. São Paulo State also underperformed in mathematics with -6.3%, compared with -3.6% for Brazil (Detailed Tables 1.9 and 1.10).

Although the SAEB 2007 results are not compatible with the series analyzed here, they point to a continuation of the recovery seen in the previous two rounds (2003 and 2005).

10. As a reference for the discussion on adoption of the strategy of evaluating pupil performance in Brazil, see Castro (2002).

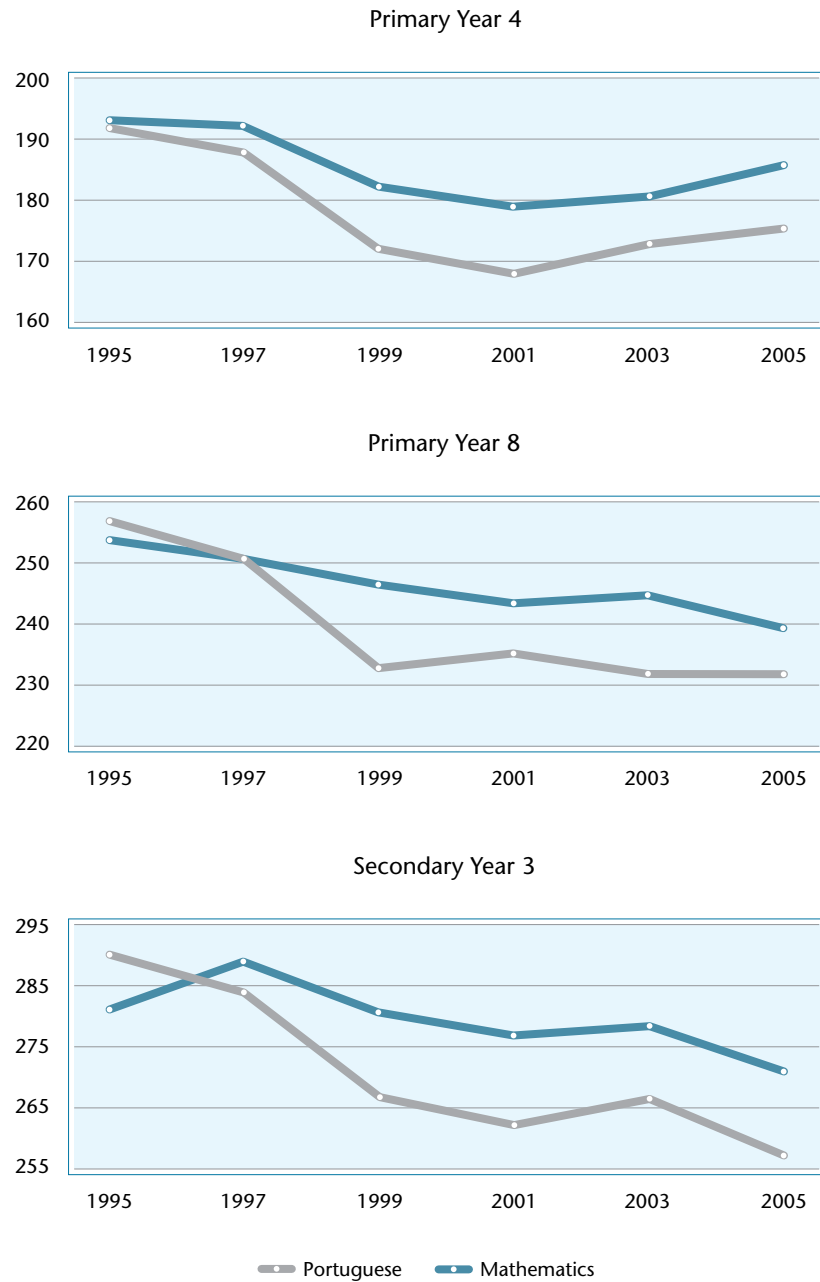
11. Acronym for Exame Nacional de Cursos de Educação de Jovens e Adultos (National Exam for Youth & Adult Education Courses), introduced in 2001.

12. First implemented in 2005, Prova Brasil is an assessment exercise involving tests for all pupils in urban public primary schools. It is applied twice, in Year 4 and Year 8, based on the SAEB matrix. SAEB involves a socio-economic survey as well as performance tests. Because the methodology is the same, they are applied concurrently.

13. SAEB results measure the skills demonstrated by pupils at each level. A single scale is used for each discipline, so that performance can be compared across all school years. The Portuguese Language Scale ranges from 125 to 375, and the Mathematics Scale from 125 to 425.

14. The 2007 SAEB results were published while this chapter was being written, but it proved impossible to take them into account in this part of the analysis. The available series for the 1995-2005 results covers urban schools, excluding those run by the federal government. This series is not compatible with aggregation of the data published for 2007, which covers all schools.

**Figure 1.2**  
Pupil proficiency in urban primary schools (Years 4 & 8) and urban secondary schools (Year 3),  
except federal schools, in Portuguese and mathematics – Brazil, 1999-2005



Source: INP/MEC. SAEB 1995-2005 (alternate years).

Note: 1) See Detailed Tables 1.5-1.10; (2) The Portuguese scale ranges from 125 to 375. The Mathematics scale ranges from 125 to 425.

### 3.1.1 The Basic Education Development Index (IDEB)

In 2007, the Ministry of Education (MEC) introduced the Basic Education Development Index (IDEB) to measure transition flows (pass rates) and pupil performance nationwide based on the Prova Brasil results. The index is calculated for states, municipalities and schools, and is used by the ministry to program support measures for underperforming units as part of its National Education Development Plan (PDE).

IDEB scores for the grades assessed (Years 4 and 8 of primary school, and Year 3 of secondary school) were used as a basis to set performance targets for each of these grades (Table 1.7). At inception the IDEB Index was calculated using data for 2005,<sup>15</sup> and targets were set for the ensuing period until 2021 based on current Organization for Economic Cooperation and Development (OECD) averages. The 2007 results therefore permit an initial comparison with the targets.

Because IDEB scores combine pass rates and pupil performance assessments, they rise even if only one of these variables improves. Pass rates are sensitive to changes in education policy at any level and may vary in the short run without immediately affecting pupil performance. In the medium term, however, there must be improvements in both transition flow (pass rates) and pupil performance in order for IDEB scores to trend up consistently.

Figure 1.3 shows IDEB scores for all Brazilian

states in 2005 and 2007.

In 2007, São Paulo State's IDEB score for Year 4 of primary school (4.9) ranked third in Brazil, having improved from 4.7 in 2005. The national average rose from 3.8 in 2005 to 4.2 in 2007. São Paulo State's IDEB score for Year 8 was the best in Brazil, tying in first place with Santa Catarina. In secondary education it ranked second with 3.8, alongside Minas Gerais and Mato Grosso do Sul, and behind Santa Catarina, Paraná and the Federal District, which attained an IDEB score of 4.0 (Figure 1.3).

