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EQUITY AND EFFICIENCY IN EDUCATION: MOTIVATIONS AND TARGETS[1]

Marcelo Neri[2]

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ABSTRACT

The recently released "Educational PAC" attempts to place basic education at the center of the social debate. We have subsidized this debate, offering a diagnosis of how different education levels can impact individuals' lives through broad and easily interpreted indicators. Initially, we analyze how much each educational level reaches the poorest population. For example, how are those in the bottom strata of income distribution benefited by childcare centers, private secondary education, public university or adult education. The next step is to quantify the return of educational actions, such as their effects on employability and an individual's wages, and even health as perceived by the individual, be that individual poor, middle class or elite.

The next part of the research presents evidence of how the main characters in education, aka mothers, fathers and children, regard education. The site available with the research presents a broad, user-friendly database, which will allow interested parties to answer their own questions relative to why people do not attend school, the time spent in the educational system and returns to education, which can all be cross-sectioned with a wide array of socio-demographic attributes (gender, income, etc.) and school characteristics (is it public, are school meals offered, etc.) to find answers to: why do young adults of a certain age not attend school? Why do they miss classes? How long is the school day? Aside from the whys and hows of teaching, the research calculates the amount of time spent in school, resulting from a combination between absence rates, evasion raters and length of the school day. The study presents ranks of indicators referring to objective and subjective aspects of education, such as the discussion of the advantages and care in establishing performance based incentives that aim at guiding the states in the race for better educational indicators.

Equality and Efficiency in Education:
Motivations and Targets

1) Overview

The "Educational PAC" released by the Brazilian federal government in the begin of 2007, and a series of civil society initiatives, in particular the Commitment All for Education (Compromisso Todos pela Educação), have placed basic education at the core of the Brazilian social debate. A primary objective of the present research is to feed the debate in course, showing how different levels of education—and the associated policies—can be evaluated through the means of broad, easy-to-interpret indicators. The objective here is not to discuss the merit of each of the points in question, vis-à-vis the enormous challenges and educational needs in the country. This is a broad and complex theme; we emphasize only the change in focus from higher education towards basic education, and two specific points of the "Educational PAC": widening from 15 to 17 years of age the range of those benefited by the educational conditionalities of the Bolsa-Familia program, and the incorporation of measurements of responsibility between federal government and states and municipalities, based on the evolution of the Index of Educational Development (IDEB) recently created.

Initially, we analyze the extent to which each educational level reaches the poorest population. For example, how those in the bottom strata of income distribution benefitfrom childcare centers, private secondary education, public university or adult education. The next step is to quantify the return of educational actions, from the point of view of the average citizen, be that individual poor, middle class or elite. Based on recent national data, we evaluate how different educational levels affect the employability and earnings accrued in the labor market. The third step in this research is to show that, aside from the clear effects of education on income, there are other positive effects to be considered by students —and managers—such as school impacts on the perceived health. The research annex presents summaries of other studies that detail the impacts of education on other people's lives, be those within the same family, including descendants, other members of the community, or the economy as a whole.

The objective is to provide simple conceptual and empirical frameworks to understand the dilemmas behind educational policies.

It is not enough to comprehend from an outsider's perspective the good properties of educational policies, such as the potential for equality and the private or social returns; it is also necessary to understand how this information reached individuals and how they incorporate these into their decisions. In the second part of the study, we present objective evidence of some subjective aspects associated to education. We discuss direct questions such as: why don't young adults of a certain age attend school? Is it because they must work to help increase the family income? Is it because they do not have access to an educational facility, or simply because they do not want the type of school being offered? Aside from the school-related reasons, we propose a synthetic school permanence index, which combines the enrolment rates, and the length of the school day. This index reveals the adherence to measures of academic performance.

The electronic version of this text allows us to delve deeper into topics of greater interest in the text through links with components in the research website **S**, with texts **T**, notes **N**, seminar and debate videos **V** and a database with interactive panoramas and simulators **BD** based on econometric models. These databases offer the opportunity to work on the objective and subjective dimensions of education, correlating individual student characteristics, as well as that of their parents, such as age, gender, income, etc. Regional rankings situate the relative position of Brazilian States in the race for better educational indicators. These numbers aim to place education at the top of societal and local government priorities. In conclusion, we discuss the advantages, misfortunes and arrangements needed to establish financial transfers from governments based on academic performance. The creation of a system of educational targets holds the promise of motivating all agents involved, ranging from young students and their mothers, to mayors or governors. Limitations in the electoral market in regard to education invite an active participation from the Brazilian civil society, international entities such as UNESCO and the federal government. Perhaps the fact that major actors converge towards the Commitment All for Education suggests a unique moment coordination of efforts to obtain concrete educational results. A question to be dealt with here is how to extend the model with conditional links4, to take into consideration factors that motivate good educational performance in the distribution of public

resources, similar to the spirit of Bolsa Familia conditionalities in relation to poor families.

2. Equality and Efficiency

"One Real applied to basic education has 22 more times the capacity of reaching the poorest than when applied to public higher education."

Education, as any public policy of a structural nature, affects the lives of individuals through the improvement in their access conditions and/or returns from these actions, which brings us to the traditional dilemma between equality and efficiency through public actions. We begin with the analysis of educational policies through the prism of equality: A pro-poor policy is that which benefits the poorest as opposed to the non-poor. This means that, given a fixed cost for the government and a student's return, a pro-poor policy should result in a greater reduction in poverty. Policy A will be more pro-poor than policy B if, for the identical cost of implementing them, policy A leads to a greater reduction in poverty than policy B. In order to determine whether a policy is pro-poor, we use indicators that have been formulated by Nanak Kakwani and Hyun Son, which are then applied to Brazilian education in a joint study, shown here first hand.

Aside from the technicalities involved, the advantage of the proposed indicator is its intuitive interpretation, which leads to a simple analysis by the policy managers, and even by the average citizen[3]. Otherwise we observe: the greater the respective pro-poor indicator of a given policy, the greater the ability of each allocated Real reaching the poor. The smallest level of the indicator is zero when for each Real distributed per citizen, that same Real does not reach any poor; when the indicator reaches one, each Real has the ability of reaching the poor – in a universal policy that reaches all individuals uniformly, be they poor, middle class or wealthy.

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[3] The functional form of the indicator is $\lambda = \frac{1}{\bar{b}\,\eta\theta}\int \frac{\partial P}{\partial x} b(x) f(x) dx$ where $\bar{b}$ is the educational benefit distributed, η is the absolute elasticity of poverty in relation to the benefit, θ is the aggregate level of poverty, and x is income.
E.g.: (i) = 1.20 : refers to a specific program that reduces poverty 20% more than a policy with universal targeting. (ii) = 0.70 : refers to a program reducing poverty 30% more than one with universal targeting.

a. Equality

"The equality index of private secondary education is close to that of public university, suggesting that the same individuals attend these levels, in distinct time periods."

An advantage of the equality indicator as proposed is its adaptability to different poverty measures found in literature. We opt here for displaying in Table 1 two poverty indicators: in the second column, we present P^1, which attributes the same weight to those below the poverty line and in the third column, we use P^2, which attributes more weight to the poorest. The indicators are based on the CPS poverty line[4], equivalent to R$125 per month at the Greater São Paulo prices of October 2006, adjusted for regional living expense differences from the IBGE's latest National Consumer Expenditure Survey POF collected in 2002 and 2003. In the greater part of the analysis, we opt for P^2 specifically because of its greater forwardness.

The equality ranking of those who are undergoing different educational levels shows that, in general, the lower levels of education are more pro-poor than higher levels of education. Another aspect in the equality hierarchy, stronger for $P,^2$ is that it's more sensitive to the poor. The equality indicator tends to increase in the lower levels of education when the poorest of the poor are prioritized—as observed when we move from P^1 to P^2, while the opposite occurs in the higher levels of education.

Table 1 – Education Pro-Poor Index

By Grade	Same Weight to the Poor – P^1	**Pro-Poor – P^2**
Childcare	1.08	**1.14**
Pre-School	1.46	**1.56**
Alphabetization – adults	1.73	**1.90**
Elementary Education – regular	1.53	**1.57**
Elementary Education – regular public	1.68	**1.73**
Elementary Education – regular private	0.27	**0.23**
Adult Education – elementary education	1.09	**1.04**
Secondary Education – regular	0.73	**0.63**
Secondary Education – regular public	0.83	**0.72**
Secondary Education – regular private	0.10	**0.09**

[4] It is the same indigence line proposed in Ferreira, F. et all. (2003) "A Robust Poverty Profile for Brazil using Multiple Data Sources", Revista Brasileira de Economia 57 (1), 59-92: Brazil.

Adult Education – secondary education	0.52	**0.44**
College Entrance Exam (Pré-Vestibular)	0.19	**0.15**
Tertiary Education	0.07	**0.07**
Tertiary Education – public	0.12	**0.10**
Tertiary Education – private	0.05	**0.06**
Graduate	0.00	**0.00**

Source: PNAD 2003/IBGE Microdata

The pro-poor indexes at the extremes of the educational spectrum confirm the expectation that the lower levels of education are more equitable or pro-poor than the higher levels: graduate education displays a zero index (until the hundredth decimal) and the lowest level of adult alphabetization has the highest indicator of 1.9. Moving on to more common levels, regular basic education has an index of 1.57, against 0.63 of secondary education and 0.07 of higher education. This means that an additional Real spent in basic education has 2.5 more times the ability of reaching the poor than one spent in secondary education and 22.5 times that spent in higher education.

As could be expected in all levels of teaching, the supply of public education is more pro-poor than the private. In basic education, the pro-poor index is of 1.73 in public supply versus 0.23 in the case of private supply. At the high school level, these indicators reach 0.72 for public and 0.09 for private; in the case of higher education, these indexes reach 0.1 for public and 0.06 for private. In other words, the possibility of a poor reaching public university is much less than practically all other levels. The proposed targeting index for private secondary education of 0.09 is close to that of public university, which is consistent with the idea that private school students are those who reach public universities. The targeting degree of college entrance exams students (pré-vestibular) of 0.15 shows that few poor attempt to move from secondary to tertiary education

Finally, early childhood education and pre-school show pro-poor indexes of 1.14 and 1.56, which demonstrates a degree of focus superior to that of the public universities. Recent research **P** shows that the access rate to pre-school in the Northeast, the poorest region of the country, is greater than in the other regions. Overall, the emphasis given to basic education in the Plan for the Development of Education is much more pro-poor than the emphasis previously attributed by the federal government to higher education.

b. Public and Private Expenses in Public and Private Education

"The cost of total private education is of R$14.00 monthly per Brazilian or R$89.90 per Brazilian student.."

"The cost per student of a student enrolled in high school was of R$1,152 in 2002, against R$10,054 per student enrolled in higher public education."

"Each Real spent on public higher education is 7 times less likely to reach the poor, as opposed to the same amount tenfold spent in secondary education."

The decision of staying in school to reach higher educational levels generates, aside from the potential available associated benefits, direct opportunity costs. The basic criterion at the individual level is whether the increase in labor income until retirement exceeds the direct payments and opportunity costs for substituting education. In the case of public managers, we should consider the public costs and the external benefits emanating from higher education among the population. We deal here only with the relative costs of the expenses paid by the government and families in the case of private education, but in the Annex we have increased the breadth of relative evidences to diverse costs of- and benefits from education.

We now lightly examine how much Brazil spent with education in 2002—the last period for which we have data. That year, the public expenditure with education was 4.4%of the GDP (prior to the recent GDP revision). In absolute terms, the annual public expenditure per student enrolled in basic education from 1st to 4th grade was R$870 in 2002; per student enrolled in basic education from 5th to 8th grade, R$1,105; and per student enrolled in secondary education, R$1,152. The annual expenses per student enrolled in higher education, however, was almost tenfold, R$10,054. In other words, the government spends much more per student in tertiary education. We present below an estimate of private direct expenses at different levels of education.

Table 2: Private Expenses with Education - Monthly

	R$ SPENT PER STUDENT	R$ SPENT PER BRAZILIAN	% BRAZILIANS WITH EXPENSE
Pre-School	**75.78**	**0.82**	**1.08**
Regular Basic Education	**166.76**	**2.55**	**1.53**
Regular Secondary Education	**194.10**	**1.43**	**0.74**
Regular Tertiary Education	**324.95**	**5.41**	**1.67**
Combined Grades	**48.27**	**0.07**	**0.14**
College Entrance Exams (Pré-Vestibular)	**59.90**	**0.31**	**0.53**
Technical Education	**53.25**	**0.09**	**0.17**
Master's	**222.03**	**0.42**	**0.19**
Doctorate	**138.85**	**0.00**	**0.00**
Educational Textbooks-Primary & Secondary	*9.14*	*0.36*	*3.91*
Other educational books and technical magazines	*13.56*	*0.25*	*1.82*
Other expenses	*26.61*	*3.23*	*12.13*

Source: CPS/FGV based on POF 2003/IBGE microdata.

Aggregating the data, we find that the private expense with education within family budgets at the value of R$14.00 monthly per Brazilian in general or R$89.90 monthly per Brazilian student, leading to the annual base of R$1,078 per student.

c. Educational Premiums

"The wage of those with college-level education is 540% greater than that of illiterates, and their probability of employment is 308% greater."

It is obvious that educational policies should not be solely concerned with equality. It is necessary to evaluate the efficiency of the policy in transforming the lives of those who receive the educational benefit. Otherwise, a school for the poor of doubtful reputation and high cost could be chosen as the ideal, which is not the case. An impact of educational policy that we will analyze refers to the changes in labor market insertion and the general conditions of the job market. We now look at the individual returns when leaving school, given the impact of learning on the individual's employability and wage-earning potential.

Table 3 reveals how educational hierarchy is reflected in labor hierarchy (occupation level and labor earnings). For example, salary increases from R$322

(R$1.97 hourly wage) for illiterates to R$1,682 (R$18.2 hourly wage) for those with a graduate degree. Similarly, the occupation rate between extremes in the educational spectrum increases from 60.7% for those who have one year of schooling to 81.5% for those who have attended graduate school. Using a standart mincerian-type regression and binomial logistic model for occupation – see annexes - to compare individuals with the same socio-demographic characteristics—such as gender, age, range and geography—except for education, the following occurs: the salaries of those with a college degree are 540% higher than that of illiterates, and their employability is 308% larger. Therefore, higher levels of education lead to better job placement. In other words, the hierarchy of educational levels mirrors labor rankings.

Table 3 – Labor Impacts on Education

				in Relation to Illiterates*	
Highest Level Studied	**% Employed**	**Average Salary R$**	**Hourly Wage**	**Probability of Employment***	**%Wage Premium***
Illiterates	60.65	321.73	1.97	1	0
Basic	63.73	517.11	2.99	1.36	40.05
Secondary	68.11	767.08	4.31	2.29	125.23
Undergraduate	78.16	1681.52	10.31	3.80	318.76
Graduate	81.48	3041.1	18.22	4.08	540.42

* controlled by gender, color or race, age, migration, city size, type of sector and federal unit
Source: CPS/IBRE/FGV based on PNAD 2005/IBGE microdata.

BDS

d. Education and Health

"A greater level of education in the population impacts on diverse elements in individuals' lives, such as fertility, criminality, health, etc."

"When comparing an illiterate individual with a college graduate, 95% of perceived improvements in health are given by the pure and direct effect of education, and not by income."

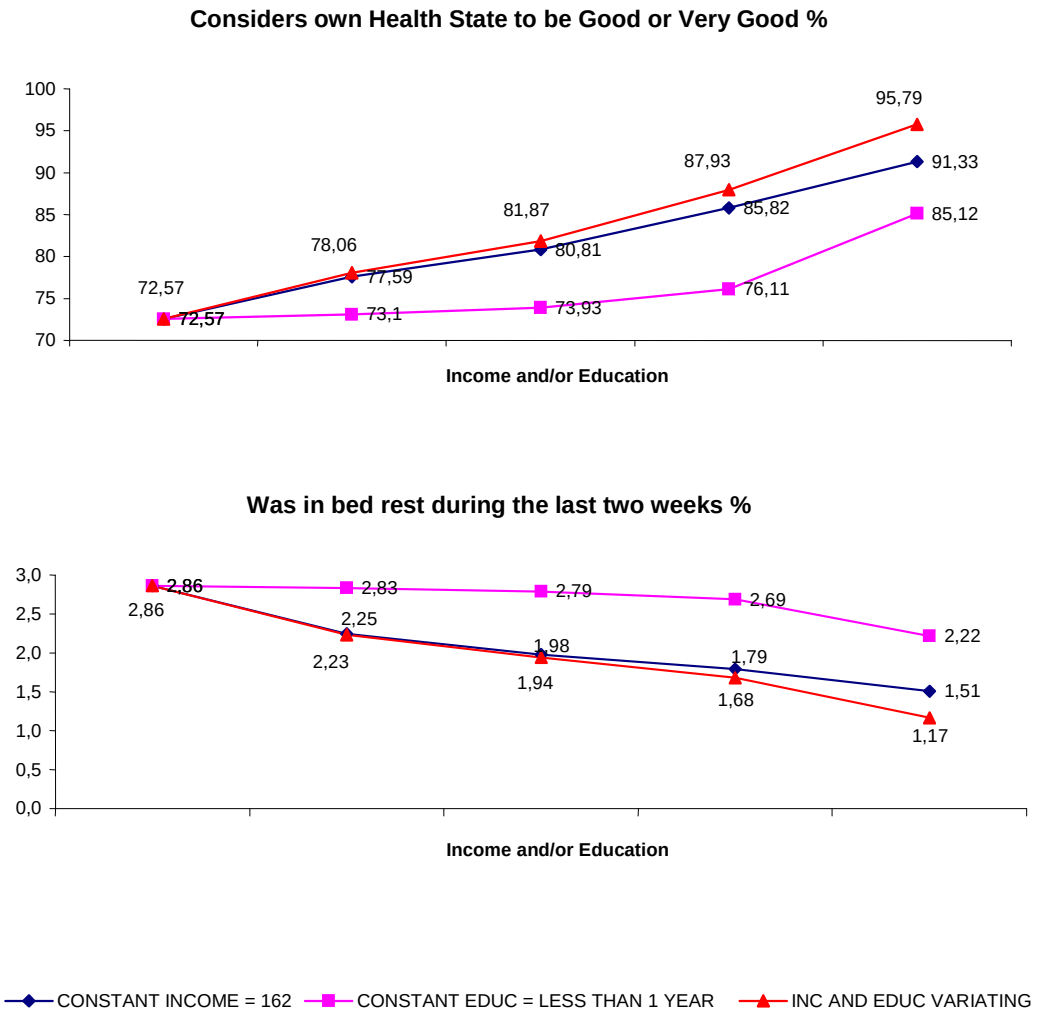
Going beyond the pragmatism of income generation, the greater education of the population impacts other elements in the life of individuals, such as fertility, criminality,

and health, among others. In these cases, education potentially affects interest variables through the direct and indirect effect on the function of higher income. Table below shows the existent relationship between the educational attainment of the head of household and the respective per capita household average income. We take, for example, the comparison between data on self-perceived individual health conditions. Health improves according to an individual's income and education. But what is more important, school or income? The lesson visible in graph 1 based on a standart logistic regressions found in Neri and Soares (2007) is that the health trajectory, although it corresponds to changes in income, 95% of the effect of perceived improvements in health with associated changes in education and income are given by the direct effect of education (i.e. maintaining income constant). Similar effects are observed for individuals who have had bed-rest in the past two weeks, where education corresponds to 89.4% of the obtained improvements. In other words, education seems to be a more fundamental cause for health improvements than income.