Figure 1.4 shows the change in Prova Brasil results for pupil performance and pass rates between 2005 and 2007, thus displaying a breakdown of IDEB components for the period.

It can be seen from a comparison of the results obtained for the three grades evaluated that IDEB scores improved for Year 4 of primary education thanks to a rise in both pass rates and test results, especially the latter. As for Year 8, pass rates rose in more states than test results. IDEB scores for Year 3 of secondary education displayed the same trend, only more pronounced.

These findings confirm the perception that more investment is needed in the final years of primary and secondary school in order to improve learning outcomes and sustain the rise in IDEB scores.

All the evaluation exercises performed show more pronounced, albeit still timid, improvements in learning outcomes in the early years of primary school. This suggests that these same cohorts will tend to perform better as they advance into later years of primary and

**Table 1.7**  
IDEB scores (2005 & 2007) and targets (2007 & 2021) for first and last four years of primary school and last year of secondary school, by administrative jurisdiction – Brazil, 2005-2021

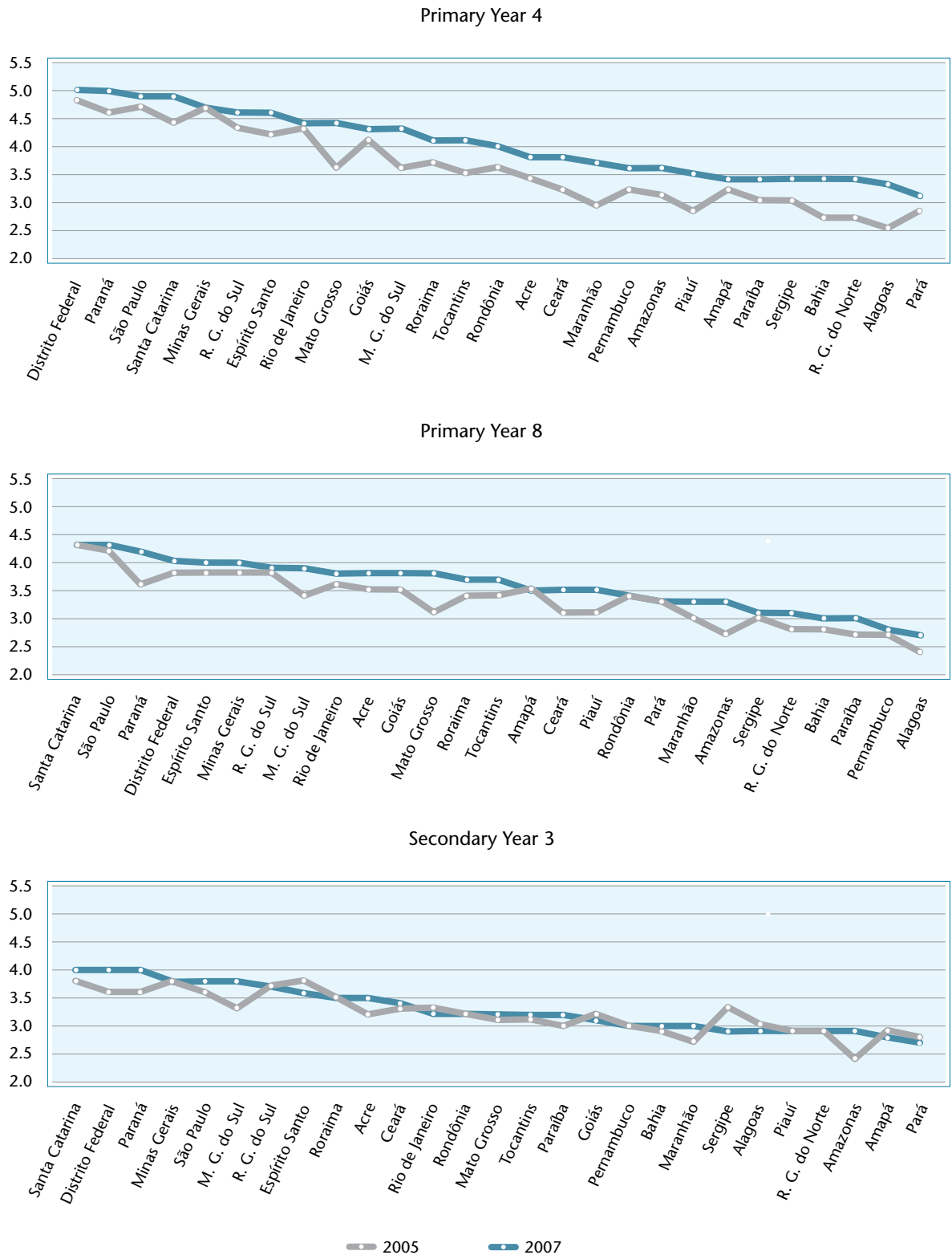
Administrative jurisdiction	Primary								Secondary			
	First half (Years 1-4)				Second half (Years 5-8)				Year 3			
	Actual IDEB score		Target		Actual IDEB score		Target		Actual IDEB score		Target	
	2005	2007	2007	2021	2005	2007	2007	2021	2005	2007	2007	2021
<b>Total</b>	3.8	4.2	3.9	6.0	3.5	3.8	3.5	5.5	3.4	3.5	3.4	5.2
Public	3.6	4.0	3.6	5.8	3.2	3.5	3.3	5.2	3.1	3.2	3.1	4.9
Federal	6.4	6.2	6.4	7.8	6.3	6.1	6.3	7.6	5.6	5.7	5.6	7.0
State	3.9	4.3	4.0	6.1	3.3	3.6	3.3	5.3	3.0	3.2	3.1	4.9
Municipal	3.4	4.0	3.5	5.7	3.1	3.4	3.1	5.1	2.9	3.2	3.0	4.8
Private	5.9	6.0	6.0	7.5	5.8	5.8	5.8	7.3	5.6	5.6	5.6	7.0

Source: INEP/MEC. SAEB and School Census.

Note: IDEB scores are based on pass rates and Prova Brasil results.

15. Prova Brasil exams were held for the first time in 2005. Since Prova Brasil is both an assessment exercise and a census of the universe covered, it enabled IDEB scores to be calculated for individual schools as well as aggregated groupings.

**Figure 1.3**  
**IDEB scores for primary education (Years 4 & 8) and secondary education (Year 3),**  
**by state– Brazil, 2005 & 2007**



Source: INP/MEC. IDEB 2005 & 2007.

Note: 1) Includes all school networks; 2) See Detailed Table 1.11.

**Figure 1.4**  
 Change in performance measured by Prova Brasil results and pass rates for pupils  
 in primary education (Years 4 & 8) and secondary education (Year 3) – Brazil, 2007/2005



Source: INP/MEC. IDEB 2005 & 2007.