Schooling & Income per capita

Schooling	Income
Less than 1	162
1 to 4	207
5 to 8	278
9 to 12	472
more than 12	1448

Fonte: Centro de Politicas Sociais/FGV from microdata from PNAD 2005/IBGE



Source: CPS/FGV based on PNAD/IBGE Health Supplement Microdata.

The positive impacts of greater education on individuals' private returns should not justify—initially—public action in school, for if individuals perceive greater incomes as a function of greater education, then educational financing would be restricted solely by restrictions on the credit market, which would limit individuals' investment in their own human capital. In the case of public action, it is still important to act in areas where social returns are greater than private returns, as a function of an externality. For example, when you increase an individual's educational level, you not only improve their economic situation, their employability and wage, but also that of others. The impacts of parents' education on their children should be captured by public policy as well as private decisions. In the appendix, we synthesize some evidence from this line of study, through measurements of education mobility among generations. In

the appendix, we also present international evidence that deal with more aggregate impacts in education about growth, exports, mortality and longevity.

3. Educational Motivations

“Young Brazilian students do not acknowledge that education can exert a transformation in their lives, such as the high impact on employability and salaries.”

We present here a discussion of some motivational aspects in education policy. It is not enough to consider intrinsic properties in education policies, such as the potential return of specific actions; it is also necessary to regard how this information reaches individuals and how they transform these into decisions. Actions diffusing information through the various levels of government and civic society are especially welcome. For example, the social literature offered conclusions some time ago on the central explanatory power of education in the high-income inequality in Brazil. Now what’s lacking is for the head of household and young student to recognize the power of transformation education exerts over their lives, such as the high impact on employability and salaries observed in the Brazilian context. We need, above all, to educate the population about the importance of education. Without the participation of those most interested, there is no sustainable educational evolution.

a. Motivations to Attend School

“45.1% of those between 15 and 17 years of age who do not attend school choose to do so because they do not want the school available to them. These are the data to be highlighted.”

The PNAD Education Supplement allows us to identify the motivations for those who are outside the formal educational system, and focus the policy design on the needs and perceptions of those who are of interest. We divide the motivations into four groups: difficulty of access (supply), need to work and generate income (demand), lack of intrinsic interest (demand) and other. The reasons associated with the difficulty in

reaching the school due to distance or access complications affect 31.3% of children form 10 to 14 years of age, and 10.9% of those between 15 and 17 years. Other residual reasons for school evasion are equally important in the two age groups, around 20%. In other words, the problem of the 15-17 age range, which should be enrolled in secondary school but isn't, is the low demand - which explains the high evasion rate of almost 70% of cases, according to the same clientele not reached by the school.

The first demand reasons of those not attending school relate to the need for income generation, reaching 10.6% of children between 10 and 14 years old and 23% of those between 15 and 17 years old. However, supporting the rationale of extending the maximum age of educational subsidies in Bolsa Familia from 15 to 17 years, we have that: counter-factual exercises indicate that if a young afro-descendant, poor man, 17 years old, started to receive the Bolsa Familia incentives, his probability of missing school would fall from 9.3% to 4.1%. We should note the higher prevalence of other intrinsic reasons to the lack of demand for school of the type "not wanting" in the two age groups: 37.7% for 10 to 14 years old and 45.1% for 15 to 17 years old. In other words, the lack of perception of the school's role I their lives is particularly high. This is the data to be highlighted.

V – The educational aspect of income transfer programs

N – First Job or Second Aid?

N - Bolsa-Família 2.0

The recently released PNAD's 2005 special information technology supplement indicates that two thirds of students between 15 and 17 years old do not have access to a computer network, and the main reason attributed to the digital exclusion is the non-existence of computers or their high cost. Overall, 79% of the Brazilian population does not use the Internet, but those who use the Internet, do so for learning purposes (71.1%). The empiric literature in Brazil has not yet quantified the impact of the Internet on students' grades, causing the face value of the potential attraction exercised by the Internet in bringing young adults to school is high. More than that, computers in school may be fundamental for MEC's regulatory (and motivational) role with networks and schools, offering information and services at the national level. **BDP**

b. Ranking of the Reasons for not attending school

"Rondônia presents the highest rate 13.76% of young adults from 15 to 17 years that do not wish to attend school, constituting the greatest reason of school evasion at the national level."

"Acre is highlighted for other reasons: 4.99% of young adults do not attend school because there is no school available and 7.88% of them do not study because they have to generate income."

The research now provides the negative reasons given by young adults of 15 to 17 years old for not being in school. Creating a podium for these reasons, we have: Acre, leader of the states without schools, where 4.99% of young adults do not study because there is no accessible school—the local transportation conditions certainly explain the phenomenon; Acre is also highlighted in the ranking of those who do not attend school because they must work (in or outside the home) or provide income, with 7.81% against 4.11% at the national level; and Rondônia, where 13.76% of those between 15 and 17 years do not want to study anymore, consisting of the largest reason for school evasion at the national level. Data from the last PNADs have shown an increasing number of young adults of this age who neither study nor work.

RANKING: REASONS FOR NOT ATTENDING SCHOOL INCOME AND LABOR (DEMAND 1)
15 TO 17 YEARS
Federal Units

		%
	TOTAL BRAZIL	**4.11**
1	Acre	7.81
2	Paraná	6.31
3	Pernambuco	5.9
4	Santa Catarina	5.85
5	Mato Grosso	5.37
6	Sergipe	5.11
7	Goiás	5.11
8	Minas Gerais	5.1
9	Mato Grosso do Sul	5.02
10	Espírito Santo	4.87
11	Rio Grande do Sul	4.71
12	Rio Grande do Sul	4.36
13	Alagoas	4.34
14	Bahia	4.13
15	Rio Grande do Norte	3.89
16	Pará	3.87
17	Amazonas	3.59
18	Paraíba	3.5
19	São Paulo	3.03
20	Piauí	3,00
21	Rondônia	2.79
22	Rio de Janeiro	2.78
23	Maranhão	2.77
24	Tocantins	2.11
25	Roraima	1.2
26	Distrito Federal	1.05
27	Amapá	0.97

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL ACCESS (SUPPLY)
15 TO 17 YEARS
Federal Units

		%
	TOTAL BRAZIL	**2.01**
1	Acre	4.99
2	Maranhão	4.06
3	Pará	3.17
4	Roraima	3.1
5	Rio Grande do Sul	3.09
6	Rio Grande do Norte	2.92
7	Piauí	2.72
8	Rondônia	2.63
9	Goiás	2.55
10	Amapá	2.44
11	Mato Grosso do Sul	2.4
12	Espírito Santo	2.31
13	Bahia	2.28
14	Pernambuco	2.22
15	Mato Grosso	2.19
16	Minas Gerais	2.11
17	Alagoas	2.05
18	Distrito Federal	1.8
19	Sergipe	1.61
20	Tocantins	1.59
21	Ceará	1.5
22	Paraná	1.48
23	Santa Catarina	1.42
24	Paraíba	1.36
25	São Paulo	1.32
26	Rio de Janeiro	1.23
27	Amazonas	1.18

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL DOES NOT WANT (DEMAND 2)
15 TO 17 YEARS
Federal Units

		%
	TOTAL BRAZIL	**8.15**
1	Rondônia	13.76
2	Piauí	12.53
3	Pernambuco	12.53
4	Mato Grosso	11.73
5	Mato Grosso do Sul	10.92
6	Ceará	10.45
7	Pará	10.31
8	Tocantins	10.29
9	Alagoas	9.81
10	Espírito Santo	9.74
11	Rio Grande do Norte	9.73
12	Paraíba	9.73
13	Paraná	9.28
14	Minas Gerais	9.25
15	Maranhão	9.22
16	Bahia	8.88
17	Acre	7.41
18	Roraima	7.35
19	Distrito Federal	6.92
20	Rio Grande do Sul	6.75
21	Goiás	6.7
22	Amazonas	6.22
23	São Paulo	5.72
24	Sergipe	5.64
25	Amapá	5.16
26	Santa Catarina	4.96
27	Rio de Janeiro	4.49

Source: CPS/FGV based on IBGE microdata.

In the appendix, the reader can access similar rankings for other age ranges (7 to 14, 0 to 6 and 0 to 17) and other geographical areas (metropolitan regions and macro regions). A merit of this type of data is to air the reasons of those who do not attend school: parents and children. **BDP** (RJ)

c. School Race Podium

"In the Federal District, 79% of young adults between 15 and 17 years old remain more than four hours a day in school, with a considerable distance of almost 20 percentage points form the second place. Brasilia also displays the highest grades in the ENEM." BDP

We present comparative rankings between the different federal units on the school attendance rate in the age groups covered by the different levels of education: from 0 to 6 years old for childhood education, 7 to 14 years in basic education, and 15 to 17 years in secondary education. We discuss here the last age range, and place further data regarding other groups in the appendix. In the age range of 15 to 17, the states that head the education race are Rio de Janeiro **BDP**, leader in school attendance with 88% of young adults enrolled in the education system and the Federal District, where 79% of young adults remain more than four hours a day in school with a reasonable distance of almost 20 percentage points in relation to the second place. It is not fortuitous that Brasilia presents the highest grades in the National Exam of Secondary Education (ENEM) – which is performed at the end of the senior year and used as a criterion for entrance in university.

RANKING: SCHOOL ATTENDANCE
% ATTENDING SCHOOL OR DAYCARE
15 TO 17 YEARS
Federal Units

		%
TOTAL BRAZIL		**81.93**
1	Rio de Janeiro	88.39
2	São Paulo	86.96
3	Distrito Federal	86.17
4	Amapá	84.81
5	Santa Catarina	84.04
6	Amazonas	83.77
7	Rio Grande do Sul	82.38
8	Sergipe	82.26
9	Roraima	81.77
10	Minas Gerais	81.5
11	Goiás	80.74
12	Rio Grande do Norte	80.54
13	Paraíba	80.54
14	Tocantins	80.47
15	Piauí	79.84
16	Paraná	79.82
17	Bahia	79.65
18	Ceará	79.51
19	Espírito Santo	79.23
20	Alagoas	78.54
21	Maranhão	78.04
22	Mato Grosso do Sul	77.07
23	Rondônia	76.59
24	Pará	75.98
25	Mato Grosso	75.95
26	Acre	75.83
27	Pernambuco	75.64

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 4 HOURS PER DAY
15 TO 17 YEARS
Federal Units

		%
TOTAL BRAZIL		**37.22**
1	Distrito Federal	79.25
2	São Paulo	59.15
3	Espírito Santo	58.97
4	Minas Gerais	54.27
5	Rio de Janeiro	51.74
6	Goiás	48.83
7	Amapá	40.53
8	Pará	31.96
9	Mato Grosso do Sul	31.44
10	Rio Grande do Norte	30.41
11	Piauí	28.87
12	Bahia	26,00
13	Maranhão	25.65
14	Sergipe	25.54
15	Paraná	24.33
16	Pernambuco	24.21
17	Paraíba	23.54
18	Alagoas	20.77
19	Rio Grande do Sul	18.75
20	Roraima	18.59
21	Amazonas	17.12
22	Ceará	14.39
23	Tocantins	13.99
24	Mato Grosso	11.53
25	Rondônia	9.74
26	Acre	9.01
27	Santa Catarina	5.49

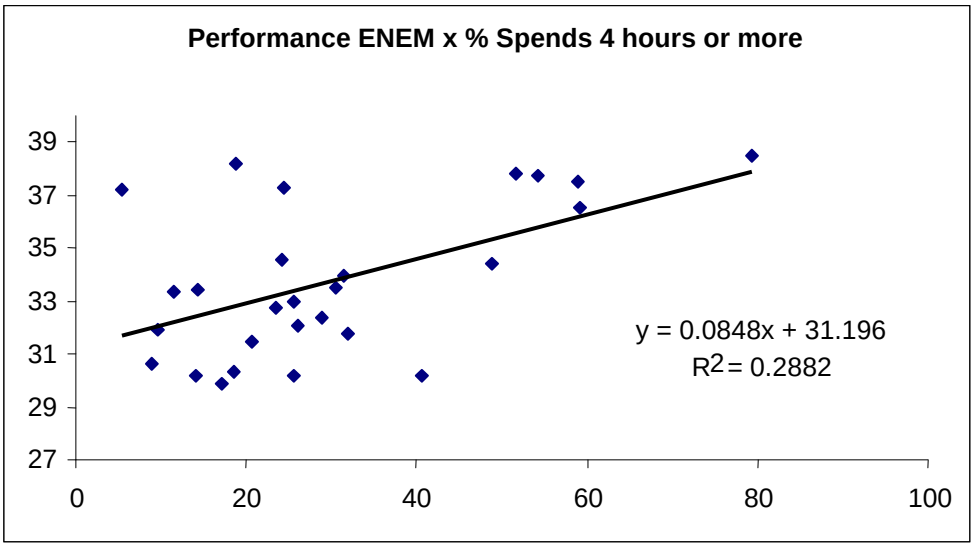
Source: CPS/FGV based on IBGE microdata.

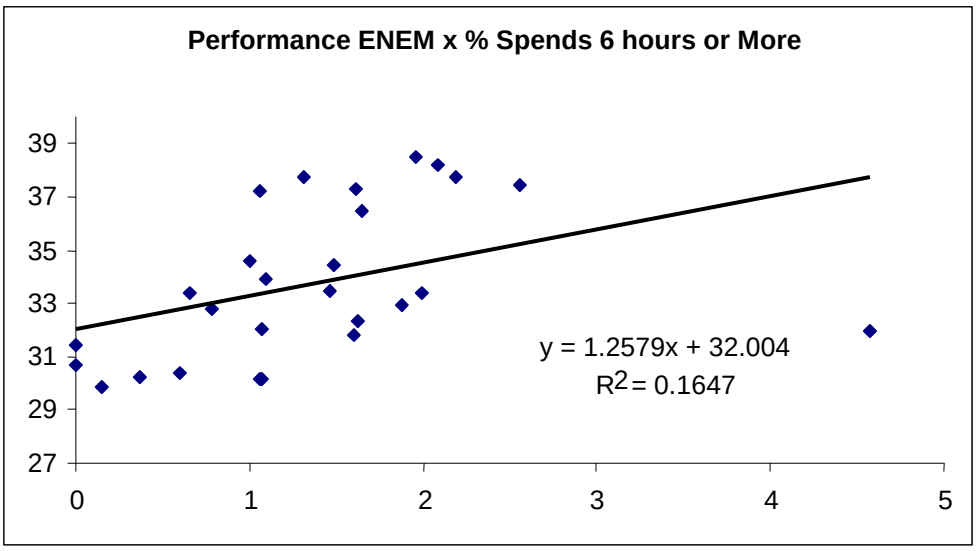
RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 6 HOURS PER DAY
15 TO 17 YEARS
Federal Units

		%
TOTAL BRAZIL		**1.41**
1	Rondônia	4.57
2	Espírito Santo	2.56
3	Rio de Janeiro	2.19
4	Rio Grande do Sul	2.08
5	Mato Grosso	1.99
6	Distrito Federal	1.96
7	Sergipe	1.88
8	São Paulo	1.65
9	Piauí	1.63
10	Paraná	1.61
11	Pará	1.6
12	Goiás	1.49
13	Rio Grande do Norte	1.46
14	Minas Gerais	1.31
15	Mato Grosso do Sul	1.09
16	Amapá	1.07
17	Bahia	1.07
18	Tocantins	1.06
19	Santa Catarina	1.06
20	Pernambuco	1,00
21	Paraíba	0.78
22	Ceará	0.66
23	Roraima	0.6
24	Maranhão	0.37
25	Amazonas	0.15
26	Acre	0,00
27	Alagoas	0,00

Source: CPS/FGV based on IBGE microdata.

The last table presents a ranking according to the school day length above 6 hours, which includes only 1.41% of youngsters, and even though it leads the rank, Rondônia only includes 4.57% of its students in this school day. Below is the analysis of the correlation between performance and the two criteria of school day length for those between 15 and 17 years old.





The graphs and regressions indicate a positive and significant relationship between the increase in the length of the school day and performance, which is more strongly present when the minimum school day lasts four hours.

d. Permanence Index[5]

"Rio is the leading state in the ranking of those enrolled in school, with 79% of the population between 0 and 17 years old enrolled, but if we take into consideration the shortest average school day (4.08 hours per day), and the largest index of absences (2.9% of absences), Rio is surpassed by Brasilia, São Paulo, and Espírito Santo, falling to fourth place in the national ranks. The enrolment rate effective of hours that youngsters spend in school decreases from 79% to 62%.

School attendance in different age ranges tends to be seen as a discrete variable, separating those who miss school and those enrolled. The PNAD educational supplement offers the opportunity to explore the gray areas between these extremes, utilizing absences and length of the school day as sources. We propose a school permanence index, composed of the index of those enrolled, the index of absences and the relative difference from the length of the school day when compared to the reference

[5] The permanence index is a combination of the length of time spent in school (hours per day), the number of days attended (school attendance), and whether or not the individual is in school. It is used to measure how long a student is actively in school.

school day of 5 hours per day (see results in the last sub-section). In this exercise, we observe that in the age range of 0 to 17 years old, the enrolment index corresponds to 0.738 (26.2% of school evasion), that when multiplied by the attendance index of 0.957 (4.3% of school days missed) and by the difference in school day of 0.776 (3.88 expected hours per day divided by a school day length of 5 hours per day) generates an index of 0.547. In other words, if there were no absences and if the length of the school day was the proposed reference, the permanence index would be of 0.738 versus 0.547.

BDP **BDS**

We present here the state rankings according to this indicator. Rio is the state leading the ranking of those enrolled in school, with 79% of the population between 0 and 17 years old enrolled, but if we take into consideration the shortest average school day (4.08 hours per day), and the largest index of absences (2.9% of absences), Rio is surpassed by Brasilia, São Paulo, and Espírito Santo, falling to fourth place in the national ranks. The enrolment rate effective of hours that youngsters spend in school decreases from 79% to 62%.

Similarly, when looking at the age range of 15 to 17 years, once again Rio is the state leading the ranking of those enrolled in school, with 88% of young adults between 15 and 17 enrolled in the school system. But if we take into consideration the shortest average school day length (4.2 daily hours) and the largest index of absenteeism (3.2% absences), Rio is surpassed by Brasilia and São Paulo, falling to third place in the national rankings. The effective enrolment rate of hours that youngsters spend inside the classroom falls from 88% to 72%. The reader is invited to confirm the relative data of his/her state in other age ranges.

1. Ranking: School Permanence

1.1. Age Range: 15 to 17 years

RANKING: SCHOOL PERMANENCE
PERMANENCE INDEX (Im*Ip*Ij)
15 TO 17 YEARS
Federal Units

		%
	TOTAL BRAZIL	**0,6153**
1	Distrito Federal	0,8143
2	São Paulo	0,7296
3	Rio de Janeiro	0,7219
4	Espírito Santo	0,6937
5	Minas Gerais	0,6831
6	Goiás	0,6613
7	Amapá	0,6541
8	Sergipe	0,5847
9	Rio Grande do Norte	0,5736
10	Mato Grosso do Sul	0,5707
11	Piauí	0,5685
12	Pará	0,5662
13	Amazonas	0,5576
14	Paraná	0,5560
15	Paraíba	0,5554
16	Rio Grande do Sul	0,5537
17	Bahia	0,5492
18	Roraima	0,5471
19	Alagoas	0,5314
20	Pernambuco	0,5279
21	Tocantins	0,5259
22	Santa Catarina	0,5159
23	Ceará	0,5099
24	Mato Grosso	0,4894
25	Maranhão	0,4890
26	Rondônia	0,4852
27	Acre	0,4743

Source: CPS/FGV based on IBGE microdata

RANKING: SCHOOL PERMANENCE
REGISTRATION INDEX (Im)
15 TO 17 YEARS
Federal Units

		%
	TOTAL BRAZIL	**0,8193**
1	Rio de Janeiro	0,8839
2	São Paulo	0,8697
3	Distrito Federal	0,8617
4	Amapá	0,8481
5	Santa Catarina	0,8404
6	Amazonas	0,8377
7	Rio Grande do Sul	0,8234
8	Sergipe	0,8226
9	Roraima	0,8177
10	Minas Gerais	0,8151
11	Goiás	0,8075
12	Paraíba	0,8054
13	Rio Grande do Norte	0,8053
14	Tocantins	0,8047
15	Piauí	0,7983
16	Paraná	0,7982
17	Bahia	0,7965
18	Ceará	0,7950
19	Espírito Santo	0,7923
20	Alagoas	0,7854
21	Maranhão	0,7805
22	Mato Grosso do Sul	0,7708
23	Rondônia	0,7659
24	Pará	0,7598
25	Mato Grosso	0,7594
26	Acre	0,7583
27	Pernambuco	0,7564

Source: CPS/FGV based on IBGE microdata

RANKING: SCHOOL PERMANENCE
SCHOOL DAY INDEX (Ij)
15 TO 17 YEARS
Federal Units

		%
	TOTAL BRAZIL	**0,7886**
1	Distrito Federal	0,9770
2	Espírito Santo	0,9106
3	São Paulo	0,8796
4	Minas Gerais	0,8728
5	Goiás	0,8493
6	Rio de Janeiro	0,8441
7	Amapá	0,7962
8	Pará	0,7767
9	Mato Grosso do Sul	0,7688
10	Rio Grande do Norte	0,7583
11	Piauí	0,7528
12	Bahia	0,7359
13	Maranhão	0,7334
14	Sergipe	0,7333
15	Pernambuco	0,7333
16	Paraná	0,7300
17	Paraíba	0,7208
18	Alagoas	0,7058
19	Rio Grande do Sul	0,7012
20	Roraima	0,6939
21	Amazonas	0,6825
22	Ceará	0,6757
23	Tocantins	0,6748
24	Rondônia	0,6747
25	Mato Grosso	0,6712
26	Acre	0,6475
27	Santa Catarina	0,6312

Source: CPS/FGV based on IBGE microdata

RANKING: SCHOOL PERMANENCE
SCHOOL ATTENDANCE INDEX (Ip)
15 TO 17 YEARS
Federal Units

		%
	TOTAL BRAZIL	**0,9524**
1	Amazonas	0,9753
2	Santa Catarina	0,9726
3	Sergipe	0,9693
4	Amapá	0,9686
5	Tocantins	0,9684
6	Rio de Janeiro	0,9677
7	Distrito Federal	0,9673
8	Acre	0,9660
9	Goiás	0,9643
10	Roraima	0,9643
11	Mato Grosso do Sul	0,9630
12	Espírito Santo	0,9615
13	Minas Gerais	0,9602
14	Mato Grosso	0,9602
15	Pará	0,9594
16	Rio Grande do Sul	0,9590
17	Alagoas	0,9587
18	Paraíba	0,9567
19	Paraná	0,9542
20	São Paulo	0,9537
21	Pernambuco	0,9518
22	Ceará	0,9492
23	Piauí	0,9460
24	Rio Grande do Norte	0,9394
25	Rondônia	0,9390
26	Bahia	0,9369
27	Maranhão	0,8544

Source: CPS/FGV based on IBGE microdata

RANKING: SCHOOL PERI
AVERAGE LENGTH OF S(
15 TO 17 YEARS
Federal Units

	TOTAL BRAZIL
1	Distrito Federal
2	Espírito Santo
3	São Paulo
4	Minas Gerais
5	Goiás
6	Rio de Janeiro
7	Amapá
8	Pará
9	Mato Grosso do Sul
10	Rio Grande do Norte
11	Piauí
12	Bahia
13	Maranhão
14	Sergipe
15	Pernambuco
16	Paraná
17	Paraíba
18	Alagoas
19	Rio Grande do Sul
20	Roraima
21	Amazonas
22	Ceará
23	Tocantins
24	Rondônia
25	Mato Grosso
26	Acre
27	Santa Catarina

Source: CPS/FGV based on IB(

Age Range: 7 to 14 years

RANKING: SCHOOL PERMANENCE
PERMANENCE INDEX (Im*Ip*Ij)
7 TO 14 YEARS
Federal Units

		%
TOTAL BRAZIL		**0,7180**
1	Distrito Federal	0,9320
2	Espírito Santo	0,8650
3	São Paulo	0,8601
4	Minas Gerais	0,8162
5	Goiás	0,7789
6	Rio de Janeiro	0,7731
7	Amapá	0,7115
8	Rio Grande do Norte	0,6930
9	Mato Grosso do Sul	0,6879
10	Roraima	0,6661
11	Paraná	0,6643
12	Pernambuco	0,6582
13	Sergipe	0,6531
14	Piauí	0,6511
15	Rio Grande do Sul	0,6432
16	Bahia	0,6398
17	Paraíba	0,6335
18	Pará	0,6319
19	Tocantins	0,6258
20	Rondônia	0,6190
21	Alagoas	0,6183
22	Amazonas	0,6092
23	Santa Catarina	0,5988
24	Mato Grosso	0,5979
25	Ceará	0,5884
26	Maranhão	0,5861
27	Acre	0,5591

Source: CPS/FGV based on IBGE microdata

RANKING: SCHOOL PERMANENCE
REGISTRATION INDEX (Im)
7 TO 14 YEARS
Federal Units

		%
TOTAL BRAZIL		**0,9708**
1	Santa Catarina	0,9869
2	São Paulo	0,9847
3	Distrito Federal	0,9845
4	Rio de Janeiro	0,9805
5	Rio Grande do Sul	0,9789
6	Mato Grosso do Sul	0,9779
7	Espírito Santo	0,9766
8	Roraima	0,9753
9	Minas Gerais	0,9740
10	Piauí	0,9733
11	Paraná	0,9729
12	Rio Grande do Norte	0,9719
13	Ceará	0,9703
14	Goiás	0,9700
15	Paraíba	0,9669
16	Amapá	0,9667
17	Tocantins	0,9667
18	Mato Grosso	0,9616
19	Sergipe	0,9608
20	Maranhão	0,9578
21	Bahia	0,9567
22	Pernambuco	0,9533
23	Amazonas	0,9532
24	Alagoas	0,9511
25	Pará	0,9460
26	Rondônia	0,9434
27	Acre	0,9278

Source: CPS/FGV based on IBGE microdata

RANKING: SCHOOL PERMANENCE
SCHOOL DAY INDEX (Ij)
7 TO 14 YEARS
Federal Units

		%
TOTAL BRAZIL		**0,7702**
1	Distrito Federal	0,9729
2	Espírito Santo	0,9184
3	São Paulo	0,9081
4	Minas Gerais	0,8658
5	Goiás	0,8306
6	Rio de Janeiro	0,8109
7	Amapá	0,7561
8	Rio Grande do Norte	0,7513
9	Mato Grosso do Sul	0,7309
10	Pernambuco	0,7221
11	Paraná	0,7102
12	Roraima	0,7051
13	Piauí	0,7009
14	Sergipe	0,7007
15	Bahia	0,6976
16	Pará	0,6950
17	Maranhão	0,6942
18	Rondônia	0,6888
19	Paraíba	0,6838
20	Rio Grande do Sul	0,6809
21	Alagoas	0,6746
22	Tocantins	0,6672
23	Amazonas	0,6561
24	Mato Grosso	0,6477
25	Ceará	0,6301
26	Santa Catarina	0,6255
27	Acre	0,6241

Source: CPS/FGV based on IBGE microdata

RANKING: SCHOOL PERMANENCE
SCHOOL ATTENDANCE INDEX (Ip)
7 TO 14 YEARS
Federal Units

		%
TOTAL BRAZIL		**0,9603**
1	Amazonas	0,9741
2	Amapá	0,9734
3	Rio de Janeiro	0,9724
4	Tocantins	0,9702
5	Sergipe	0,9701
6	Santa Catarina	0,9701
7	Roraima	0,9686
8	Minas Gerais	0,9679
9	Goiás	0,9667
10	Acre	0,9655
11	Rio Grande do Sul	0,9650
12	Espírito Santo	0,9644
13	Alagoas	0,9636
14	Ceará	0,9624
15	Mato Grosso do Sul	0,9624
16	São Paulo	0,9619
17	Paraná	0,9614
18	Pará	0,9611
19	Mato Grosso	0,9600
20	Bahia	0,9586
21	Paraíba	0,9581
22	Pernambuco	0,9562
23	Piauí	0,9544
24	Rondônia	0,9526
25	Rio Grande do Norte	0,9491
26	Maranhão	0,8815
27	Distrito Federal	0,9730

Source: CPS/FGV based on IBGE microdata

RANKING: SCHOOL PERI
AVERAGE LENGTH OF S(
7 TO 14 YEARS
Federal Units

TOTAL BRAZIL	
1	Distrito Federal
2	Espírito Santo
3	São Paulo
4	Minas Gerais
5	Goiás
6	Rio de Janeiro
7	Amapá
8	Rio Grande do Norte
9	Mato Grosso do Sul
10	Pernambuco
11	Paraná
12	Roraima
13	Piauí
14	Sergipe
15	Bahia
16	Pará
17	Maranhão
18	Rondônia
19	Paraíba
20	Rio Grande do Sul
21	Alagoas
22	Tocantins
23	Amazonas
24	Mato Grosso
25	Ceará
26	Santa Catarina
27	Acre

Source: CPS/FGV based on IB(

Age Range: 0 to 6 years

RANKING: SCHOOL PERMANENCE
PERMANENCE INDEX (Im*Ip*Ij)
0 TO 6 YEARS
Federal Units

		%
TOTAL BRAZIL		**0,2980**
1	São Paulo	0,3831
2	Rio de Janeiro	0,3767
3	Santa Catarina	0,3568
4	Distrito Federal	0,3467
5	Espírito Santo	0,3445
6	Paraná	0,3342
7	Rio Grande do Norte	0,3335
8	Minas Gerais	0,3275
9	Sergipe	0,2911
10	Ceará	0,2751
11	Paraíba	0,2724
12	Rio Grande do Sul	0,2596
13	Mato Grosso do Sul	0,2553
14	Pernambuco	0,2552
15	Bahia	0,2534
16	Piauí	0,2506
17	Goiás	0,2484
18	Roraima	0,2333
19	Maranhão	0,2233
20	Alagoas	0,2218
21	Mato Grosso	0,2092
22	Pará	0,2018
23	Tocantins	0,1672
24	Amazonas	0,1653
25	Acre	0,1642
26	Amapá	0,1608
27	Rondônia	0,1561

Source: CPS/FGV based on IBGE microdata

RANKING: SCHOOL PERMANENCE
REGISTRATION INDEX (Im)
0 TO 6 YEARS
Federal Units

		%
TOTAL BRAZIL		**0,4016**
1	Rio Grande do Norte	0,5156
2	Rio de Janeiro	0,4834
3	Santa Catarina	0,4773
4	Ceará	0,4619
5	São Paulo	0,4483
6	Sergipe	0,4464
7	Espírito Santo	0,4215
8	Piauí	0,4168
9	Paraíba	0,4074
10	Minas Gerais	0,4072
11	Pernambuco	0,3985
12	Paraná	0,3961
13	Distrito Federal	0,3938
14	Bahia	0,3931
15	Maranhão	0,3767
16	Roraima	0,3629
17	Alagoas	0,3517
18	Pará	0,3287
19	Rio Grande do Sul	0,3233
20	Mato Grosso do Sul	0,3188
21	Goiás	0,3090
22	Mato Grosso	0,3003
23	Acre	0,2801
24	Tocantins	0,2766
25	Amapá	0,2676
26	Amazonas	0,2674
27	Rondônia	0,2371

Source: CPS/FGV based on IBGE microdata

RANKING: SCHOOL PERMANENCE
SCHOOL DAY INDEX (Ij)
0 TO 6 YEARS
Federal Units

		%
TOTAL BRAZIL		**0,7804**
1	Distrito Federal	0,9175
2	São Paulo	0,9006
3	Paraná	0,8899
4	Espírito Santo	0,8648
5	Rio Grande do Sul	0,8435
6	Mato Grosso do Sul	0,8426
7	Minas Gerais	0,8386
8	Goiás	0,8369
9	Rio de Janeiro	0,8038
10	Santa Catarina	0,7866
11	Mato Grosso	0,7396
12	Paraíba	0,7087
13	Rio Grande do Norte	0,6949
14	Roraima	0,6915
15	Rondônia	0,6868
16	Bahia	0,6772
17	Pernambuco	0,6747
18	Sergipe	0,6739
19	Pará	0,6532
20	Alagoas	0,6522
21	Maranhão	0,6507
22	Piauí	0,6362
23	Tocantins	0,6357
24	Amazonas	0,6346
25	Ceará	0,6283
26	Amapá	0,6258
27	Acre	0,6081

Source: CPS/FGV based on IBGE microdata

RANKING: SCHOOL PERMANENCE
SCHOOL ATTENDANCE INDEX (Ip)
0 TO 6 YEARS
Federal Units

		%
TOTAL BRAZIL		**0,9508**
1	Amazonas	0,9739
2	Rio de Janeiro	0,9695
3	Sergipe	0,9678
4	Alagoas	0,9669
5	Acre	0,9641
6	Goiás	0,9604
7	Amapá	0,9601
8	Distrito Federal	0,9596
9	Minas Gerais	0,9592
10	Rondônia	0,9587
11	Bahia	0,9520
12	Rio Grande do Sul	0,9519
13	Tocantins	0,9510
14	Mato Grosso do Sul	0,9504
15	Santa Catarina	0,9503
16	Pernambuco	0,9490
17	São Paulo	0,9489
18	Paraná	0,9481
19	Ceará	0,9480
20	Piauí	0,9452
21	Espírito Santo	0,9452
22	Paraíba	0,9433
23	Mato Grosso	0,9421
24	Pará	0,9401
25	Rio Grande do Norte	0,9309
26	Roraima	0,9295
27	Maranhão	0,9109

Source: CPS/FGV based on IBGE microdata

RANKING: SCHOOL PERI
AVERAGE LENGTH OF S(
0 TO 6 YEARS
Federal Units

TOTAL BRAZIL	
1	Distrito Federal
2	São Paulo
3	Paraná
4	Espírito Santo
5	Rio Grande do Sul
6	Mato Grosso do Sul
7	Minas Gerais
8	Goiás
9	Rio de Janeiro
10	Santa Catarina
11	Mato Grosso
12	Paraíba
13	Rio Grande do Norte
14	Roraima
15	Rondônia
16	Bahia
17	Pernambuco
18	Sergipe
19	Pará
20	Alagoas
21	Maranhão
22	Piauí
23	Tocantins
24	Amazonas
25	Ceará
26	Amapá
27	Acre