Note: See Detailed Table 1.12.



secondary education than hitherto. On the other hand, maintenance of these positive results until basic education is completed requires the adoption of measures in pedagogy and school management, as well as the administration of the education system overall, as a foundation for genuine improvement. The results of the assessment exercises themselves are an important instrument to help choose priorities for such action.

An analysis of the results obtained by cities in São Paulo State in 2007 shows that IDEB scores for Year 4 of primary education exceeded the 2012 target (6.0) in 31 cities, or 4.81% of the total, and that only six (0.93%) achieved IDEB scores below the 2007 target (3.9). For Brazil, only 54 cities, or 0.97% of the total, obtained IDEB scores of 6.0 or higher, while 2,382, or 42.83%, underperformed the 2007 target (INEP, 2007).

As for Year 8 of primary school, no city in São Paulo State outperformed the IDEB target for 2021 (5.5) in 2007. Only seven Brazilian cities have achieved the target to date. Performance against the 2007 target (3.5) was better: only 15 cities in São Paulo State, or 2.64% of the total, failed to achieve this target, compared with 2,476 cities in Brazil, or 44.52% of the total.

### 3.1.2 The São Paulo State Educational Development Index (IDESP)

São Paulo State has introduced its own metric, the São Paulo State Educational Development Index (IDESP), made up of two variables: pupil performance in tests applied under the São Paulo State Student Assessment System (SARESP), and an indicator of transition flows between levels of the education system. IDESP scores were computed for 2007 and served as a basis for individual school targets designed to foster continuous improvement in the quality of education

and to reduce inequalities among schools by 2021. The targets were set so as to drive an increase in the proportion of pupils classified at desired levels of proficiency in SARESP tests. The 2010 targets are 41.2% of pupils in Year 4 of primary education, up from 29.7% in 2007; 28.2% in Year 8, up from 18.2%; and 16.6% in Year 3 of secondary education, up from 12.8%. Pupils are tested in Portuguese and mathematics.

The IDESP Index is a key component of the School Quality Program (São Paulo State, 2008), which underpins the state government's policy of achieving better pupil performance.

## 3.2 International comparisons

Since 2000 Brazil has participated in PISA,<sup>16</sup> one of the most important of student assessment exercises in the world today (see Box 2). PISA “represents a commitment by governments to monitor the outcomes of education systems in terms of student achievement on a regular basis and within an internationally agreed common framework” (OECD, 2006, p. 5). Brazil's courageous and important initiative of participating in PISA enables its results to be compared with those of the OECD countries, which are the most developed in the world, and with other Latin American countries that also participate in the program.<sup>17</sup>

International assessments such as PISA are constructed on the basis of knowledge and skill matrices for pupils in specific age groups or school years. These are considered universally essential to effective participation in modern society. In this sense, the results can be compared only in ways that transcend the cultural, social and political contexts for the education systems assessed.

By highlighting significant variations among sys-

### Box 2 – PISA

PISA is a three-yearly survey of 15-year-olds in the 30 member countries of the OECD and many partner countries. Pupils near the end of compulsory education are tested in the domains of reading, mathematics and science. Each assessment focuses on one domain more than the others: reading was emphasized in 2000, mathematics in 2003, and science in 2006. The subject area of emphasis takes up about two-thirds of testing time.

Students from a random sample of public and private schools are selected according to age rather than grade or school year. Between 4,500 and 10,000 pupils are tested in each cycle. More than 400,000 15-year-olds have been assessed all told, representing some 20 million students in the participating countries. In Brazil, the numbers involved were 4,893, 4,452 and 9,345 in 2000, 2003 and 2006 respectively. The 2006 sample was larger to enable results to be analyzed for all states.

16. OECD's *Program for International Student Assessment*.

17. As a reference on Brazil's participation in PISA, including the rationale for its decision to do so, see Castro (2003).

tems in terms of performance, and indeed among schools in the same system, comparisons of PISA results have raised specific concerns such as the question of equity in the distribution of learning opportunities<sup>18</sup> (Barber & Mourshed, 2008), found in most countries despite a wide variety of different contexts.

Given the concepts and methodology in which the program is grounded, PISA assessments are applied to 15-year-olds regardless of the grade or school year they are in at the time. As a result, in countries with a significant age-grade lag,<sup>19</sup> such as Brazil, a far from negligible proportion of pupils who take the tests are lagging behind the age-appropriate grade and have not yet acquired the expected knowledge and skills for children of their age. Nevertheless, the effects of age-grade distortions can be isolated when assessment results are analyzed in relation to the grade pupils are in at the time of the test, as shown in what follows.

The results obtained by Brazilian students in PISA 2000, 2003 and 2006 were not encouraging. Brazil ranked consistently among the lowest achievers on this criterion (Table 1.8), at times even lower than other Latin American countries such as Chile, Mexico and Uruguay (Table 1.9). Brazil ranked higher in 2006 than in the other two cycles, but this was due to the entry of more countries, especially less developed ones, rather than a real improvement in pupil performance.

It should be noted that whereas domestic assessments show a tendency for learning outcomes to improve, the results of international assessments to date have not yet indicated substantial progress.

A Ministry of Education report on the PISA 2000 results stressed “the still precarious situation of work with reading and writing in Brazilian schools” (INEP, 2001, p. 73). Despite the federal government’s efforts through this ministry, as well as the efforts of state and municipal governments in literacy and reading, Brazil remained at the low end of the rank order in 2003 and 2006.

Over the three PISA cycles completed to date,<sup>20</sup> Brazilian students improved moderately in mathematics and science but stagnated in reading, with an average score in the range of 400 (Table 1.9).

Interpretation of these results, especially in reading, should contribute to critical reflection and input for decision making on action relating to educational practices and methodologies.

Table 1.9 permits a comparison of the performance of Brazilian students with those of selected countries, ranked by PISA 2006 scores in science. Brazil ranked close to other Latin American countries in all three PISA assessments during the period but remained well behind the developed countries.

Generally speaking the rank order of countries is similar in all three subject areas. Thus countries that performed well in reading also performed well in mathematics and science. The same is true for individual pupil performance. An analysis of microdata for PISA 2006 shows student scores in reading correlating closely with scores in mathematics and with scores science, as well as between the latter two areas. These findings are valid for both Brazil and the group of selected countries (Table 1.10).

**Table 1.8**  
Brazil’s (1) PISA rankings (2) by domain, 2000, 2003 & 2006

Domain	Brazil’s PISA rankings		
	2000	2003	2006
Reading	39th out of 43	39th out of 42	48th out of 56
Mathematics	42nd out of 43	41st out of 41	54th out of 57
Science	42nd out of 43	39th out of 40	52nd out of 57

Source: OECD. PISA 2000, 2003 & 2006.

Note: 1) PISA assesses 15-year-olds; 2) See Detailed Table 1.13.

(1) Position in rank order of all participating countries.

(2) PISA = Program for International Student Assessment.

18. The concept of equity used here refers to the pursuit of a socially balanced distribution of high standards of educational performance (OECD, 2006).