Source: CPS/FGV based on IB(

1.2. Age Range: 0 to 17 years

RANKING: SCHOOL PERMANENCE
PERMANENCE INDEX (Im*Ip*Ij)
0 TO 17 YEARS
Federal Units

		%
	TOTAL BRAZIL	**0,5478**
1	Distrito Federal	0,6856
2	São Paulo	0,6641
3	Espírito Santo	0,6472
4	Rio de Janeiro	0,6246
5	Minas Gerais	0,6211
6	Goiás	0,5627
7	Rio Grande do Norte	0,5377
8	Paraná	0,5316
9	Mato Grosso do Sul	0,5162
10	Sergipe	0,5060
11	Santa Catarina	0,5016
12	Rio Grande do Sul	0,4958
13	Piauí	0,4942
14	Paraíba	0,4872
15	Pernambuco	0,4848
16	Bahia	0,4820
17	Roraima	0,4729
18	Amapá	0,4724
19	Ceará	0,4630
20	Pará	0,4539
21	Alagoas	0,4518
22	Tocantins	0,4432
23	Mato Grosso	0,4387
24	Maranhão	0,4341
25	Rondônia	0,4293
26	Amazonas	0,4233
27	Acre	0,3931

Source: CPS/FGV based on IBGE microdata

RANKING: SCHOOL PERMANENCE
REGISTRATION INDEX (Im)
0 TO 17 YEARS
Federal Units

		%
	TOTAL BRAZIL	**0,7379**
1	Rio de Janeiro	0,7885
2	Santa Catarina	0,7864
3	Rio Grande do Norte	0,7721
4	São Paulo	0,7701
5	Ceará	0,7577
6	Minas Gerais	0,7469
7	Piauí	0,7444
8	Sergipe	0,7444
9	Espírito Santo	0,7442
10	Paraná	0,7434
11	Distrito Federal	0,7353
12	Paraíba	0,7330
13	Rio Grande do Sul	0,7262
14	Bahia	0,7214
15	Pernambuco	0,7116
16	Mato Grosso do Sul	0,7110
17	Maranhão	0,7101
18	Roraima	0,7038
19	Goiás	0,6979
20	Alagoas	0,6935
21	Tocantins	0,6900
22	Mato Grosso	0,6876
23	Pará	0,6758
24	Amazonas	0,6606
25	Rondônia	0,6588
26	Amapá	0,6563
27	Acre	0,6512

Source: CPS/FGV based on IBGE microdata

RANKING: SCHOOL PERMANENCE
SCHOOL DAY INDEX (Ij)
0 TO 17 YEARS
Federal Units

		%
	TOTAL BRAZIL	**0,7759**
1	Distrito Federal	0,9623
2	Espírito Santo	0,9060
3	São Paulo	0,9006
4	Minas Gerais	0,8620
5	Goiás	0,8354
6	Rio de Janeiro	0,8159
7	Mato Grosso do Sul	0,7558
8	Paraná	0,7469
9	Amapá	0,7419
10	Rio Grande do Norte	0,7388
11	Pernambuco	0,7142
12	Rio Grande do Sul	0,7099
13	Pará	0,7020
14	Sergipe	0,7012
15	Bahia	0,7011
16	Roraima	0,7002
17	Piauí	0,6982
18	Paraíba	0,6961
19	Maranhão	0,6931
20	Rondônia	0,6856
21	Alagoas	0,6763
22	Mato Grosso	0,6666
23	Tocantins	0,6641
24	Santa Catarina	0,6599
25	Amazonas	0,6577
26	Ceará	0,6387
27	Acre	0,6253

Source: CPS/FGV based on IBGE microdata

RANKING: SCHOOL PERMANENCE
SCHOOL ATTENDANCE INDEX (Ip)
0 TO 17 YEARS
Federal Units

		%
	TOTAL BRAZIL	**0,9568**
1	Amazonas	0,9743
2	Rio de Janeiro	0,9709
3	Amapá	0,9702
4	Sergipe	0,9694
5	Distrito Federal	0,9690
6	Tocantins	0,9671
7	Santa Catarina	0,9665
8	Acre	0,9653
9	Goiás	0,9652
10	Minas Gerais	0,9647
11	Alagoas	0,9633
12	Rio Grande do Sul	0,9618
13	Mato Grosso do Sul	0,9606
14	Espírito Santo	0,9599
15	Roraima	0,9597
16	São Paulo	0,9575
17	Paraná	0,9575
18	Mato Grosso	0,9572
19	Pará	0,9568
20	Ceará	0,9567
21	Paraíba	0,9548
22	Pernambuco	0,9539
23	Bahia	0,9530
24	Piauí	0,9509
25	Rondônia	0,9505
26	Rio Grande do Norte	0,9427
27	Maranhão	0,8820

Source: CPS/FGV based on IBGE microdata

RANKING: SCHOOL PERI
AVERAGE LENGTH OF S(
0 TO 17 YEARS
Federal Units

	TOTAL BRAZIL
1	Distrito Federal
2	Espírito Santo
3	São Paulo
4	Minas Gerais
5	Goiás
6	Rio de Janeiro
7	Mato Grosso do Sul
8	Paraná
9	Amapá
10	Rio Grande do Norte
11	Pernambuco
12	Rio Grande do Sul
13	Pará
14	Sergipe
15	Bahia
16	Roraima
17	Piauí
18	Paraíba
19	Maranhão
20	Rondônia
21	Alagoas
22	Mato Grosso
23	Tocantins
24	Santa Catarina
25	Amazonas
26	Ceará
27	Acre

Source: CPS/FGV based on IB(

d. Education Targets

"If we know WHERE to go, we can choose HOW to get there, thus the importance of targets. This study asks the question: WHY do we want to get there?"

We now look at the motivations of other actors in the educational process, aside from parents and their children. The creation of a system of educational targets proposed in the plan keeps the promise of motivating mayors and governors. A challenge to investing in education is that the investment's maturation often occurs in the long term, beyond the horizon of government mandates. Another difficulty of education policy is the fact that it is predominantly geared towards the population younger than the voting age. A previous study shows the existence of political business cycles in income transfers, which grows in electoral years for those above the voting age limit. These limitations suggest the active participation of civil society such as **Compromisso Todos pela Educação** and the application of targets with rewards towards the units that manage education networks through performance, as the projected plan aims to propose. It is necessary to leave behind the model with expense links and the irrelevance of academic performance in the distribution of public resources. If Bolsa Família demands academic performance from poor families, why are managers (and instructors) excused from such demands?

The National System of Basic Education Evaluation (SAEB), the Prova Brasil and ENEM may provide local information of fundamental interest for authorities to manage the learning network , as well as to mobilize society towards the educational cause. We present below an example based on the grades of the Secondary Education National Exam (ENEM).

ENEM 2006 - Top 20 Schools in the Country (Private and Public)	**Average**
Instituto Dom Barreto (Teresina-PI)	74.71
Colégio Vértice (São Paulo-SP)	74.15
Colégio Santo Agostinho (Rio de Janeiro-RJ)	72.36
Colégio de São Bento (Rio de Janeiro-RJ)	72.06
Colégio Santo Agostinho (Novo Leblon-RJ)	71.79
Colégio Bandeirantes (São Paulo-SP)	70.89
Colégio de Aplicação da UFV (Viçosa-MG)	70.84

Colégio Helyos (Feira de Santana-BA)	70.58
Colégio WR (Goiânia-GO)	70.57
Colégio Bernoulli (Belo Horizonte-MG)	70.47
Colégio Santo Inácio (Rio de Janeiro-RJ)	70.29
Colégio Loyola (Belo Horizonte-MG)	70.23
Colégio Santo Antônio (Belo Horizonte-MG)	70.09
Escola Ipiranga (Petrópolis-RJ)	70
Colégio Aplicação da UFPE (Recife-PE)	70
Colégio União (Três Corações-MG)	69.81
Colégio Anchieta (Nova Friburgo-RJ)	69.46
Colégio Engenheiro Juarez de Siqueira Britto Wande (São José dos Campos-SP)	69.34
Colégio Equipe (Recife-PE)	69.27
Universidade Tecnológica Federal do Paraná (Curitiba-PR)	69.26

Source: INEP/MEC 2006

Education Targets and Social Credit

V – Targets and Education Pact

T – Design for a System of Social Targets

T – Dynamic Aspects of a System of Social Targets

V – Creso Franco's Presentation – Director, Dept of Education, PUC-RJ

Managers, researchers and social area observers search for available empirical evidence to reach a new generation of public policies. A type of Holy Grail, which is never reached, but whose search leads to new conquests. The theme to be discussed here is neither the definition nor the choice of a set of educational targets, but the possibilities of what we can (and should not) do with them, once established.

A characteristic of the Brazilian basic educational system is the increasing decentralization of federal expenditure. The decentralization of the Brazilian educational system, and of the health system, was propelled by the 1988 Constitution, and it has become more and more present in the income transfer policies, such as the Bolsa Familia, since the creation of the poverty eradication fund by the National Congress in 2000. Decentralization is fundamental for financing social actions where they are more needed and where resources are scarcer.

We discuss different types of partnership among levels of government based on the classic principal-agent problem. The principal can be seen as the federal government, in search of the improvement of the educational system, passing funds on

to the municipality, the agent who implements the social actions. A similar situation is found in the relationship of the states' federal governments.

In light of the Brazilian size and heterogeneity, it is impossible to observe from Brasilia the specific needs of every corner in the country. The federal government has less information than the local government about the students' needs. Therefore it is understandable that the municipal and state governments be responsible for implementing education actions in each location. The federal government should establish partnerships with the municipalities or states, transferring resources and monitoring the attained results. Usually, however, the State only assesses the proper use of resources, according to constitutional mandates. The most important analysis, i.e. the achievement of social results , tends not to be carried out. What we verify, in the best of situations, is whether the funds were employed according to the law.

Based on the model in Neri and Xerez (2003), we analyze the impact of three types of institutional environments on the behavior of municipalities. In the first place, the transfer of fixed federal funds, or unconditional. In this case, there is the displacement of educational investments carried out by the locality, similar to the crowding-out effect found in macroeconomic textbooks. In this case, the social targets of the local power are defined by the central power. As we see, it is necessary to stimulate a relationship of complementation, not of substitution, of the actions between various levels of government.

In a second situation, called repeated focus, transfers have always privileged the municipalities with the poorest education. The result obtained by the managers at these locations is worse than in the absence of additional federal transfers. We introduce a perverse incentive for local governments to maintain a group of delays and the poor quality of the educational system, so as to justify access to new resources in the future. This point does not refer to the recent Brazilian debate of whether it is desirable or not to focus social expenses, but about the better way in which to do so. The basic critique to repeated focus at the level of indicators is not that the indicators are not correct, but that they are wrong. In this case, as more money is destined towards the poorest, the less money reaches the poorest. It is necessary to avoid the vicious cycle whereby, the worst the administration, the better the budget received.

Finally, there are contracts with clauses that establish a proportionality relationship between the value to be transferred and the social progress attained. What is

established between the federal government and the municipality is somewhat similar to a services contract. In a realistic situation, first the municipality receives the money, then social performance in verified. It can be regarded as a *Social Credit* for the municipality to carry out certain advances drawn out in the contract. Following this, if the established targets are fulfilled, credit payment is withdrawn. If the targets are not fulfilled in a satisfactory manner, the limit of credit established by the federal government for the municipality is compromised.

This type of contract is already carried out between government and citizens in programs such as bolsa-escola and bolsa-familia. By adding a similar contract between governments, the system of conditional transfer distribution would become more consistent throughout time in its different levels, resulting in the flow of resources towards greater social returns. It is worthwhile remembering that the evaluation of outcomes is one of the few moments when the poorest may outperform the others. For example, municipalities where half the children attend school can double the indicator, as opposed to one where 90% are already in school. Now this potential has to be fulfilled.

The main problem with the implementation of social credit schemes relates to the presence of shocks. The result obtained by the social protagonist depends on factors beyond their reach, since the result does not solely depend on their efforts and ability of implementation. As in the case of idiosyncratic shocks such as droughts, floods, and tsunamis, it is fundamental to create social security mechanisms. In the case of aggregate shocks, such as a recession, due to their systemic non-insurable nature, it is fundamental to use schemes of relative evaluation. The creation of a system amenable to international comparisons, such as the MDGs or the educational targets of Dakar, allows us to place each country within international norms. The system of incentives should be announced a priori and relative performance should be evaluated a posteriori. Everything works as a credit system where social projects' financial debt should be reduced in view of social advances. The advantage of a social credit instrument is, if well developed, to attract better social actors and induce them to engage in better practices.

At present, the heart and veins of Brazilian educational politics are transfer mechanisms of transfer of federal government resources to municipalities and states. Obviously, spending funds in these regions results in an improvement of local life.

However, it is important to regard social politics through the monitoring of the social budget, not only to verify whether they are really employed in the pre-established areas, but also to evaluate the improvement in the population's situation. It is necessary to go beyond the analysis of accounts. It is not enough to know how much was invested; the measure of the result reached should be known, so as to open up the channels of public resources to the educational sphere in order to reach areas that offer the highest returns to society.

There is no doubt that the core of social action should be the poorest. Nonetheless, those that relocate themselves to meet their needs should be particularly rewarded, for they will not need (public) resources in the future. Future success should be rewarded, as opposed to solely rewarding past losses. Social credit mechanisms may be perceived as a conversion process of educational debt into monetary resources so as to create virtuous solution cycles for educational needs. We take the amount of resources necessary to meet educational needs as a measure of social debt of a given locality in a determined period of time. Each locality would have access to a cash flow when social indicators show that it is decreasing its respective social debt. In general, you can think that efficiency is not a comparative advantage in a poor society. However, one of the few —perhaps the only — advantagesin being poor is the relative capacity to prosper. For example, if 50% of the children are not going to school, the community can double the initial figure, while if the baseline data is 100% of children in school, there is no space for improvements. In the case of social credit, equality and efficiency walk hand in hand.

Many social programs are based on the transfer of federal government funds to states and municipalities with needy regions. Obviously, the expenditure in the regions results in the improvement of the local population's living conditions. However, what generally is not evaluated is whether the final result reached could have been better.

CONCLUSIONS

If we were to synthesize the main elements pursued nowadays in the design of innovation in social interventions—that is, what is IN in public policies—we would say: incentives, information and infancy.[6] Nations and parents who care for their children,

[6] Similarly, what is *out* in public policy also starts with *in*: inefficiency and inequity.

since their most tender age, guarantee their future. In other words, it ends being more productive from the social point of view (as well as the fiscal one) to prevent rather than remediate, by investing in education. Education constitutes the true cost of social opportunity—whatever the alternative to investment with a highest social return may be.

This research on education and its database provide three types of contribution: i) impacts of education at the individual level. The objective here is not only to inform policy managers and opinion makers, but to provide a basis for the average citizen in his/her decision-making. ii) Motivational evidences about whom educational policies should be the most concerned with. iii) Discussion on the implications of policies, exploring certain desirable upgrades, in the incentive and in the demand for education—such as Bolsa-Familia—aside from supply programs—such as management systems based on incentives linked to performance, as recently released in the educational PAC.

Annex:

As we have seen, educational policies should not be guided solely on grounds of equality, the policy's efficiency in transforming the lives of those who receive its benefits should also be considered, as well as the labor change (and at what cost). In the case of public action, it is important still to act in areas where the social returns are greater than the private or individual's, in function of externalities and the general transmission of education. We begin with international evidences that deal with aggregate impacts on education about growth, exports, mortality and longevity, among others.

a. School Externalities

The private decision regarding education does not include the impact that greater education of each individual may have on the learning ability not only of descendants, but that of other families, which would justify public action in addition to private. For example, Ricardo Paes de Barros has demonstrated that the average education of mothers in a given community has a strong explanatory power over the academic performance of children, even when controlled by the child's respective mother's educational level. In broader terms, Jere Berhman from the IDB shows that for each additional year of study, life expectancy increases two years, population growth decreases 0.26 percentage points (p.p.), exports increase 0.7 p.p. and per capita income growth increases 0.35 p.p. It is difficult to imagine investment, social or private, more rewarding than a child moving to the next grade.

b. Educational Mobility

The impact of parents' education on their children should be captured both the public as well as the private decision-making. We summarize some evidence from works in this area that measure the education mobility among generations. Educational inequality is transmitted through generations, in particular through the transfer of education, or lack thereof, from father to son. Ferreira and Velloso (2005) show that the degree of education inequality transmission from parents to children is very high in

Brazil (68%) when compared to that of the United States (30%). The degree of intergenerational mobility in education in Brazil is less than that observed in developed countries or in developing countries, with the exception of Colombia (70%). Another conclusion of the research shows that the education of parents has an important role in determining their children's educational level. When the father has not completed one year of study, the child has 33.85% chance of remaining without education. For the children of parents with higher education, this percentage decreases to less than 1%, having the higher probability of repeating the performance of the previous generation (60.02%) as per Table 4.

Table 4

Probability of Child's Schooling Versus Parents (%)

Child / Father	No Schooling	Primary Education	Basic Education	Secondary Education	Higher Education
No Schooling	**33.85**	18.49	5.65	4.20	1.08
Primary Education	2.78	15.67	15.15	22.00	11.59
Basic Education	1.38	4.07	13.71	28.78	24.44
Secondary Education	0.37	1.76	6.48	32.56	35.8
Higher Education	0.75	0.90	3.77	16.19	**60.02**

Source: Velloso and Ferreira (2003) based on PNAD 1996/IBGE

c. Education and Marriage

How many marriage relations occur between people of the same educational level? How did this evolve throughout time? These questions can be relevant in order to determine the degree of inter-generational transmission of education inequality, which, as we saw, is an observable relevant factor in determining income inequality. Raquel Fernandez' research, applied to a set of countries demonstrates that the higher the return rate of education in each country, the more likely it is that people of the same educational level intermarry, leading to greater inequality in the generation of offspring in these marriages.

We present below the educational diversity of marriages by studying the combination of determined characteristics such as religion, race, and age.

Education (Categories of Completed Years of Study):

2000		*Head*					
		No education	1 to 3	4 to 7	8 to 11	12 or more	Total of Spouses
Spouse	No education	6,42	2,98	2,14	0,48	0,04	12,05
	1 to 3	3,67	6,98	5,47	1,56	0,11	17,79
	4 to 7	2,72	6,45	16,46	7,04	0,57	33,25
	8 to 11	0,61	2,00	7,69	15,32	3,59	29,22
	12 or more	0,03	0,13	0,61	2,48	4,45	7,70
	Total of Heads	13,45	18,54	32,38	26,87	8,75	100,00

1970		*Head*					
		No education	1 to 3	4 to 7	8 to 11	12 or more	Total Spouses
Spouse	No education	28,25	11,20	4,19	0,54	0,42	44,58
	1 to 3	6,63	13,70	5,34	0,62	0,36	26,65
	4 to 7	2,54	4,63	10,76	1,94	1,24	21,12
	8 to 11	0,29	0,39	1,00	1,05	1,14	3,87
	12 or more	0,23	0,28	0,76	0,62	1,90	3,78
	Total Heads	37,93	30,20	22,05	4,76	5,06	100,00

Obs: Without missing

Source: CPS/IBRE/FGV based on Census 1970 and 2000/IBGE microdata.

In 2000, 49.6% of marriages occurred among the same educational groups, against 56.7% in 1970. Aside from the better educational diversity that may be beneficial to educational equality (and that of income) of the next generations of society given as a whole. It is worthwhile to mention that there has also been an improvement in educational levels, for example, the mode (most frequent value) among all education combinations between head of households and spouses changed from people with no education in 1970 to couples that coincide in the range of 4-7 years of completed education in 2000.

d. Education and Proficiency

Aside from labor and health impacts, a central aspect of educational impact analysis arises from the study of proficiency among students that measures the level of

learning at each grade. This is fundamental, but presents some measurement problems to be dealt with. A problem in this approach in Brazil is the evaluation systems for those who are in school in certain specific grades. If, for example, children are in school because of programs like bolsa-escola or bolsa-familia; or whether they reach to day, with more frequencythe fourth grade as a result of automatic progression, independent of virtues and flaws in these policies, an inter-temporal comparison of proficiency is harmed. Some studies demonstrate that the strong decrease in quality of teaching in Brazil observed since 1995 may be negatively biased in favor of those who were previously excluded from the educational evaluation system, not allowing us to perform specific analyses of the theme. We are now capturing the proficiency of individuals who previously were not being evaluated.

Another limitation in this method of evaluating the quality of teaching only through student proficiency is the disregard about the usefulness of certain knowledge in practical terms. This involves subjective elements, such as citizenship values and practices. Another impact of educational policy already being analyzed refers to the changes in the labor market insertion and the job market's general conditions. We also consider the individual's return when leaving the education system, and the learning impact on the individual's ability to be employed and his/her associated salary. **T S**

e. Return Rate of Education

The Brazilian return rate to education is extremely high, which should be an enormous incentive for the accumulation of human capital.[7] A study by Fernando de Holanda Barbosa Filho and Samuel Pessoal (2006), based on the PNAD 2004, calculated the internal rate of return to education[8] from investments in the country's education, and signaled that i) investment in education in Brazil is extremely attractive, offering high rates of return; ii) the return rate of pre-school is superior to 17%; iii) that of secondary education is of 14% and iv) that of higher education was over 18%. However, according to Neri, the rate of return (which is relevant to the student) is not the rate observed a posteriori, but the rate a priori, which includes the probability of grade repetition. This means that, in truth, if the repetition rate is 22%, for example, as it

[7] The average income of someone with no education is of R$138 while that of someone with an undergraduate degree is R$2,200.

[8] Return rate that equals the present value of expenses of an additional year of education with the present value of benefits from this additional year. This study gives continuity to the analyses made in seminal studies by Carlos Langoni and Cláudio Moura Castro.

was in 2004, the relevant rate of return ends up being 12% and not 16%. Aside from this, the probability of finding a job increases with education. There is, therefore, a poverty trap where, in order to obtain higher returns, an individual must first invest, facing lower returns and higher risks. **P**

f. Plan for Development of Education

The "Educational PAC" announced by the Federal Government in March 2007 places education at the core of the debate and public action through eleven central points, prioritizing: teachers through the creation of national wage base (1) and access to the so-called Universidade Aberta do Brasil for professional improvement (2); schools through digital infra-structure (3) and access to electric energy and transportation **P** (4); school materials through its gratuitous distribution to all grades (5) and students, be they adults through the redefinition of the program Brasil Alfabetizado (6), be they children through the performance analysis of Provinha Brasil to correct deficiencies soon after alphabetization (7) and the Pro-Infancy program **S** (8). Two other points in the new proposal are: widening the age range from 15 to 17 for those who benefit from the conditionalities of Bolsa-Familia (9). Lastly, and perhaps most challenging, conditioning the transfer of resources from the federal government to states and municipalities to performance targets (10) through the creation of the Educational Development Index based on the School Census and Prova Brasil at the school level **S** (11). The objective is not to discuss the merit of each of these points vis-à-vis the challenges and educational needs of the country. This is a broad and complex theme, which has been the focus of an FGV seminar with education specialists. **V**

APPENDIX: REGIONAL RANKINGS

1. Ranking: School Permanence

1.3. Age Range: 00 to 17 years

a. Federal Units

RANKING: SCHOOL ATTENDANCE
% ATTENDING SCHOOL OR DAYCARE
00 TO 17 YEARS
Federal Units

		%
TOTAL BRAZIL		**73.8**
1	Rio de Janeiro	78.85
2	Santa Catarina	78.64
3	Rio Grande do Norte	77.21
4	São Paulo	77.01
5	Ceará	75.78
6	Minas Gerais	74.69
7	Piauí	74.44
8	Sergipe	74.44
9	Espírito Santo	74.43
10	Paraná	74.34
11	Distrito Federal	73.54
12	Paraíba	73.29
13	Rio Grande do Sul	72.62
14	Bahia	72.14
15	Pernambuco	71.15
16	Mato Grosso do Sul	71.1
17	Maranhão	71.01
18	Roraima	70.38
19	Goiás	69.79
20	Alagoas	69.35
21	Tocantins	69
22	Mato Grosso	68.76
23	Pará	67.59
24	Amazonas	66.06
25	Rondônia	65.88
26	Amapá	65.63
27	Acre	65.11

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 4 HOURS PER DAY
00 TO 17 YEARS
Federal Units

		%
TOTAL BRAZIL		**30.13**
1	Distrito Federal	64.45
2	Espírito Santo	54.4
3	São Paulo	54.17
4	Minas Gerais	46.94
5	Rio de Janeiro	40.2
6	Goiás	39.17
7	Rio Grande do Norte	25.6
8	Mato Grosso do Sul	24.22
9	Amapá	23.11
10	Paraná	21.92
11	Pernambuco	18.64
12	Sergipe	17.72
13	Piauí	17.53
14	Roraima	16.74
15	Bahia	16.66
16	Rio Grande do Sul	16.55
17	Pará	16.53
18	Maranhão	16.08
19	Paraíba	15.97
20	Alagoas	13.07
21	Rondônia	9.97
22	Amazonas	9.35
23	Mato Grosso	9.29
24	Tocantins	9.01
25	Santa Catarina	8.33
26	Ceará	6.71
27	Acre	4.12

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 6 HOURS PER DAY
00 TO 17 YEARS
Federal Units

		%
TOTAL BRAZIL		**2.32**
1	Paraná	5.38
2	Rondônia	4.13
3	São Paulo	3.71
4	Mato Grosso do Sul	3.48
5	Santa Catarina	3.44
6	Rio Grande do Sul	3.4
7	Espírito Santo	2.54
8	Rio de Janeiro	2.36
9	Mato Grosso	2.17
10	Distrito Federal	2.16
11	Tocantins	2.05
12	Minas Gerais	1.97
13	Goiás	1.91
14	Pernambuco	1.67
15	Paraíba	1.64
16	Bahia	1.58
17	Rio Grande do Norte	1.2
18	Sergipe	1.12
19	Roraima	0.88
20	Piauí	0.74
21	Pará	0.72
22	Ceará	0.63
23	Maranhão	0.45
24	Amazonas	0.18
25	Amapá	0.16
26	Alagoas	0.16
27	Acre	0,00

Source: CPS/FGV based on IBGE microdata.

b. Regions

c.

RANKING: SCHOOL ATTENDANCE
% ATTENDING SCHOOL OR DAYCARE
00 TO 17 YEARS
Regions

		%
TOTAL BRAZIL		**73.8**
1	**Southeast**	76.62
2	**South**	74.61
3	**Northeast**	72.81
4	**Center**	70.31
5	**North**	66.9

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 4 HOURS PER DAY
00 TO 17 YEARS
Regions

		%
TOTAL BRAZIL		**30.13**
1	**Southeast**	49.8
2	**Center**	31.68
3	**South**	16.88
4	**Northeast**	15.61
5	**North**	13.73

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 6 HOURS PER DAY
00 TO 17 YEARS
Regions

		%
TOTAL BRAZIL		**2.32**
1	**South**	4.19
2	**Southeast**	2.96
3	**Center**	2.27
4	**Northeast**	1.12
5	**North**	0.87

Source: CPS/FGV based on IBGE microdata.

d. Metropolitan Regions

RANKING: SCHOOL ATTENDANCE
% ATTENDING SCHOOL OR DAYCARE
00 TO 17 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**73.8**
1	Ceará	78.75
2	Rio de Janeiro	78.07
3	Pernambuco	77.9
4	São Paulo	77.37
5	Minas Gerais	77.3
6	Bahia	77.21
7	Paraná	76.28
8	Pará	73.6
9	Distrito Federal	73.54
10	Rio Grande do Sul	71.46

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 4 HOURS PER DAY
00 TO 17 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**30.13**
1	Distrito Federal	64.45
2	São Paulo	47.03
3	Minas Gerais	43.19
4	Rio de Janeiro	40.04
5	Bahia	26.74
6	Pernambuco	23.88
7	Pará	23.5
8	Rio Grande do Sul	18.23
9	Paraná	17.89
10	Ceará	11.66

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 6 HOURS PER DAY
00 TO 17 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**2.32**
1	Paraná	6.57
2	São Paulo	4.1
3	Rio Grande do Sul	3.57
4	Rio de Janeiro	2.46
5	Minas Gerais	2.33
6	Bahia	2.27
7	Distrito Federal	2.16
8	Pará	1.83
9	Ceará	1.45
10	Pernambuco	1.33

Source: CPS/FGV based on IBGE microdata.

1.4. Age Range: 15 to 17 years

a. Federal Units

RANKING: SCHOOL ATTENDANCE
% ATTENDING SCHOOL OR DAYCARE
15 TO 17 YEARS
Federal Units

		%
TOTAL BRAZIL		**81.93**
1	Rio de Janeiro	88.39
2	São Paulo	86.96
3	Distrito Federal	86.17
4	Amapá	84.81
5	Santa Catarina	84.04
6	Amazonas	83.77
7	Rio Grande do Sul	82.38
8	Sergipe	82.26
9	Roraima	81.77
10	Minas Gerais	81.5
11	Goiás	80.74
12	Rio Grande do Norte	80.54
13	Paraíba	80.54
14	Tocantins	80.47
15	Piauí	79.84
16	Paraná	79.82
17	Bahia	79.65
18	Ceará	79.51
19	Espírito Santo	79.23
20	Alagoas	78.54
21	Maranhão	78.04
22	Mato Grosso do Sul	77.07
23	Rondônia	76.59
24	Pará	75.98
25	Mato Grosso	75.95
26	Acre	75.83
27	Pernambuco	75.64

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 4 HOURS PER DAY
15 TO 17 YEARS
Federal Units

		%
TOTAL BRAZIL		**37.22**
1	Distrito Federal	79.25
2	São Paulo	59.15
3	Espírito Santo	58.97
4	Minas Gerais	54.27
5	Rio de Janeiro	51.74
6	Goiás	48.83
7	Amapá	40.53
8	Pará	31.96
9	Mato Grosso do Sul	31.44
10	Rio Grande do Norte	30.41
11	Piauí	28.87
12	Bahia	26,00
13	Maranhão	25.65
14	Sergipe	25.54
15	Paraná	24.33
16	Pernambuco	24.21
17	Paraíba	23.54
18	Alagoas	20.77
19	Rio Grande do Sul	18.75
20	Roraima	18.59
21	Amazonas	17.12
22	Ceará	14.39
23	Tocantins	13.99
24	Mato Grosso	11.53
25	Rondônia	9.74
26	Acre	9.01
27	Santa Catarina	5.49

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 6 HOURS PER DAY
15 TO 17 YEARS
Federal Units

		%
TOTAL BRAZIL		**1.41**
1	Rondônia	4.57
2	Espírito Santo	2.56
3	Rio de Janeiro	2.19
4	Rio Grande do Sul	2.08
5	Mato Grosso	1.99
6	Distrito Federal	1.96
7	Sergipe	1.88
8	São Paulo	1.65
9	Piauí	1.63
10	Paraná	1.61
11	Pará	1.6
12	Goiás	1.49
13	Rio Grande do Norte	1.46
14	Minas Gerais	1.31
15	Mato Grosso do Sul	1.09
16	Amapá	1.07
17	Bahia	1.07
18	Tocantins	1.06
19	Santa Catarina	1.06
20	Pernambuco	1,00
21	Paraíba	0.78
22	Ceará	0.66
23	Roraima	0.6
24	Maranhão	0.37
25	Amazonas	0.15
26	Acre	0,00
27	Alagoas	0,00

Source: CPS/FGV based on IBGE microdata.

b. Regions

RANKING: SCHOOL ATTENDANCE
% ATTENDING SCHOOL OR DAYCARE
15 TO 17 YEARS
Regions

		%
TOTAL BRAZIL		**81.93**
1	**Southeast**	85.45
2	**South**	81.73
3	**Center**	80.04
4	**Northeast**	78.95
5	**North**	78.48

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 4 HOURS PER DAY
15 TO 17 YEARS
Regions

		%
TOTAL BRAZIL		**37.22**
1	**Southeast**	56.58
2	**Center**	40.16
3	**North**	24.75
4	**Northeast**	23.66
5	**South**	18,00

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 6 HOURS PER DAY
15 TO 17 YEARS
Regions

		%
TOTAL BRAZIL		**1.41**
1	**Southeast**	1.69
2	**South**	1.67
3	**Center**	1.55
4	**North**	1.46
5	**Northeast**	0.9

Source: CPS/FGV based on IBGE microdata.

c. Metropolitan Regions

RANKING: SCHOOL ATTENDANCE
% ATTENDING SCHOOL OR DAYCARE
15 TO 17 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**81.93**
1	Rio de Janeiro	89.47
2	Minas Gerais	89.09
3	São Paulo	88.82
4	Paraná	87.1
5	Ceará	86.46
6	Bahia	86.28
7	Distrito Federal	86.17
8	Pará	84.41
9	Pernambuco	83.08
10	Rio Grande do Sul	81.99

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 4 HOURS PER DAY
15 TO 17 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**37.22**
1	Distrito Federal	79.25
2	São Paulo	53.53
3	Rio de Janeiro	51.17
4	Minas Gerais	50.65
5	Pará	43.08
6	Bahia	41.17
7	Pernambuco	34.66
8	Ceará	24.76
9	Rio Grande do Sul	22.3
10	Paraná	19.11

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 6 HOURS PER DAY
15 TO 17 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**1.41**
1	Pará	4.29
2	Rio de Janeiro	2.6
3	Rio Grande do Sul	1.99
4	Distrito Federal	1.96
5	São Paulo	1.93
6	Minas Gerais	1.87
7	Pernambuco	1.02
8	Bahia	1.01
9	Paraná	0.99
10	Ceará	0.97

Source: CPS/FGV based on IBGE microdata.