19. Age-grade lag here means pupils who are two or more school years behind the age-appropriate grade (Year 1 of primary school for seven-year-olds, Year 2 for eight-year-olds, and so on).

20. Results in different PISA cycles should be compared with caution, given the different emphasis in each one (varying from reading to mathematics and science). The Brazilian Ministry of Education points out that PISA becomes more valid over time as an instrument for monitoring performance and that it is not yet possible to predict whether the differences observed to date indicate long-term trends (INEP, 2006a, p. 3).

**Table 1.9**  
PISA (1) scores by domain – Brazil & selected countries, 2000, 2003 & 2006

Country	PISA scores by domain								
	Reading			Mathematics			Science		
	2000	2003	2006	2000	2003	2006	2000	2003	2006
<b>Total</b>	460	460	446	450	456	454	461	471	462
Canada	534	528	527	533	533	527	529	519	535
Japan	522	498	498	557	534	523	550	548	531
South Korea	525	534	556	547	542	548	552	538	522
Germany	484	491	495	490	503	504	487	502	516
U.K.	523	507	495	529	508	495	532	518	515
France	505	496	488	517	511	496	501	511	495
USA	504	495	-	493	483	474	500	491	489
Spain	493	481	461	476	485	480	491	487	488
Portugal	470	478	472	454	466	466	459	468	474
Chile	410	-	442	384	-	411	415	-	438
Uruguay	-	434	413	-	422	427	-	-	428
Mexico	422	400	411	387	385	406	422	405	410
Argentina	418	-	374	388	-	381	396	-	391
<b>Brazil</b>	<b>396</b>	<b>403</b>	<b>393</b>	<b>334</b>	<b>356</b>	<b>370</b>	<b>375</b>	<b>390</b>	<b>390</b>
Colombia	-	-	385	-	-	370	-	-	388

Source: OECD, PISA 2000, 2003 & 2006.

Note: 1) PISA assesses 15-year-olds; 2) See Detailed Table 1.13.

(1) PISA = Program for International Student Assessment.

**Table 1.10**  
Correlation coefficients between subject areas based on PISA scores (1) – Brazil & selected countries, 2006

Country/ Bloc	Correlation coefficients between subject areas based on PISA scores		
	Reading & Mathematics	Reading & Science	Mathematics & Science
<b>Brazil</b>	<b>0.768</b>	<b>0.789</b>	<b>0.858</b>
All PISA participating countries	0.827	0.864	0.907
OECD member countries	0.835	0.866	0.913
Non- OECD member countries	0.767	0.818	0.874

Source: OECD, PISA 2006.

Note: 1) PISA assesses 15-year-olds; 2) Pearson's r correlation coefficient measures the linear dependence or correlation between two quantitative variables, giving a value between -1 and +1 inclusive. Zero (0) means no linear correlation; a value of 1 indicates a perfect linear correlation; and a value of -1 implies a perfect inverse correlation, so that when one variable increases the other decreases. The nearer r is to 1 or -1, the stronger the linear association between the two variables; 3) Correlation is significant at the 0.01 level (2-tailed); 4) See Detailed Table 1.14.

(1) PISA = Program for International Student Assessment.

Table 1.10 shows Pearson's  $r$  correlation coefficients for these scores.<sup>21</sup> The method used does not allow causal relations to be identified but permits the conclusion that scores for all three subject areas are interdependent.

For a better understanding of student performance in Brazil compared with other countries, it is fundamental to take a number of underlying factors into account, as discussed below.

### Age-grade lag

One of the factors that influence PISA scores relates to the school year or grade which the 15-year-olds who take the tests are currently attending. Age-grade lag is still significant in Brazil, where a large proportion of 15-year-olds were in Years 7 and 8 of primary school (i.e. one or two years behind in the subject areas assessed) at the time of all three PISA

cycles:<sup>22</sup> 42.2% in 2000, 38.5% in 2003, and 33.6% in 2006 (Table 1.11).

The situation is entirely different in the developed countries, where there is very little age-grade distortion. In 2006, Japan, South Korea and Canada had 100%, 98% and 85% of their 15-year-old PISA participants respectively in the tenth year of basic education (Detailed Table 1.16).

In the Brazilian case, age-grade lag means many students are unable to answer PISA questions on content not included in their current school year. Predictably, therefore, a breakdown by grade shows a significant improvement in PISA scores for all three domains in later grades, by which time most pupils have appropriated more knowledge of the subjects concerned. In PISA 2006, for example, the scores obtained by Primary Year 8 pupils and Secondary Year 3 pupils were as follows: 337 and 415 in reading, 322 and 387 in mathematics, 343 and 407 in science (Table 1.12).

**Table 1.11**  
Pupils participating in PISA (1) by current school year, in percent – Brazil, 2000-2006

Year	Pupils participating in PISA by current school year, in percent				
	Primary Year 7	Primary Year 8	Secondary Year 1	Secondary Year 2	Secondary Year 3
2000	16.4	25.8	48.9	8.9	0.0
2003	13.7	24.8	42.9	18.1	0.5
2006	11.6	22.0	47.8	18.0	0.6

Source: OECD. PISA 2000, 2003 & 2006 (microdata).

Note: 1) PISA assesses 15-year-olds; 2) See Detailed Table 1.16.

(1) PISA = Program for International Student Assessment.

**Table 1.12**  
PISA (1) scores by subject area and current school year – Brazil, 2000-2006

Current school year	PISA scores by subject area								
	Reading			Mathematics			Science		
	2000	2003	2006	2000	2003	2006	2000	2003	2006
<b>Average</b>	396	403	393	334	356	370	375	390	390
Primary Year 8	368	353	337	306	304	322	350	345	343
Secondary Year 1	425	430	415	365	383	387	398	413	407
Secondary Year 2	463	470	458	413	424	428	375	449	450

Source: OECD. PISA 2000, 2003 & 2006 (microdata).

Note: PISA assesses 15-year-olds.

(1) PISA = Program for International Student Assessment.

21. More information on these correlations can be found in Detailed Tables 1.14 and 1.15.

22. Percentages for PISA's expanded sample.

Taking PISA 2006 as a reference and considering only pupils in the age-appropriate grade, i.e. Year 1 of secondary school, Brazil's position was a little better, close to those of other Latin American countries but still far behind the OECD countries.

From Table 1.12 it can be seen that just as age-grade lag partly explains Brazil's low PISA scores, so the reduction in this lag in recent years is one of the factors that has contributed to a rise or stabilization in the overall average obtained by Brazil in PISA assessments. In reading, for example, Brazil's average score for all three PISA cycles is stable in the range of 400 (396, 403 and 393 in 2000, 2003 and 2006, respectively). A breakdown of scores by grade or school year, however, shows a moderate fall in all cases, offset on average by the reduction in age-grade lag.

### Public versus private schools

Brazil stands out among the countries that participate in PISA for displaying the widest gap between the performance of pupils in private schools, attended by the children of wealthier families, and public schools.<sup>23</sup> The formers' scores are about 30% higher in all three subject areas. Similar gaps are found in other South American countries. The difference between pupil performance in public and private schools is much smaller in Europe<sup>24</sup> and Asia, however, as can be seen from Table 1.13.

Given the association between learning outcomes and socio-economic conditions, and given that Brazil has one of the highest levels of income concentration in the world, differences in PISA scores between different social strata can be expected to reflect this.

**Table 1.13**  
PISA (1) scores for pupils in public and private school, by subject area – Brazil & selected countries – 2006

Country	PISA scores for pupils in public and private schools by subject area								
	Reading			Mathematics			Science		
	Public schools	Private schools	Difference private schools/public schools (%)	Public schools	Private schools	Difference private schools/public schools (%)	Public schools	Private schools	Difference private schools/public schools (%)
<b>Brazil</b>	<b>378</b>	<b>489</b>	<b>29.4</b>	<b>353</b>	<b>473</b>	<b>34.0</b>	<b>375</b>	<b>488</b>	<b>30.1</b>
Argentina	342	434	26.9	354	434	22.6	364	444	22.0
Uruguay	397	495	24.7	414	495	19.6	416	496	19.2
U.K.	492	576	17.1	492	570	15.9	510	598	17.3
Mexico	402	459	14.2	398	448	12.6	402	450	11.9
Chile	412	466	13.1	385	431	11.9	409	461	12.7
Colombia	378	425	12.4	361	415	15.0	379	429	13.2
New Zealand	518	567	9.5	519	573	10.4	527	592	12.3
Spain	446	488	9.4	466	505	8.4	475	513	8.0
Canada	524	573	9.4	524	575	9.7	532	575	8.1
Germany	494	534	8.1	502	543	8.2	514	554	7.8
Portugal	469	500	6.6	463	497	7.3	471	503	6.8
South Korea	554	558	0.7	549	545	-0.7	524	520	-0.8
Japan	501	490	-2.2	528	512	-3.0	537	520	-3.2
USA	-	-	-	470	528	12.3	485	546	12.6

Source: OECD, PISA 2006.

Note: PISA assesses 15-year-olds.

(1) PISA = Program for International Student Assessment.

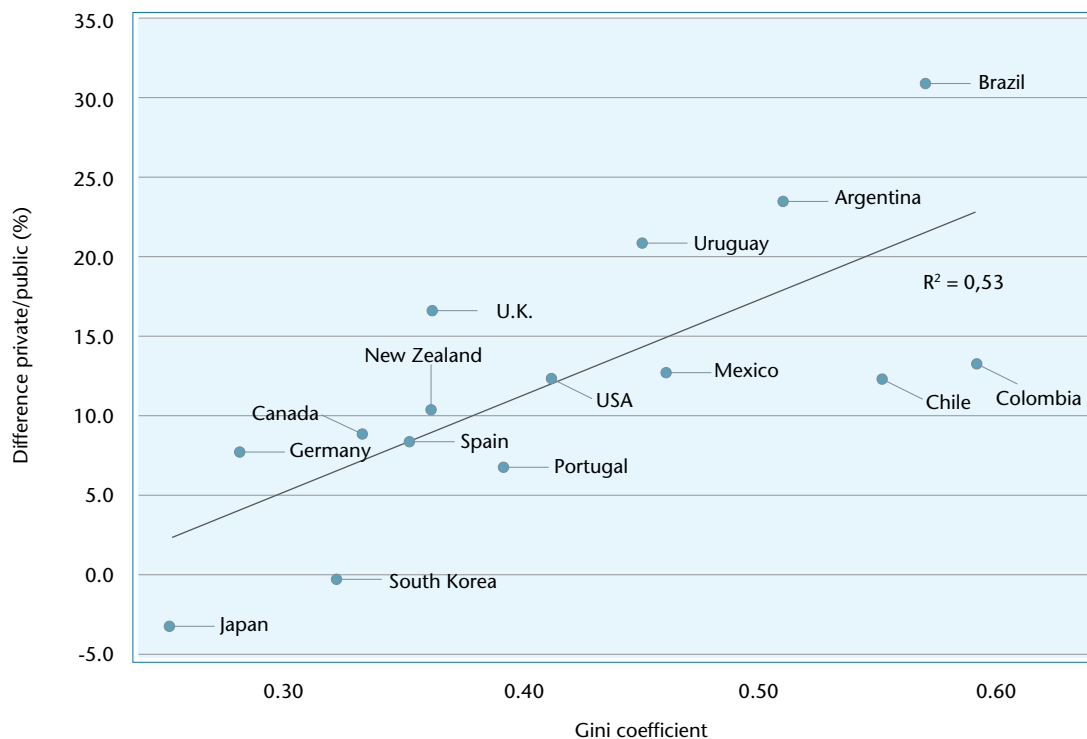
23. According to the 2006 School Census, 10.4% of pupils enrolled in primary education and 12% of those in secondary education attended private schools.  
24. Except the U.K.

Figure 1.5 shows a correlation between Gini coefficients<sup>25</sup> and differences between the performance of pupils in private and public schools in the same country.<sup>26</sup> These differences tend to be greater in countries with uneven income distribution. The link is evidently not deterministic. There are other factors that explain, for example, why public and private school students in countries with similar income distribution such as Germany and South Korea, or Canada and South Korea, or Brazil and Colombia, perform so differently.

The only country in the group where public school students obtained higher PISA scores than private school students was Japan, where income distribution is more even.

The PISA results can also be used to analyze another aspect of the performance of private education in Brazil. Given that children from higher-income families attend private schools whose educational quality is reputed to be better than that of public schools, their results should surely be equivalent to those obtained in the developed countries. A comparison of Brazilian pupils in private schools with averages in other countries for both public and private schools, Brazil's position in the rank order for all 57 countries covered by PISA 2006 rises from 49th to 23rd place in reading, from 54th to 36th place in mathematics, and from 52nd to 33rd in science. Thus its overall position is roughly in the middle of the overall ranking on this criterion.

**Figure 1.5**  
Gini coefficients and difference between PISA (1) scores for pupils in public and private schools – Brazil & selected countries, 2006



Source: OECD (PISA 2006, microdata); World Bank (World Development Indicators 2007).

Note: 1) PISA assesses 15-year-olds; 2) The Gini coefficient is a measure of inequality or uneven distribution of income. The closer a given country's Gini coefficient is to 0, the more evenly distributed is income among its population; conversely, the closer the Gini coefficient is to 1, the more concentrated is income in the country concerned; 3) See Detailed Table 1.17.

(1) PISA = Programme for International Student Assessment.

25. The Gini coefficient is a measure of inequality or uneven distribution of income. The closer a given country's Gini coefficient is to 0, the more evenly distributed is income among its population; conversely, the closer the Gini coefficient is to 1, the more concentrated income is in the country concerned.