1.5. Age Range: 07 to 14 years

a. Federal Units

RANKING: SCHOOL ATTENDANCE
% ATTENDING SCHOOL OR DAYCARE
07 TO 14 YEARS
Federal Units

		%
TOTAL BRAZIL		**97.07**
1	Santa Catarina	98.69
2	São Paulo	98.47
3	Distrito Federal	98.45
4	Rio de Janeiro	98.05
5	Rio Grande do Sul	97.9
6	Mato Grosso do Sul	97.78
7	Espírito Santo	97.66
8	Roraima	97.53
9	Minas Gerais	97.41
10	Piauí	97.33
11	Paraná	97.3
12	Rio Grande do Norte	97.19
13	Ceará	97.04
14	Goiás	96.99
15	Paraíba	96.69
16	Amapá	96.68
17	Tocantins	96.68
18	Mato Grosso	96.16
19	Sergipe	96.08
20	Maranhão	95.77
21	Bahia	95.67
22	Pernambuco	95.33
23	Amazonas	95.32
24	Alagoas	95.11
25	Pará	94.6
26	Rondônia	94.33
27	Acre	92.77

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 4 HOURS PER DAY
07 TO 14 YEARS
Federal Units

		%
TOTAL BRAZIL		**40.21**
1	Distrito Federal	90.66
2	Espírito Santo	76.33
3	São Paulo	74.87
4	Minas Gerais	64.15
5	Goiás	55.03
6	Rio de Janeiro	50.23
7	Amapá	37.74
8	Rio Grande do Norte	35.73
9	Mato Grosso do Sul	30.46
10	Pernambuco	26.96
11	Paraná	24.54
12	Roraima	24.5
13	Piauí	23.69
14	Sergipe	23.31
15	Maranhão	22.33
16	Pará	22.1
17	Bahia	21.9
18	Paraíba	19.48
19	Rio Grande do Sul	18.62
20	Alagoas	17.55
21	Rondônia	14.78
22	Amazonas	13.32
23	Tocantins	13.01
24	Mato Grosso	10.08
25	Ceará	7.03
26	Acre	5.58
27	Santa Catarina	5.32

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 6 HOURS PER DAY
07 TO 14 YEARS
Federal Units

		%
TOTAL BRAZIL		**1.09**
1	Rondônia	6.15
2	Tocantins	3.23
3	Paraná	2.27
4	Pernambuco	2.14
5	Mato Grosso do Sul	1.53
6	Rio de Janeiro	1.46
7	Bahia	1.45
8	Espírito Santo	1.4
9	Mato Grosso	1.38
10	Rio Grande do Sul	1.19
11	Roraima	1.12
12	Distrito Federal	1.11
13	Rio Grande do Norte	1.04
14	São Paulo	0.99
15	Santa Catarina	0.97
16	Sergipe	0.87
17	Goiás	0.87
18	Piauí	0.85
19	Paraíba	0.77
20	Minas Gerais	0.58
21	Pará	0.37
22	Ceará	0.28
23	Maranhão	0.21
24	Alagoas	0.17
25	Amazonas	0.05
26	Acre	0,00
27	Amapá	0,00

Source: CPS/FGV based on IBGE microdata.

b. Regions

RANKING: SCHOOL ATTENDANCE
% ATTENDING SCHOOL OR DAYCARE
07 TO 14 YEARS
Regions

		%
TOTAL BRAZIL		**97.07**
1	**Southeast**	98.07
2	**South**	97.83
3	**Center**	97.14
4	**Northeast**	96.08
5	**North**	94.84

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 4 HOURS PER DAY
07 TO 14 YEARS
Regions

		%
TOTAL BRAZIL		**40.21**
1	**Southeast**	67.6
2	**Center**	42.73
3	**Northeast**	20.81
4	**North**	19.03
5	**South**	18.06

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 6 HOURS PER DAY
07 TO 14 YEARS
Regions

		%
TOTAL BRAZIL		**1.09**
1	**South**	1.56
2	**Center**	1.37
3	**Northeast**	1,00
4	**Southeast**	0.98
5	**North**	0.89

Source: CPS/FGV based on IBGE microdata.

c. Metropolitan Regions

RANKING: SCHOOL ATTENDANCE
% ATTENDING SCHOOL OR DAYCARE
07 TO 14 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**97.07**
1	São Paulo	98.48
2	Distrito Federal	98.45
3	Minas Gerais	98.38
4	Paraná	98.23
5	Rio de Janeiro	97.96
6	Rio Grande do Sul	97.66
7	Pernambuco	97.28
8	Ceará	96.96
9	Bahia	96.63
10	Pará	96.11

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 4 HOURS PER DAY
07 TO 14 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**40.21**
1	Distrito Federal	90.66
2	São Paulo	62.55
3	Minas Gerais	58.38
4	Rio de Janeiro	50.5
5	Bahia	34.27
6	Pernambuco	31.09
7	Pará	29.65
8	Rio Grande do Sul	18.9
9	Paraná	16.28
10	Ceará	11.59

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 6 HOURS PER DAY
07 TO 14 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**1.09**
1	Paraná	2.55
2	Rio de Janeiro	1.59
3	Bahia	1.25
4	Distrito Federal	1.11
5	Minas Gerais	1.08
6	São Paulo	1.07
7	Rio Grande do Sul	0.79
8	Ceará	0.63
9	Pernambuco	0.62
10	Pará	0.28

Source: CPS/FGV based on IBGE microdata.

1.6. Age Range: 00 to 06 years

a. Federal Units

RANKING: SCHOOL ATTENDANCE
% ATTENDING SCHOOL OR DAYCARE
00 TO 06 YEARS
Federal Units

		%
TOTAL BRAZIL		**40.16**
1	Rio Grande do Norte	51.56
2	Rio de Janeiro	48.34
3	Santa Catarina	47.73
4	Ceará	46.2
5	São Paulo	44.84
6	Sergipe	44.64
7	Espírito Santo	42.16
8	Piauí	41.68
9	Paraíba	40.74
10	Minas Gerais	40.72
11	Pernambuco	39.85
12	Paraná	39.61
13	Distrito Federal	39.38
14	Bahia	39.32
15	Maranhão	37.67
16	Roraima	36.28
17	Alagoas	35.16
18	Pará	32.87
19	Rio Grande do Sul	32.34
20	Mato Grosso do Sul	31.87
21	Goiás	30.9
22	Mato Grosso	30.02
23	Acre	28.01
24	Tocantins	27.65
25	Amapá	26.76
26	Amazonas	26.74
27	Rondônia	23.71

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 4 HOURS PER DAY
00 TO 06 YEARS
Federal Units

		%
TOTAL BRAZIL		**13.79**
1	Distrito Federal	27.82
2	São Paulo	25.5
3	Espírito Santo	23.92
4	Rio de Janeiro	20.98
5	Minas Gerais	20.1
6	Paraná	17.01
7	Goiás	14.91
8	Santa Catarina	14.07
9	Rio Grande do Sul	12.53
10	Mato Grosso do Sul	11.96
11	Rio Grande do Norte	10.99
12	Paraíba	7.92
13	Roraima	7.57
14	Sergipe	7.2
15	Mato Grosso	7.2
16	Pernambuco	6.01
17	Bahia	5.6
18	Alagoas	4.38
19	Maranhão	3.99
20	Rondônia	3.86
21	Piauí	3.64
22	Pará	3.63
23	Ceará	2.22
24	Amazonas	1.97
25	Amapá	1.73
26	Tocantins	1.48
27	Acre	0.57

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 6 HOURS PER DAY
00 TO 06 YEARS
Federal Units

		%
TOTAL BRAZIL		**4.32**
1	Paraná	11.69
2	São Paulo	8.2
3	Santa Catarina	8.19
4	Mato Grosso do Sul	7.36
5	Rio Grande do Sul	7.16
6	Minas Gerais	4.19
7	Espírito Santo	3.99
8	Rio de Janeiro	3.64
9	Distrito Federal	3.44
10	Goiás	3.39
11	Mato Grosso	3.27
12	Paraíba	3.15
13	Bahia	2,00
14	Pernambuco	1.43
15	Rondônia	1.29
16	Rio Grande do Norte	1.25
17	Ceará	1.06
18	Sergipe	1.05
19	Tocantins	0.99
20	Maranhão	0.78
21	Pará	0.74
22	Roraima	0.73
23	Amazonas	0.34
24	Alagoas	0.2
25	Piauí	0.14
26	Acre	0,00
27	Amapá	0,00

Source: CPS/FGV based on IBGE microdata.

b. Regions

RANKING: SCHOOL ATTENDANCE
% ATTENDING SCHOOL OR DAYCARE
00 TO 06 YEARS
Regions

		%
TOTAL BRAZIL		**40.16**
1	**Southeast**	44.27
2	**Northeast**	41.08
3	**South**	38.55
4	**Center**	31.96
5	**North**	29.98

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 4 HOURS PER DAY
00 TO 06 YEARS
Regions

		%
TOTAL BRAZIL		**13.79**
1	**Southeast**	23.24
2	**South**	14.64
3	**Center**	13.72
4	**Northeast**	5.26
5	**North**	3.09

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 6 HOURS PER DAY
00 TO 06 YEARS
Regions

		%
TOTAL BRAZIL		**4.32**
1	**South**	9.18
2	**Southeast**	6.17
3	**Center**	3.74
4	**Northeast**	1.38
5	**North**	0.61

Source: CPS/FGV based on IBGE microdata.

c. Metropolitan Regions

RANKING: SCHOOL ATTENDANCE
% ATTENDING SCHOOL OR DAYCARE
00 TO 06 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**40.16**
1	Pernambuco	51.47
2	Ceará	50.69
3	Bahia	49.2
4	Rio de Janeiro	46.35
5	São Paulo	45.35
6	Minas Gerais	44.64
7	Paraná	42.37
8	Pará	39.79
9	Distrito Federal	39.38
10	Rio Grande do Sul	31.39

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 4 HOURS PER DAY
00 TO 06 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**13.79**
1	Distrito Federal	27.82
2	São Paulo	24.48
3	Rio de Janeiro	20.87
4	Minas Gerais	20.21
5	Paraná	19.45
6	Rio Grande do Sul	15.37
7	Bahia	10.46
8	Pernambuco	9.59
9	Pará	5.99
10	Ceará	4.34

Source: CPS/FGV based on IBGE microdata.

RANKING: SCHOOL ATTENDANCE
% ATTENDING MORE THAN 6 HOURS PER DAY
00 TO 06 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**4.32**
1	Paraná	14.47
2	São Paulo	8.96
3	Rio Grande do Sul	8.04
4	Minas Gerais	4.15
5	Bahia	4.14
6	Rio de Janeiro	3.53
7	Distrito Federal	3.44
8	Ceará	2.8
9	Pará	2.57
10	Pernambuco	2.36

Source: CPS/FGV based on IBGE microdata.

2. Ranking: Reasons for Not Attending School

2.1 Age Range: 00 to 17 years

a. Federal Units

RANKING: REASONS FOR NOT ATTENDING SCHOOL INCOME AND LABOR (DEMAND 1)
00 TO 17 YEARS
Federal Units

		%
TOTAL BRAZIL		**1.43**
1	Minas Gerais	2.27
2	Pernambuco	2.21
3	Rio Grande do Sul	2.16
4	Goiás	1.8
5	Bahia	1.79
6	Alagoas	1.72
7	Rondônia	1.59
8	Acre	1.55
9	Sergipe	1.46
10	Paraná	1.44
11	Pará	1.28
12	Rio Grande do Norte	1.24
13	Paraíba	1.19
14	Ceará	1.15
15	Santa Catarina	1.15
16	Mato Grosso	1.12
17	Espírito Santo	1.09
18	São Paulo	1.08
19	Maranhão	1.07
20	Rio de Janeiro	1.02
21	Distrito Federal	1.02
22	Mato Grosso do Sul	1,00
23	Tocantins	0.76
24	Piauí	0.69
25	Amazonas	0.66
26	Roraima	0.49
27	Amapá	0.48

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL ACCESS (SUPPLY)
00 TO 17 YEARS
Federal Units

		%
TOTAL BRAZIL		**4.9**
1	Mato Grosso do Sul	7.99
2	Roraima	7.94
3	Acre	7.84
4	Pernambuco	7.13
5	Rio Grande do Sul	6.86
6	Piauí	6.79
7	Espírito Santo	6.6
8	Tocantins	6.24
9	Rondônia	6.12
10	Amazonas	5.88
11	Bahia	5.76
12	Pará	5.36
13	Maranhão	5.31
14	Paraná	5.25
15	Minas Gerais	4.95
16	São Paulo	4.42
17	Mato Grosso	4.41
18	Goiás	4.29
19	Rio Grande do Norte	4.28
20	Distrito Federal	4.1
21	Sergipe	3.99
22	Alagoas	3.9
23	Santa Catarina	3.54
24	Amapá	3.1
25	Ceará	3.04
26	Rio de Janeiro	2.71
27	Paraíba	2.34

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL DOES NOT WANT (DEMAND 2)
00 TO 17 YEARS
Federal Units

		%
TOTAL BRAZIL		**8.78**
1	Minas Gerais	12.39
2	Paraná	12.28
3	Mato Grosso	11.86
4	Rio Grande do Sul	11.35
5	Mato Grosso do Sul	11.35
6	Tocantins	10.97
7	São Paulo	9.9
8	Pará	9.32
9	Espírito Santo	8.7
10	Rondônia	8.5
11	Santa Catarina	8.3
12	Pernambuco	7.95
13	Paraíba	7.65
14	Bahia	7.56
15	Distrito Federal	7.49
16	Rio de Janeiro	7.43
17	Goiás	7.19
18	Alagoas	7.14
19	Rio Grande do Norte	6.77
20	Ceará	6.71
21	Piauí	4.9
22	Sergipe	4.67
23	Maranhão	4.21
24	Acre	2.98
25	Roraima	2.27
26	Amapá	2.11
27	Amazonas	2.1

Source: CPS/FGV based on IBGE microdata.

b. Regions

RANKING: REASONS FOR NOT ATTENDING SCHOOL INCOME AND LABOR (DEMAND 1)
00 TO 17 YEARS
Regions

		%
TOTAL BRAZIL		**1.43**
1	**South**	1.66
2	**Northeast**	1.51
3	**Southeast**	1.38
4	**Center**	1.3
5	**North**	1.11

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL ACCESS (SUPPLY)
00 TO 17 YEARS
Regions

		%
TOTAL BRAZIL		**4.9**
1	**North**	5.67
2	**South**	5.5
3	**Center**	5.08
4	**Northeast**	5.04
5	**Southeast**	4.36

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL DOES NOT WANT (DEMAND 2)
00 TO 17 YEARS
Regions

		%
TOTAL BRAZIL		**8.78**
1	**South**	11.06
2	**Southeast**	10.05
3	**Center**	9.23
4	**Northeast**	6.72
5	**North**	6.54

Source: CPS/FGV based on IBGE microdata.

c. Metropolitan Regions

RANKING: REASONS FOR NOT ATTENDING SCHOOL INCOME AND LABOR (DEMAND 1)
00 TO 17 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**1.43**
1	Paraná	5.46
2	Rio Grande do Sul	4.61
3	Pará	3.28
4	Pernambuco	2.96
5	São Paulo	2.77
6	Bahia	2.59
7	Rio de Janeiro	2.48
8	Minas Gerais	2.3
9	Ceará	1.55
10	Distrito Federal	1.05

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL ACCESS (SUPPLY)
00 TO 17 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**4.9**
1	Pará	2.15
2	Rio Grande do Sul	1.88
3	Distrito Federal	1.8
4	Pernambuco	1.63
5	Rio de Janeiro	1.36
6	São Paulo	1.34
7	Minas Gerais	1.29
8	Bahia	1.12
9	Ceará	0.77
10	Paraná	0.5

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL DOES NOT WANT (DEMAND 2)
00 TO 17 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**8.78**
1	Pernambuco	8.97
2	Rio Grande do Sul	7.64
3	Distrito Federal	6.92
4	Ceará	6.48
5	Bahia	5.74
6	Pará	5.58
7	Minas Gerais	5.45
8	Paraná	4.96
9	São Paulo	4.2
10	Rio de Janeiro	4.09

Source: CPS/FGV based on IBGE microdata.

2.2 Age Range: 15 to 17 years

a. Federal Units

RANKING: REASONS FOR NOT ATTENDING SCHOOL INCOME AND LABOR (DEMAND 1)
15 TO 17 YEARS
Federal Units

		%
TOTAL BRAZIL		**4.11**
1	Acre	7.81
2	Paraná	6.31
3	Pernambuco	5.9
4	Santa Catarina	5.85
5	Mato Grosso	5.37
6	Sergipe	5.11
7	Goiás	5.11
8	Minas Gerais	5.1
9	Mato Grosso do Sul	5.02
10	Espírito Santo	4.87
11	Rio Grande do Sul	4.71
12	Rio Grande do Sul	4.36
13	Alagoas	4.34
14	Bahia	4.13
15	Rio Grande do Norte	3.89
16	Pará	3.87
17	Amazonas	3.59
18	Paraíba	3.5
19	São Paulo	3.03
20	Piauí	3,00
21	Rondônia	2.79
22	Rio de Janeiro	2.78
23	Maranhão	2.77
24	Tocantins	2.11
25	Roraima	1.2
26	Distrito Federal	1.05
27	Amapá	0.97

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL ACCESS (SUPPLY)
15 TO 17 YEARS
Federal Units

		%
TOTAL BRAZIL		**2.01**
1	Acre	4.99
2	Maranhão	4.06
3	Pará	3.17
4	Roraima	3.1
5	Rio Grande do Sul	3.09
6	Rio Grande do Norte	2.92
7	Piauí	2.72
8	Rondônia	2.63
9	Goiás	2.55
10	Amapá	2.44
11	Mato Grosso do Sul	2.4
12	Espírito Santo	2.31
13	Bahia	2.28
14	Pernambuco	2.22
15	Mato Grosso	2.19
16	Minas Gerais	2.11
17	Alagoas	2.05
18	Distrito Federal	1.8
19	Sergipe	1.61
20	Tocantins	1.59
21	Ceará	1.5
22	Paraná	1.48
23	Santa Catarina	1.42
24	Paraíba	1.36
25	São Paulo	1.32
26	Rio de Janeiro	1.23
27	Amazonas	1.18

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL DOES NOT WANT (DEMAND 2)
15 TO 17 YEARS
Federal Units

		%
TOTAL BRAZIL		**8.15**
1	Rondônia	13.76
2	Piauí	12.53
3	Pernambuco	12.53
4	Mato Grosso	11.73
5	Mato Grosso do Sul	10.92
6	Ceará	10.45
7	Pará	10.31
8	Tocantins	10.29
9	Alagoas	9.81
10	Espírito Santo	9.74
11	Rio Grande do Norte	9.73
12	Paraíba	9.73
13	Paraná	9.28
14	Minas Gerais	9.25
15	Maranhão	9.22
16	Bahia	8.88
17	Acre	7.41
18	Roraima	7.35
19	Distrito Federal	6.92
20	Rio Grande do Sul	6.75
21	Goiás	6.7
22	Amazonas	6.22
23	São Paulo	5.72
24	Sergipe	5.64
25	Amapá	5.16
26	Santa Catarina	4.96
27	Rio de Janeiro	4.49

Source: CPS/FGV based on IBGE microdata.

b. Regions

RANKING: REASONS FOR NOT ATTENDING SCHOOL INCOME AND LABOR (DEMAND 1)
15 TO 17 YEARS
Regions

		%
TOTAL BRAZIL		**4.11**
1	**South**	5.6
2	**Center**	4.2
3	**Northeast**	4.19
4	**North**	3.65
5	**Southeast**	3.61

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL ACCESS (SUPPLY)
15 TO 17 YEARS
Regions

		%
TOTAL BRAZIL		**2.01**
1	**North**	2.68
2	**Northeast**	2.33
3	**Center**	2.24
4	**South**	2.08
5	**Southeast**	1.55

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL DOES NOT WANT (DEMAND 2)
15 TO 17 YEARS
Regions

		%
TOTAL BRAZIL		**8.15**
1	**Northeast**	10.01
2	**North**	9.27
3	**Center**	8.77
4	**South**	7.35
5	**Southeast**	6.61

Source: CPS/FGV based on IBGE microdata.

c. Metropolitan Regions

RANKING: REASONS FOR NOT ATTENDING SCHOOL INCOME AND LABOR (DEMAND 1)
15 TO 17 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**4.11**
1	Paraná	5.46
2	Rio Grande do Sul	4.61
3	Pará	3.28
4	Pernambuco	2.96
5	São Paulo	2.77
6	Bahia	2.59
7	Rio de Janeiro	2.48
8	Minas Gerais	2.3
9	Ceará	1.55
10	Distrito Federal	1.05

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL ACCESS (SUPPLY)
15 TO 17 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**2.01**
1	Pará	2.15
2	Rio Grande do Sul	1.88
3	Distrito Federal	1.8
4	Pernambuco	1.63
5	Rio de Janeiro	1.36
6	São Paulo	1.34
7	Minas Gerais	1.29
8	Bahia	1.12
9	Ceará	0.77
10	Paraná	0.5

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL DOES NOT WANT (DEMAND 2)
15 TO 17 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**8.15**
1	Pernambuco	8.97
2	Rio Grande do Sul	7.64
3	Distrito Federal	6.92
4	Ceará	6.48
5	Bahia	5.74
6	Pará	5.58
7	Minas Gerais	5.45
8	Paraná	4.96
9	São Paulo	4.2
10	Rio de Janeiro	4.09

Source: CPS/FGV based on IBGE microdata.