26. These differences were calculated on the basis of the average score for all three subject areas in PISA 2006. The Gini coefficients used here come from *World Development Indicators 2007* (World Bank, 2007).



This finding points to the significant quality gap between public and private schools in Brazil. Moreover, given that these students are from relatively homogeneous income strata in each case, it also points to the important role played by the quality of education in student achievement.

## 4. Evolution of policies for basic education and the legal framework in the post-2000 period

**A**fter promulgation of the new Brazilian Constitution in 1988, the education sector underwent a series of reforms that reflected the prevailing spirit of the period, characterized by a return to democracy in the institutional sphere. Thus in the 1990s the Ministry of Education introduced educational legislation proposals, guidelines and federal programs designed to promote significant changes in the curriculum, textbooks, teacher training and funding for school networks in all three tiers, among other things.

This decade saw the passage of the two most significant legal instruments that have given uniformity to the organization and foundations of basic education in recent years: the 1996 National Education Guidelines & Foundations Act (Brazil, 1996c), and Constitutional Amendment no. 14 (Brazil, 1996a), which set up the Fund for the Maintenance and Development of Primary Education and the Advancement of the Teaching Profession (FUNDEF).<sup>27</sup> During this decade the Ministry of Education also produced the National Curriculum Parameters (PCN) and distributed the document to all public schools in Brazil (FAPESP, 2002).

The next decade saw consolidation of this legal framework through the issuance of complementary measures relating to both the organization and funding of education.

### Organization of basic education

The structuring of basic education begun by the National Education Guidelines & Foundations Act

continued with numerous changes and regulatory measures throughout the period analyzed. Among the key changes was a measure to make compulsory primary education start at the age of six (Brazil, 2005), a year earlier than before. As a result, the duration of this level of education was extended from eight to nine years (Brazil, 2006). It should be stressed that the legislation establishing nine years of compulsory primary education was preceded by the determination that it start at age 6. This enabled the contingent of children who were attending the last year of pre-primary school to be included in the primary education cycle.

With these measures and the gradual extension of compulsory secondary education, as provided for in the Federal Constitution, Brazil eventually came to have 12 years of compulsory basic education, an acceptable amount by international standards.

The discussion about the length of time compulsory schooling should last is not new in Brazil and is at the root of the increase in the academic year from 180 to 200 days at this level of education (Brazil, 1996c, art. 24). The benchmark for this measure is the educational systems of the United States, several European countries, and even some Latin American countries that for over 20 years have had longer school days and academic years than Brazil.

Another important change relates to the articulation between secondary education and secondary-level technical vocational education. The National Education Guidelines & Foundations Act established that basic education comprises early childhood or pre-primary education offered by creches and preschools, primary education, and secondary education. Vocational education, addressed in a separate section of the law, is to be offered by specialized institutions or in the workplace. The law states that it can also be linked to regular secondary education. The inclusion of secondary schools in basic education and their separation from vocational education is justified by the need to continue general education into late adolescence, encompassing “the consolidation and deepening of the knowledge acquired in primary education [...]; basic preparation for work and citizenship [...]; the development of pupils as human beings [...]; and comprehension of the scientific and technological foundations of production processes [...]” (Brazil, 1996c, art. 35). Secondary education reform<sup>28</sup> consolidated this principle of separation (Brazil, 1997a). The decision was preceded by a long debate among educators. Those who advocated separation used two main arguments: (i) vocational education courses offered concurrently with regular secondary

27. Implemented by Federal Law 9424 in 1996 (Brazil, 1996b).

28. For a more extensive discussion of secondary education reform in Brazil, see Castro (1997), and Maia & Carneiro (2000).

education were of poor quality, neither instilling satisfactory general knowledge nor assuring high-quality vocational education and training to suit the needs of the productive sector;<sup>29</sup> and (ii) a high-quality general education was considered essential for citizens to appropriate the basic knowledge that would enable them to survive in a constantly changing and demanding labor market.

This discussion was not conclusive and in 2004 Presidential Decree 5154, implementing the National Education Guidelines & Foundations Act with regard to the permitted links between regular secondary education and technical vocational education, again authorized integration of the two. Advocacy of this solution is grounded above all in the need to prepare young people for entry into the labor market earlier and in a more productive manner.

## Funding

The establishment of FUNDEF was the most important measure for the funding of compulsory education in the recent period. It was conceived as a mechanism to fund primary education and promote equity among the school networks responsible for providing education at this level. FUNDEF represented a stable funding mechanism based on the definition of a nationwide minimum per pupil. This drove redistribution of the available funding among states and among municipalities within each state. It provided a strong incentive to expansion of enrollments in primary education, especially at the municipal level, since the sharing of funds between state and municipal school networks was determined directly by the number of pupils enrolled in each network. Similarly, by establishing a link between funding and teachers' pay,<sup>30</sup> FUNDEF promoted significant advancement for school teaching staff.

FUNDEF was established in 1997 on the basis of Constitutional Amendment no. 14, as implemented by Law 9424 (1996), and scheduled to last ten years.

The decision to earmark a specific proportion of the education budget for the funding of primary education was justified by the fact that primary schooling is constitutionally part of compulsory education and accounts for a majority of enrollments in basic education. Above all, it was a political decision designed to assure universalization of primary education. No such

earmarking was implemented for pre-primary or secondary education. These two levels expanded strongly in the 1990s but did not have specific or stable sources of funding. In practice, enrollment growth in both levels was funded by "leakage" from primary education, made possible partly by the lack of separate accounting systems to track expenditure by level of education at that time. This "leakage" was also facilitated by the fact that all three levels of education were often provided by one and the same school.

With regard to secondary education, it is important to note that legislation and policies for this level of education materialized after the period of greatest expansion in enrollment, which occurred in the mid-1990s. At the end of the decade the Ministry of Education structured a reform program for secondary education with four main pillars: (i) expansion of the system to assure steady progress towards universalization, as required by the Constitution; (ii) redefinition of the role of secondary education in the overall education process, via the establishment of new curriculum guidelines; (iii) an improvement in supply conditions; and (iv) an improvement in the quality of secondary education.

In the absence of stable funding mechanisms for this level of education, the Ministry of Education played a key role by establishing the Secondary Education Improvement & Expansion Program (PROMED), with external funding from the Inter-American Development Bank (IDB) and matching funds from the National Treasury (50-50). The program was initially allocated US\$500 million and launched in 2000. The aim of PROMED was to support secondary education expansion and reform, essentially by transferring funds to states and the Federal District to finance their investment projects.<sup>31</sup> It also provided for mandatory matching by state treasuries averaging 50%. In the case of São Paulo State, the local component was 60%.

PROMED was wound up in 2006 owing to problems of various kinds, having disbursed US\$220 million, less than half the planned amount. However, it is important to note that 51% went to São Paulo State and, when added to the state government's matching contribution, permitted investment of some US\$180 million in secondary education over a five-year period.

In the national sphere, it is also relevant to mention Project Alvorada, which transferred significant amounts of funding for secondary education to 14

29. This category does not include courses offered by schools that specialize in vocational training, such as the Federal Centers of Technological Education (CEFETs), some state vocational education networks such as São Paulo's Centro Paula Souza, or "S System" schools (SENAC, SENAI, SENAR, SENAT).

30. Teachers' pay accounted for 60% of total funding supplied by FUNDEF.

31. Investment projects were submitted to the Ministry of Education and consisted of a set of articulated actions designed to improve and expand secondary education.



states in the North and Northeast regions, totalling some R\$850 million in 2001 and 2002.<sup>32</sup>

When FUNDEF was nearing the end of its legal term the federal government prepared a bill to replace Law 9424/96. This resulted in the passage of Law 11494 in June 2007 (Brazil, 2007), establishing the Fund for the Maintenance and Development of Basic Education and the Advancement of the Teaching Profession (FUNDEB). As the similarity of their names implies, the new fund extended the scope of the old to include all three levels of basic education, i.e. pre-primary, primary and secondary. It also extended the budget both by raising the percentage of taxes and transfers already earmarked for FUNDEF from 15% to 20% and by including other taxes. The mechanism for redistributing funds among and within states was maintained. The allocation of funding to levels and types of basic education is defined annually on the basis of a weighting system pegged to the value attributed to the first half of primary schooling (Detailed Table 1.18). In contrast with FUNDEF, for which the federal contribution was determined once a year, usually based on budget availability, the FUNDEB legislation requires continuous growth.<sup>33</sup> Thus for São Paulo State in 2008 the amount of funding was R\$2,056.18 per pupil in the first half of primary education and R\$ 2,261.80 for the second half.<sup>34</sup>

Funding is among the main problems of the education system at present, for the first time in Brazilian history. The real question is not scarcity of funds but how to allocate funds efficiently.

## 5. Final considerations

**M**ajor progress has been achieved in basic education in Brazil in the last two decades. A sound legal and institutional framework has been put in place, the responsibilities of all three tiers of government have been clearly established, and collaboration among them has intensified. Access to primary education is now universal, and both pre-primary and secondary education have expanded strongly.<sup>35</sup>

As a result of the changes made to funding for education, especially FUNDEF, which reinforced the constitutional earmarking of appropriations for primary education, municipal and state school networks increased their capabilities in terms of physical facilities and staffing, as well as policymaking and implementation. These local networks, in turn, focused their efforts and funding on improving school infrastructure on one hand, and investing in teachers on the other—the latter in terms of both initial training and on-the-job capacity building, as well as introducing or review career plans, providing time for collective work during the day and improving pay, among other initiatives. Meanwhile, Brazil was consolidating its position on the world stage as an emerging economy with a stable currency that invests about 5% of gross domestic product (GDP) in education, an acceptable level by international standards.

However, the results of domestic and international assessments show learning outcomes well below the expected or desirable levels in all three levels of basic education nationwide. Despite the strenuous efforts made to improve and renovate education systems, effectively changing myriad aspects of school organization and systems in the past 15 years, pupil performance has not improved.

Poor learning outcomes underscore the importance of focusing attention on the school, and especially on teaching and learning processes, as the only effective way to raise results above the currently low levels.

The 2005 introduction of Prova Brasil, similar and comparable to SAEB but applied to all public schools, which participate voluntarily, was a step in the right direction because it enabled individual school performance to be measured and published. The scores obtained by schools in assessment exercises have become important management tools, helping them identify problems and causes, facilitating the adoption of corrective and compensatory measures, and permitting the introduction of results-based management approaches in the school environment.

Along the same lines, in 2007 the Ministry of Education produced and implemented the Education Development Plan (PDE). In basic education the PDE takes the IDEB Index as its starting point, setting targets for improvements in the index by states, cities and

32. In education, Project Alvorada (“Dawn”) benefitted the following states: Acre, Alagoas, Bahia, Ceará, Maranhão, Pará, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Rondônia, Sergipe and Tocantins. Funds were transferred to compensate for losses due to FUNDEF in each state. The programs covered were for literacy (Alfabetização Solidária), youth and adult primary education (Apoio ao Desenvolvimento do Ensino Fundamental – Educação de Jovens e Adultos), guaranteed minimum income (Garantia de Renda Mínima – Bolsa Escola), and secondary education (Desenvolvimento do Ensino Médio).

33. The federal contribution is defined by law as at least R\$2 billion in the first year since the Fund’s inception (2007), R\$3 billion in the second year (2008), and R\$4.5 billion in the third year (2009), with annual adjustment for inflation.

34. For specific amounts by level of education and state, see Detailed Table 1.19.

35. As a reference for a balance sheet in basic education until the end of the 1990s and the perceived for the ensuing decades, see Castro (1999).

schools, and establishing supporting actions to help them achieve these targets.

In sum, the Ministry of Education has developed new forms of interaction with public basic education systems. The traditional form, consisting of voluntary transfers to states and municipalities, has essentially been conditioned to their committing to carry out the PDE and implement action plans geared to achieving IDEB targets.

São Paulo State has a similar initiative of its own. Known as the School Quality Program, it includes the São Paulo State Educational Development Index (IDESP). Thus as well as joining the PDE, São Paulo has established its own index based on individual school scores in SARESP assessments. The index is used to set targets for improvement by schools, coupled with a system of pay-based incentives for school staff.<sup>36</sup>

All this would seem to point to an ongoing change of focus, a transition from a model focusing on processes and inputs<sup>37</sup> to a model focusing on learning outcomes, without ceasing to pay attention to access and retention. One question is how this change of focus from processes to outcomes can be sustained through viable actions, given the characteristics of the public sector in Brazil. Another is whether schools are capable of responding to an objective system of incentives, in terms of improving their teaching and learning methodologies and processes. Both the federal government, through the Ministry of Education, and state and city education departments have pursued strategies to support schools in seeking answers to these questions. In this context important discussions have been conducted on the positions assumed by the education system in Brazil since the 1990s.

One such position centers on the question of the curriculum. The 1971 educational reform, expressed in Law 5692 (LDB/71), established basic national curriculum guidelines while continuing to leave room for local content. States were charged with formulating this local portion of the curriculum, which was to serve as a basis for state, municipal and private schools in their territories.

The 1996 reform (LDB/96) reaffirmed the principle of a basic common national curriculum to be complemented by a diversified local portion under the responsibility of individual networks and schools. It also stressed the “need to provide a common basic edu-

cation for all, which presupposes the formulation of a set of guidelines capable of serving as a compass for curricula and their minimum contents” (Brazil, 1997b, p.14).

In accordance with these principles, the Ministry of Education published the National Curriculum Parameters (PCN) in 1997, initially for primary education, followed later by a similar publication for secondary education. These documents were sent directly to all state and municipal departments of education and to every school in Brazil. Unlike other countries that establish very clear and specific definitions of the contents of a national curriculum, Brazil opted for the establishment of a curriculum framework and allowed individual schools to produce their own syllabuses.<sup>38</sup> Some schools have done so on their own initiative for each grade and subject, but these are isolated cases.