2.3 Age Range: 07 to 14 years

a. Federal Units

RANKING: REASONS FOR NOT ATTENDING SCHOOL INCOME AND LABOR (DEMAND 1)
07 TO 14 YEARS
Federal Units

		%
TOTAL BRAZIL		**0.27**
1	Alagoas	0.7
2	Acre	0.67
3	Maranhão	0.64
4	Pernambuco	0.63
5	Sergipe	0.54
6	Bahia	0.45
7	Pará	0.36
8	Goiás	0.33
9	Paraíba	0.31
10	Ceará	0.27
11	Paraná	0.27
12	Rio Grande do Sul	0.27
13	Rondônia	0.26
14	Minas Gerais	0.22
15	Mato Grosso	0.22
16	Amazonas	0.2
17	Amapá	0.19
18	Espírito Santo	0.19
19	São Paulo	0.16
20	Tocantins	0.1
21	Rio Grande do Norte	0.1
22	Rio de Janeiro	0.07
23	Santa Catarina	0.07
24	Roraima	0,00
25	Piauí	0,00
26	Mato Grosso do Sul	0,00
27	Distrito Federal	0,00

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL ACCESS (SUPPLY)
07 TO 14 YEARS
Federal Units

		%
TOTAL BRAZIL		**1.08**
1	Acre	3.07
2	Pará	2.19
3	Amazonas	1.94
4	Rondônia	1.84
5	Sergipe	1.74
6	Bahia	1.48
7	Amapá	1.45
8	Alagoas	1.4
9	Piauí	1.39
10	Pernambuco	1.39
11	Rio Grande do Norte	1.35
12	Mato Grosso	1.31
13	Maranhão	1.29
14	Tocantins	1.23
15	Mato Grosso do Sul	1.19
16	Roraima	1.12
17	Rio de Janeiro	1.09
18	Minas Gerais	1.02
19	Goiás	1,00
20	Ceará	0.97
21	Espírito Santo	0.94
22	Paraná	0.88
23	Rio Grande do Sul	0.87
24	Paraíba	0.85
25	São Paulo	0.61
26	Distrito Federal	0.49
27	Santa Catarina	0.14

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL DOES NOT WANT (DEMAND 2)
07 TO 14 YEARS
Federal Units

		%
TOTAL BRAZIL		**0.92**
1	Rondônia	1.94
2	Pernambuco	1.79
3	Paraíba	1.54
4	Bahia	1.54
5	Pará	1.47
6	Alagoas	1.31
7	Mato Grosso	1.31
8	Acre	1.26
9	Amazonas	1.17
10	Piauí	1.17
11	Ceará	1.14
12	Maranhão	1.07
13	Tocantins	1.05
14	Rio Grande do Norte	1.04
15	Paraná	1.03
16	Espírito Santo	0.94
17	Goiás	0.92
18	Minas Gerais	0.9
19	Sergipe	0.76
20	Amapá	0.73
21	Santa Catarina	0.69
22	Distrito Federal	0.68
23	Rio Grande do Sul	0.67
24	Mato Grosso do Sul	0.51
25	Roraima	0.45
26	Rio de Janeiro	0.41
27	São Paulo	0.29

Source: CPS/FGV based on IBGE microdata.

b. Regions

RANKING: REASONS FOR NOT ATTENDING SCHOOL INCOME AND LABOR (DEMAND 1)
07 TO 14 YEARS
Regions

		%
TOTAL BRAZIL		**0.27**
1	**Northeast**	0.44
2	**North**	0.31
3	**South**	0.23
4	**Center**	0.18
5	**Southeast**	0.16

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL ACCESS (SUPPLY)
07 TO 14 YEARS
Regions

		%
TOTAL BRAZIL		**1.08**
1	**North**	2.07
2	**Northeast**	1.31
3	**Center**	1.04
4	**Southeast**	0.82
5	**South**	0.72

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL DOES NOT WANT (DEMAND 2)
07 TO 14 YEARS
Regions

		%
TOTAL BRAZIL		**0.92**
1	**North**	1.37
2	**Northeast**	1.36
3	**Center**	0.91
4	**South**	0.82
5	**Southeast**	0.5

Source: CPS/FGV based on IBGE microdata.

c. Metropolitan Regions

RANKING: REASONS FOR NOT ATTENDING SCHOOL INCOME AND LABOR (DEMAND 1)
07 TO 14 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**0.27**
1	Bahia	0.46
2	São Paulo	0.31
3	Pará	0.28
4	Paraná	0.26
5	Pernambuco	0.25
6	Ceará	0.21
7	Rio Grande do Sul	0.11
8	Minas Gerais	0,00
9	Rio de Janeiro	0,00
10	Distrito Federal	0,00

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL ACCESS (SUPPLY)
07 TO 14 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**1.08**
1	Pará	2.14
2	Ceará	1.39
3	Rio de Janeiro	1.27
4	Rio Grande do Sul	1.21
5	Pernambuco	0.96
6	Bahia	0.88
7	Paraná	0.62
8	Minas Gerais	0.54
9	Distrito Federal	0.49
10	São Paulo	0.45

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL DOES NOT WANT (DEMAND 2)
07 TO 14 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**0.92**
1	Bahia	0.97
2	Minas Gerais	0.72
3	Pernambuco	0.71
4	Distrito Federal	0.68
5	Ceará	0.67
6	Rio Grande do Sul	0.57
7	Paraná	0.44
8	Rio de Janeiro	0.41
9	São Paulo	0.31
10	Pará	0.28

Source: CPS/FGV based on IBGE microdata.

2.4 Age Range: 00 to 06 years

a. Federal Units

RANKING: REASONS FOR NOT ATTENDING SCHOOL INCOME AND LABOR (DEMAND 1)
00 TO 06 YEARS
Federal Units

		%
TOTAL BRAZIL		**1.57**
1	Minas Gerais	3.54
2	Rio Grande do Sul	3.48
3	Rondônia	2.71
4	Pernambuco	2.4
5	Bahia	2.3
6	Distrito Federal	2.17
7	Goiás	2.01
8	Alagoas	1.73
9	Rio de Janeiro	1.43
10	Pará	1.25
11	Rio Grande do Norte	1.25
12	São Paulo	1.24
13	Paraíba	1.14
14	Tocantins	0.99
15	Sergipe	0.79
16	Maranhão	0.78
17	Roraima	0.73
18	Amapá	0.59
19	Ceará	0.59
20	Paraná	0.5
21	Espírito Santo	0.48
22	Piauí	0.42
23	Acre	0.29
24	Mato Grosso	0.28
25	Mato Grosso do Sul	0.23
26	Santa Catarina	0.1
27	Amazonas	0.06

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL ACCESS (SUPPLY)
00 TO 06 YEARS
Federal Units

		%
TOTAL BRAZIL		**11.17**
1	Mato Grosso do Sul	20.14
2	Roraima	17.32
3	Rio Grande do Sul	17.16
4	Pernambuco	16.35
5	Piauí	15.95
6	Espírito Santo	15.94
7	Tocantins	14.94
8	Acre	14.6
9	Rondônia	13.41
10	Paraná	13.3
11	Bahia	12.76
12	Amazonas	12.06
13	Minas Gerais	11.7
14	São Paulo	10.82
15	Maranhão	10.76
16	Pará	9.93
17	Santa Catarina	9.45
18	Mato Grosso	9.45
19	Distrito Federal	9.25
20	Goiás	9.2
21	Rio Grande do Norte	8.49
22	Sergipe	7.85
23	Alagoas	7.64
24	Ceará	6.54
25	Rio de Janeiro	5.61
26	Amapá	5.04
27	Paraíba	4.68

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL DOES NOT WANT (DEMAND 2)
00 TO 06 YEARS
Federal Units

		%
TOTAL BRAZIL		**19.09**
1	Paraná	29.48
2	Minas Gerais	29.42
3	Rio Grande do Sul	28.63
4	Mato Grosso do Sul	26.24
5	Mato Grosso	25.54
6	Tocantins	24.2
7	São Paulo	24.18
8	Santa Catarina	20.73
9	Rio de Janeiro	18.3
10	Espírito Santo	18.24
11	Pará	17.97
12	Distrito Federal	15.49
13	Goiás	15.17
14	Bahia	14.36
15	Rondônia	14.32
16	Paraíba	14.22
17	Pernambuco	13.26
18	Alagoas	12.74
19	Rio Grande do Norte	12.11
20	Ceará	11.96
21	Sergipe	8.9
22	Piauí	5.87
23	Maranhão	5.64
24	Acre	3.41
25	Amapá	2.41
26	Roraima	2.19
27	Amazonas	1.58

Source: CPS/FGV based on IBGE microdata.

b. Regions

RANKING: REASONS FOR NOT ATTENDING SCHOOL INCOME AND LABOR (DEMAND 1)
00 TO 06 YEARS
Regions

		%
TOTAL BRAZIL		**1.57**
	Rio Grande do Sul	
1	**Southeast**	1.83
2	**South**	1.57
3	**Northeast**	1.51
4	**Center**	1.32
5	**North**	0.98

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL ACCESS (SUPPLY)
00 TO 06 YEARS
Regions

		%
TOTAL BRAZIL		**11.17**
1	**North**	11.03
2	**Northeast**	10.98
3	**Southeast**	10.37
4	**South**	13.97
5	**Center**	11.5

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL DOES NOT WANT (DEMAND 2)
00 TO 06 YEARS
Regions

		%
TOTAL BRAZIL		**19.09**
1	**South**	27.25
2	**Southeast**	24.2
3	**Center**	19.89
4	**Northeast**	11.72
5	**North**	11.37

Source: CPS/FGV based on IBGE microdata.

c. Metropolitan Regions

RANKING: REASONS FOR NOT ATTENDING SCHOOL INCOME AND LABOR (DEMAND 1)
00 TO 06 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**1.57**
1	Rio Grande do Sul	6.77
2	Minas Gerais	5.73
3	Bahia	4.53
4	Pará	3.2
5	Distrito Federal	2.17
6	Pernambuco	2,00
7	São Paulo	1.93
8	Rio de Janeiro	1.67
9	Paraná	0.93
10	Ceará	0.55

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL ACCESS (SUPPLY)
00 TO 06 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**11.17**
1	Paraná	15.28
2	Rio Grande do Sul	14.21
3	São Paulo	12.9
4	Pará	11.8
5	Distrito Federal	9.25
6	Minas Gerais	6.49
7	Ceará	5.98
8	Rio de Janeiro	5.38
9	Bahia	4.42
10	Pernambuco	4.1

Source: CPS/FGV based on IBGE microdata.

RANKING: REASONS FOR NOT ATTENDING SCHOOL DOES NOT WANT (DEMAND 2)
00 TO 06 YEARS
Metropolitan Regions

		%
TOTAL BRAZIL		**19.09**
1	Rio Grande do Sul	33.57
2	Minas Gerais	30.69
3	Paraná	28.71
4	São Paulo	20.83
5	Rio de Janeiro	17.11
6	Pará	15.95
7	Distrito Federal	15.49
8	Bahia	13.92
9	Pernambuco	12.92
10	Ceará	9.38

Source: CPS/FGV based on IBGE microdata.

Annex: Multivariate Models

A) MIncerian Regressions

Log Earnings Equation
Brazil

The SURVEYREG Procedure

Regression Analysis for Dependent Variable LNSAL

Data Summary	
Number of Observations	159584
Sum of Weights	72947494
Weighted Mean of LNSAL	6.17423
Weighted Sum of LNSAL	450394720

Fit Statistics	
R-square	0.4892
Root MSE	0.7018
Denominator DF	159583

Class Level Information			
Class Variable	**Label**	**Levels**	**Values**
SEXO		2	HOMEM zMULHER
COR		2	BRANCO zNBRANCO
NEW		3	Metropolitana Urbana zRural
TIPOSET	Tipo do setor	2	Não subnormal zSubnormal

Class Level Information			
Class Variable	**Label**	**Levels**	**Values**
CHAVMIG	Migrou	2	Migrou zNão Migrou
UF		27	AC AL AM AP BA CE DF ES GO MA MG MS MT PA PB PE PI PR RJ RN RO RR RS SC SE TO zzSP

ANOVA for Dependent Variable LNSAL					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	100	34390986	343909.9	1527.53	<.0001
Error	159483	35906145	225.1		
Corrected Total	159583	70297132			

Tests of Model Effects			
Effect	**Num DF**	**F Value**	**Pr > F**
Model	100	1066.56	<.0001
Intercept	1	21663.7	<.0001
SEXO	1	15612.1	<.0001
COR	1	1306.31	<.0001
id_16	1	35.39	<.0001
id_17	1	134.42	<.0001
id_18	1	229.22	<.0001
id_19	1	318.24	<.0001
id_20	1	462.51	<.0001

Tests of Model Effects			
Effect	**Num DF**	**F Value**	**Pr > F**
id_21	1	499.36	<.0001
id_22	1	579.97	<.0001
id_23	1	655.44	<.0001
id_24	1	764.65	<.0001
id_25	1	874.88	<.0001
id_26	1	953.54	<.0001
id_27	1	961.37	<.0001
id_28	1	1054.23	<.0001
id_29	1	1106.25	<.0001
id_30	1	1210.89	<.0001
id_31	1	1245.40	<.0001
id_32	1	1276.35	<.0001
id_33	1	1315.21	<.0001
id_34	1	1344.21	<.0001
id_35	1	1394.68	<.0001
id_36	1	1402.54	<.0001
id_37	1	1424.23	<.0001
id_38	1	1436.78	<.0001

Tests of Model Effects			
Effect	**Num DF**	**F Value**	**Pr > F**
id_39	1	1511.15	<.0001
id_40	1	1550.45	<.0001
id_41	1	1467.12	<.0001
id_42	1	1565.42	<.0001
id_43	1	1500.51	<.0001
id_44	1	1510.72	<.0001
id_45	1	1531.41	<.0001
id_46	1	1540.95	<.0001
id_47	1	1607.46	<.0001
id_48	1	1548.59	<.0001
id_49	1	1431.27	<.0001
id_50	1	1490.58	<.0001
id_51	1	1481.59	<.0001
id_52	1	1360.95	<.0001
id_53	1	1304.84	<.0001
id_54	1	1313.53	<.0001
id_55	1	1274.64	<.0001
id_56	1	1123.18	<.0001

Tests of Model Effects			
Effect	**Num DF**	**F Value**	**Pr > F**
id_57	1	1008.37	<.0001
id_58	1	926.26	<.0001
id_59	1	946.08	<.0001
id_60	1	809.78	<.0001
id_61	1	690.10	<.0001
id_62	1	677.70	<.0001
id_63	1	648.67	<.0001
id_64	1	508.63	<.0001
id_65	1	474.13	<.0001
ed_1	1	88.10	<.0001
ed_2	1	0.03	0.8723
ed_3	1	34.86	<.0001
ed_4	1	272.98	<.0001
ed_5	1	351.98	<.0001
ed_6	1	492.69	<.0001
ed_7	1	675.38	<.0001
ed_8	1	1435.50	<.0001
ed_9	1	1151.74	<.0001

Tests of Model Effects			
Effect	**Num DF**	**F Value**	**Pr > F**
ed_10	1	1432.46	<.0001
ed_11	1	5250.51	<.0001
ed_12	1	3407.29	<.0001
ed_13	1	4010.70	<.0001
ed_14	1	4191.82	<.0001
ed_15	1	12233.9	<.0001
ed_16	1	9686.52	<.0001
ed_17	1	2109.22	<.0001
ed_18	1	4251.13	<.0001
NEW	2	616.82	<.0001
TIPOSET	1	165.87	<.0001
CHAVMIG	1	392.61	<.0001
UF	26	581.54	<.0001

NOTE: The denominator degrees of freedom for the F tests is 159583.