In secondary education, implementation of the new curriculum framework proved more complex. Besides failure to organize and implement a program of training and dissemination with the characteristics of that developed for primary education, the difficulties were compounded by the fact that the framework involved transdisciplinarity, a concept that is hard to grasp and apply (Morin, 2002).

In the discussion sphere, the hypothesis that has gained ground especially among managers of public school networks across Brazil is that the framework comprises a combination of aspects that have not contributed to improvements in learning outcomes or to a reduction in the differences in performance between public schools in one and the same network. Such aspects include the lack of a common base curriculum and of expected learning outcomes for pupils by the end of each education cycle, inasmuch as individual schools and networks are free to establish their own course syllabuses for each grade and subject, and the lack of more prescriptive guidelines for teachers and of teacher training based on material specifically produced for this purpose in advance to orient teachers on the contents of the various disciplines. The National Curriculum Parameters are a useful framework but nevertheless too generic to fulfill this role.

In 2007 some state school networks including those of Paraná and São Paulo began establishing their own curricula as part of an effort to improve learning outcomes.<sup>39</sup> In the case of São Paulo, the first step taken

36. For references, see <<http://idesp.edunet.sp.gov.br/>>.

37. A systematized discussion of focus in aspects of education management can be found in Xavier & Amaral (1994).

38. The Ministry of Education established a strategy to support schools via the Parameters in Action Program for primary education, with material for teachers “to assure classroom practice in line with the framework” and a practical approach that emphasized group projects and local teacher training. Implementation of the program began in 1997, and adhesion was excellent on a nationwide scale, especially by municipal schools in small and medium towns.

39. In the 1980s the São Paulo State school network had a compulsory curriculum for primary and secondary education. This was implemented by schools using centrally produced guidelines and classroom material for each subject and grade. This curriculum has now been withdrawn, and schools are encouraged to develop their own in accordance with specific local requirements.

by the state department of education was to construct a Base Curriculum as a common framework describing the disciplines to be taught in each school year or grade and the learning outcomes pupils were expected to achieve in each one.

Teacher guides (*Cadernos do Professor*) based on the curriculum framework were published and distributed in the 2008 academic year, identifying and organizing the knowledge in each subject area by grade and bimester, as well as the skills and competencies to be developed and suggested projects for revision at the end of each bimester. In the same year a pupil newsletter (*Jornal do Aluno*) was brought out with subject-related activities for each grade to be used at the start of the academic year to guarantee a minimum level of knowledge and facilitate implementation of the proposed curriculum.

In 2009 another step was taken to consolidate implementation of a clearly defined, detailed curriculum for São Paulo's state schools. Specifically designed material was distributed to pupils covering all the content to be learned during the academic year for all subjects in Years 5-8 of primary education and all three years of secondary education.

Another issue under discussion is literacy. According to a great deal of research, poor pupil performance is frequently due to difficulty in mastering the basic skills of reading and writing. This difficulty affects not only the results obtained in Portuguese language tests but also performance in other disciplines that require understanding and interpretation of test questions.

It is a well-known fact that the initial years of primary education lay a vital foundation for successful later learning, especially because this is when the basics of reading, writing and numeracy are acquired. Poor pupil performance in Brazil despite countless teacher training and recycling programs, among other initiatives designed to improve quality in education, has raised questions regarding the constructivist approach to literacy teaching adopted by most public school networks nationwide.<sup>40</sup> Critics draw mainly on international experience in the form of both comparative scientific studies and government actions, in particular: (i) in scientific research, the *National Reading Panel* (Brazil, 2003), set up at the request of Congress in the U.S. to assess the effectiveness of different approaches used to teach children to read and which concluded that the phonics method was best; and (ii) among government initiatives, experiences in the U.S., U.K., France and French-speaking Swiss cantons where teachers became dissatisfied with unsatisfactory results after

some years using the constructivist or whole-language approach and switched to phonics or a variant thereof (Oliveira, 2006).

It is also important to note the measures taken since the 1990s to make tertiary-level qualification compulsory for all primary and secondary school teachers. Article 87 of the transitory provisions included in the 1996 National Education Guidelines & Foundations Act required all teachers to have a university degree within ten years. However, the efforts expended in teacher education, training and recycling have not led to an improvement in learning outcomes, which of course are the ultimate purpose of schooling, and it is therefore legitimate to ask whether higher education institutions are providing the right kind of education and training. Continuing education for teachers in active service also requires a thorough review in terms of objectives, methods and processes.

A study by Andrade & Telles (2008) based on data from the National Household Sample Survey (PNAD),<sup>41</sup> finds that the Brazilian education system achieved progress in the period 1996-2005 in terms of more equitable access. Access to the first half of primary education (Years 1-4) is now universal for boys and girls, white and non-white children, inhabitants of urban and rural areas, and even the very poor. In the second half (Years 5-8), however, significant inequalities persist in grade promotion associated with income, color, and geographic location. The data analyzed show that in the Brazilian case household income is a much more significant factor for access to education than ethnicity or color, reinforcing the need to maintain retention policies for the economically deprived segments of the population.

Thus in addition to all the difficulties intrinsic to the education system there are problems that transcend the school environment and must be addressed if the quality of education is indeed to be significantly improved. Vast amounts of research in Brazil and worldwide show a close correlation between learning outcomes and the socio-economic conditions in which pupils live. Factors relating to household income, such as livelihood and access to cultural goods, explain a substantial proportion of the differences in pupil performance discussed in this chapter.

Broad social policies ranging beyond those adopted specifically in education are therefore required to improve the conditions for learning. Such policies must address the need to increase the earnings of low-income families, improve pupils' and teachers' access to cultural goods and information, and promote digital inclusion.

40. As a reference for this discussion, see Oliveira (2002).

41. Conducted by IBGE, the Brazilian Institute of Geography & Statistics. The authors used PNAD data for the period 1996-2005.

The incorporation of new technology into the teaching and learning process is also an important instrument in the endeavour to shatter the vicious cycle of inequality, both in teacher training so as to narrow the gap in qualification opportunities between teachers employed in areas that are more or less privileged socially and economically, and directly for pupils so as to offer more opportunities for learning and contribute to a reduction of the disparities in access to information and knowledge.

Finally, it is clear that while Brazil's strenuous efforts in the sphere of education in recent years have

successfully achieved the goal of assuring universal access to formal basic education, much remains to be done in terms of addressing the challenge of improving learning outcomes. Thanks to enhanced statistics and educational assessments, Brazil now has an immense arsenal of information, studies and research that provides a solid empirical basis for reflection. However, the transformation of reflection into effective actions and policies requires a disposition to reposition the strategies pursued hitherto and ultimately to adopt new paradigms.

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