Estimated Regression Coefficients				
Parameter	**Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	4.0941369	0.03175606	128.92	<.0001
SEXO HOMEM	0.5145522	0.00411812	124.95	<.0001
SEXO zMULHER	0.0000000	0.00000000	.	.
COR BRANCO	0.1556063	0.00430531	36.14	<.0001
COR zNBRANCO	0.0000000	0.00000000	.	.
id_16	0.2035891	0.03422436	5.95	<.0001
id_17	0.3679820	0.03173957	11.59	<.0001
id_18	0.4666420	0.03082193	15.14	<.0001
id_19	0.5402234	0.03028262	17.84	<.0001
id_20	0.6425393	0.02987724	21.51	<.0001
id_21	0.6731331	0.03012261	22.35	<.0001
id_22	0.7197676	0.02988756	24.08	<.0001
id_23	0.7590230	0.02964761	25.60	<.0001
id_24	0.8226199	0.02974877	27.65	<.0001
id_25	0.8824989	0.02983594	29.58	<.0001
id_26	0.9223276	0.02986866	30.88	<.0001
id_27	0.9370261	0.03022089	31.01	<.0001
id_28	0.9800175	0.03018333	32.47	<.0001

Estimated Regression Coefficients				
Parameter	**Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
id_29	1.0050315	0.03021714	33.26	<.0001
id_30	1.0509049	0.03020032	34.80	<.0001
id_31	1.0741621	0.03043799	35.29	<.0001
id_32	1.0844833	0.03035559	35.73	<.0001
id_33	1.0970980	0.03025157	36.27	<.0001
id_34	1.1139571	0.03038335	36.66	<.0001
id_35	1.1274759	0.03019052	37.35	<.0001
id_36	1.1424841	0.03050652	37.45	<.0001
id_37	1.1479590	0.03041837	37.74	<.0001
id_38	1.1648047	0.03072973	37.90	<.0001
id_39	1.1917391	0.03065685	38.87	<.0001
id_40	1.1981540	0.03042875	39.38	<.0001
id_41	1.1850224	0.03093814	38.30	<.0001
id_42	1.2186964	0.03080206	39.57	<.0001
id_43	1.2024788	0.03104257	38.74	<.0001
id_44	1.2178162	0.03133212	38.87	<.0001
id_45	1.2212882	0.03120846	39.13	<.0001
id_46	1.2456269	0.03173174	39.25	<.0001

Estimated Regression Coefficients				
Parameter	**Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
id_47	1.2771690	0.03185506	40.09	<.0001
id_48	1.2800393	0.03252780	39.35	<.0001
id_49	1.2261950	0.03241148	37.83	<.0001
id_50	1.2762061	0.03305548	38.61	<.0001
id_51	1.2469664	0.03239599	38.49	<.0001
id_52	1.2372962	0.03353923	36.89	<.0001
id_53	1.2380578	0.03427378	36.12	<.0001
id_54	1.2354138	0.03408729	36.24	<.0001
id_55	1.2431309	0.03481948	35.70	<.0001
id_56	1.1986447	0.03576564	33.51	<.0001
id_57	1.1831438	0.03725878	31.75	<.0001
id_58	1.1844143	0.03891690	30.43	<.0001
id_59	1.1864875	0.03857438	30.76	<.0001
id_60	1.1360004	0.03992030	28.46	<.0001
id_61	1.0923208	0.04158090	26.27	<.0001
id_62	1.1034290	0.04238643	26.03	<.0001
id_63	1.1806752	0.04635732	25.47	<.0001
id_64	1.0903875	0.04834792	22.55	<.0001

Estimated Regression Coefficients				
Parameter	**Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
id_65	1.0529090	0.04835514	21.77	<.0001
ed_1	-0.1456048	0.01551302	-9.39	<.0001
ed_2	0.0022708	0.01412394	0.16	0.8723
ed_3	0.0747666	0.01266308	5.90	<.0001
ed_4	0.1776265	0.01075093	16.52	<.0001
ed_5	0.2284446	0.01217647	18.76	<.0001
ed_6	0.2893607	0.01303623	22.20	<.0001
ed_7	0.3285053	0.01264062	25.99	<.0001
ed_8	0.4179488	0.01103117	37.89	<.0001
ed_9	0.4607132	0.01357545	33.94	<.0001
ed_10	0.5107673	0.01349528	37.85	<.0001
ed_11	0.7478694	0.01032108	72.46	<.0001
ed_12	1.0461822	0.01792267	58.37	<.0001
ed_13	1.1078031	0.01749252	63.33	<.0001
ed_14	1.1608725	0.01793011	64.74	<.0001
ed_15	1.4769205	0.01335289	110.61	<.0001
ed_16	1.7183972	0.01745982	98.42	<.0001
ed_17	1.5359779	0.03344446	45.93	<.0001

Estimated Regression Coefficients				
Parameter	**Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
ed_18	2.0607418	0.03160612	65.20	<.0001
NEW Metropolitana	0.2789809	0.00800262	34.86	<.0001
NEW Urbana	0.2213614	0.00729977	30.32	<.0001
NEW zRural	0.0000000	0.00000000	.	.
TIPOSET Não subnormal	0.1158107	0.00899212	12.88	<.0001
TIPOSET zSubnormal	0.0000000	0.00000000	.	.
CHAVMIG Migrou	0.0811497	0.00409547	19.81	<.0001
CHAVMIG zNão Migrou	0.0000000	0.00000000	.	.
UF AC	-0.2411209	0.02183475	-11.04	<.0001
UF AL	-0.4889798	0.01712286	-28.56	<.0001
UF AM	-0.1710529	0.01105762	-15.47	<.0001
UF AP	-0.1140486	0.02313369	-4.93	<.0001
UF BA	-0.5439354	0.00819682	-66.36	<.0001
UF CE	-0.7492028	0.01130753	-66.26	<.0001
UF DF	0.0440432	0.01201693	3.67	0.0002
UF ES	-0.1326916	0.01304819	-10.17	<.0001

Estimated Regression Coefficients				
Parameter	**Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
UF GO	-0.1359484	0.00940605	-14.45	<.0001
UF MA	-0.7513531	0.01867604	-40.23	<.0001
UF MG	-0.2176024	0.00728326	-29.88	<.0001
UF MS	-0.0705308	0.01291552	-5.46	<.0001
UF MT	0.0179944	0.01194172	1.51	0.1319
UF PA	-0.3764446	0.00988047	-38.10	<.0001
UF PB	-0.5734627	0.01483769	-38.65	<.0001
UF PE	-0.6102633	0.01020772	-59.78	<.0001
UF PI	-0.9832285	0.02320212	-42.38	<.0001
UF PR	-0.0987348	0.00880243	-11.22	<.0001
UF RJ	-0.1170700	0.00812688	-14.41	<.0001
UF RN	-0.5099729	0.01746857	-29.19	<.0001
UF RO	-0.1183111	0.01668401	-7.09	<.0001

Estimated Regression Coefficients				
Parameter	**Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
UF RR	-0.2893150	0.02588415	-11.18	<.0001
UF RS	-0.1276337	0.00829466	-15.39	<.0001
UF SC	0.1137534	0.01067437	10.66	<.0001
UF SE	-0.4766357	0.01590987	-29.96	<.0001
UF TO	-0.3695198	0.01573930	-23.48	<.0001
UF zzSP	0.0000000	0.00000000	.	.

Source:CPS/IBRE/FGV processing microdata from PNAD 2005/IBGE

Log Earnings Equation
Brazil

The SURVEYREG Procedure

Regression Analysis for Dependent Variable LNSAL

Data Summary	
Number of Observations	159584
Sum of Weights	72947494
Weighted Mean of LNSAL	6.17423
Weighted Sum of LNSAL	450394720

Fit Statistics	
R-square	0.2586
Root MSE	0.8453
Denominator DF	159583

ANOVA for Dependent Variable LNSAL					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	18	18180767	1010043	3092.45	<.0001
Error	159565	52116365	327		
Corrected Total	159583	70297132			

Tests of Model Effects			
Effect	**Num DF**	**F Value**	**Pr > F**
Model	18	2338.40	<.0001
Intercept	1	298218	<.0001
ed_1	1	101.26	<.0001
ed_2	1	10.22	0.0014
ed_3	1	94.36	<.0001
ed_4	1	867.17	<.0001
ed_5	1	354.06	<.0001
ed_6	1	388.54	<.0001
ed_7	1	491.72	<.0001
ed_8	1	1746.76	<.0001
ed_9	1	373.33	<.0001
ed_10	1	707.11	<.0001
ed_11	1	5265.48	<.0001
ed_12	1	2928.71	<.0001
ed_13	1	3582.32	<.0001
ed_14	1	3983.34	<.0001
ed_15	1	13515.8	<.0001
ed_16	1	11103.6	<.0001

Tests of Model Effects			
Effect	**Num DF**	**F Value**	**Pr > F**
ed_17	1	1422.45	<.0001
ed_18	1	5000.02	<.0001

NOTE: The denominator degrees of freedom for the F tests is 159583.

Estimated Regression Coefficients				
Parameter	**Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	5.5837375	0.01022488	546.09	<.0001
ed_1	-0.1870057	0.01858416	-10.06	<.0001
ed_2	0.0530447	0.01659329	3.20	0.0014
ed_3	0.1468531	0.01511786	9.71	<.0001
ed_4	0.3663094	0.01243928	29.45	<.0001
ed_5	0.2680085	0.01424322	18.82	<.0001
ed_6	0.3065529	0.01555199	19.71	<.0001
ed_7	0.3332632	0.01502899	22.17	<.0001
ed_8	0.5196899	0.01243448	41.79	<.0001
ed_9	0.3086175	0.01597262	19.32	<.0001
ed_10	0.4161969	0.01565148	26.59	<.0001
ed_11	0.8050219	0.01109402	72.56	<.0001

Estimated Regression Coefficients				
Parameter	**Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
ed_12	1.0832753	0.02001707	54.12	<.0001
ed_13	1.1895658	0.01987496	59.85	<.0001
ed_14	1.2784969	0.02025705	63.11	<.0001
ed_15	1.6771304	0.01442599	116.26	<.0001
ed_16	1.9995781	0.01897610	105.37	<.0001
ed_17	1.6136494	0.04278488	37.72	<.0001
ed_18	2.4306125	0.03437399	70.71	<.0001

NOTE: The denominator degrees of freedom for the t tests is 159583.

Log Earnings Equation
Brazil

The SURVEYREG Procedure

Regression Analysis for Dependent Variable LNSAL

Data Summary	
Number of Observations	158437
Sum of Weights	72402717
Weighted Mean of LNSAL	6.16819
Weighted Sum of LNSAL	446593430

Fit Statistics	
R-square	0.4689
Root MSE	0.7135
Denominator DF	158436

Class Level Information			
Class Variable	**Label**	**Levels**	**Values**
SEXO		2	HOMEM zMULHER
COR		2	BRANCO zNBRANCO
IDADE		5	60 ou mais De 15 a 25 De 25 a 35 De 35 a 45 De 45 a 60
CHAVED		5	1 a 3 anos 12 ou mais 4 a 7 anos 8 a 11 anos zz0
NEW		3	Metropolitana Urbana zRural
TIPOSET	Tipo do setor	2	Não subnormal zSubnormal
CHAVMIG	Migrou	2	Migrou zNão Migrou
UF		27	AC AL AM AP BA CE DF ES GO MA MG MS MT PA PB PE PI PR RJ RN RO RR RS SC SE TO zzSP

ANOVA for Dependent Variable LNSAL					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	40	32533411	813335.3	3495.72	<.0001
Error	158396	36853388	232.7		
Corrected Total	158436	69386799			

Tests of Model Effects			
Effect	**Num DF**	**F Value**	**Pr > F**
Model	40	2382.26	<.0001
Intercept	1	947561	<.0001
SEXO	1	15309.9	<.0001
COR	1	1294.11	<.0001
IDADE	4	3364.25	<.0001
CHAVED	4	9452.79	<.0001
NEW	2	597.70	<.0001
TIPOSET	1	169.00	<.0001
CHAVMIG	1	474.47	<.0001
UF	26	534.80	<.0001

NOTE: The denominator degrees of freedom for the F tests is 158436.

Estimated Regression Coefficients				
Parameter	**Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	5.1849540	0.01546897	335.18	<.0001
SEXO HOMEM	0.5177710	0.00418457	123.73	<.0001
SEXO zMULHER	0.0000000	0.00000000	.	.
COR BRANCO	0.1566911	0.00435570	35.97	<.0001
COR zNBRANCO	0.0000000	0.00000000	.	.
IDADE 60 ou mais	-0.1056585	0.01458034	-7.25	<.0001
IDADE De 15 a 25	-0.6489833	0.00650352	-99.79	<.0001
IDADE De 25 a 35	-0.2336034	0.00598552	-39.03	<.0001
IDADE De 35 a 45	-0.0663964	0.00612340	-10.84	<.0001
IDADE De 45 a 60	0.0000000	0.00000000	.	.
CHAVED 1 a 3 anos	0.1351642	0.01017339	13.29	<.0001
CHAVED 12 ou mais	1.5716204	0.01053345	149.20	<.0001
CHAVED 4 a 7 anos	0.3695322	0.00910137	40.60	<.0001
CHAVED 8 a 11 anos	0.7735111	0.00908716	85.12	<.0001
CHAVED zz0	0.0000000	0.00000000	.	.
NEW Metropolitana	0.2764475	0.00803375	34.41	<.0001
NEW Urbana	0.2148600	0.00734996	29.23	<.0001

Estimated Regression Coefficients				
Parameter	**Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
NEW zRural	0.0000000	0.0000000	.	.
TIPOSET Não subnormal	0.1212817	0.0093293 4	13.00	<.0001
TIPOSET zSubnormal	0.0000000	0.0000000	.	.
CHAVMIG Migrou	0.0907008	0.0041639 5	21.78	<.0001
CHAVMIG zNão Migrou	0.0000000	0.0000000	.	.
UF AC	-0.2658148	0.0225863 5	-11.77	<.0001
UF AL	-0.4645325	0.0175513 7	-26.47	<.0001
UF AM	-0.1443479	0.0113816 0	-12.68	<.0001
UF AP	-0.1108575	0.0234930 2	-4.72	<.0001
UF BA	-0.5226837	0.0083844 4	-62.34	<.0001
UF CE	-0.7428058	0.0114487 1	-64.88	<.0001
UF DF	0.0433720	0.0121487 5	3.57	0.0004
UF ES	-0.1354296	0.0132704 7	-10.21	<.0001
UF GO	-0.1427667	0.0095805 6	-14.90	<.0001
UF MA	-0.7449561	0.0188721 6	-39.47	<.0001

Estimated Regression Coefficients				
Parameter	**Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
UF MG	-0.2182523	0.00744960	-29.30	<.0001
UF MS	-0.0681555	0.01318056	-5.17	<.0001
UF MT	0.0151450	0.01223547	1.24	0.2158
UF PA	-0.3700405	0.01015652	-36.43	<.0001
UF PB	-0.5554239	0.01503364	-36.95	<.0001
UF PE	-0.5902707	0.01038489	-56.84	<.0001
UF PI	-0.9808487	0.02327246	-42.15	<.0001
UF PR	-0.1104124	0.00903272	-12.22	<.0001
UF RJ	-0.1187680	0.00826671	-14.37	<.0001
UF RN	-0.4936413	0.01779741	-27.74	<.0001
UF RO	-0.1134828	0.01688020	-6.72	<.0001
UF RR	-0.2728626	0.02708037	-10.08	<.0001
UF RS	-0.1375204	0.00845031	-16.27	<.0001
UF SC	0.0985636	0.01100894	8.95	<.0001

Estimated Regression Coefficients				
Parameter	**Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
UF SE	-0.4650227	0.01612726	-28.83	<.0001
UF TO	-0.3776978	0.01612061	-23.43	<.0001
UF zzSP	0.0000000	0.0000000	.	.

Log Earnings Equation
Brazil

The SURVEYREG Procedure

Regression Analysis for Dependent Variable LNSAL

Data Summary	
Number of Observations	158437
Sum of Weights	72402717
Weighted Mean of LNSAL	6.16819
Weighted Sum of LNSAL	446593430

Fit Statistics	
R-square	0.2396
Root MSE	0.8537
Denominator DF	158436

Class Level Information		
Class Variable	**Levels**	**Values**
CHAVED	5	1 a 3 anos 12 ou mais 4 a 7 anos 8 a 11 anos zz0

ANOVA for Dependent Variable LNSAL					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	4	16622451	4155613	12477.8	<.0001
Error	158432	52764348	333		
Corrected Total	158436	69386799			

Tests of Model Effects			
Effect	**Num DF**	**F Value**	**Pr > F**
Model	4	8932.94	<.0001
Intercept	1	4065674	<.0001
CHAVED	4	8932.94	<.0001

NOTE: The denominator degrees of freedom for the F tests is 158436.

Estimated Regression Coefficients				
Parameter	**Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	5.43207801	0.00938369	578.89	<.0001
CHAVED 1 a 3 anos	0.18211539	0.01205206	15.11	<.0001
CHAVED 12 ou mais	1.73077336	0.01164606	148.61	<.0001
CHAVED 4 a 7 anos	0.48169361	0.01049030	45.92	<.0001
CHAVED 8 a 11 anos	0.81383066	0.01000366	81.35	<.0001
CHAVED zz0	0.00000000	0.00000000	.	.

Log Earnings Equation
Brazil

The SURVEYREG Procedure

Regression Analysis for Dependent Variable LNSAL

Data Summary	
Number of Observations	158437
Sum of Weights	72402717
Weighted Mean of LNSAL	6.16819
Weighted Sum of LNSAL	44659340

Fit Statistics	
R-square	0.2374
Root MSE	0.8549
Denominator DF	158436

Class Level Information		
Class Variable	**Levels**	**Values**
CHAVED2	5	1 a 8 anos 12 a 15 anos 16 ou mais 9 a 11 anos zz0

ANOVA for Dependent Variable LNSAL					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	4	16472471	4118118	12330.2	<.0001
Error	158432	52914327	334		
Corrected Total	158436	69386799			

Tests of Model Effects			
Effect	**Num DF**	**F Value**	**Pr > F**
Model	4	9046.98	<.0001
Intercept	1	2754395	<.0001
CHAVED2	4	9046.98	<.0001

NOTE: The denominator degrees of freedom for the F tests is 158436.

Estimated Regression Coefficients				
Parameter	**Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	5.43207801	0.00938369	578.89	<.0001
CHAVED2 1 a 8 anos	0.45613030	0.01003147	45.47	<.0001
CHAVED2 12 a 15 anos	1.59174492	0.01199072	132.75	<.0001
CHAVED2 16 ou mais	2.14358193	0.01711143	125.27	<.0001
CHAVED2 9 a 11 anos	0.86038006	0.01018181	84.50	<.0001
CHAVED2 zz0	0.00000000	0.00000000	.	.

Log Earnings Equation
Brazil

The SURVEYREG Procedure

Regression Analysis for Dependent Variable LNSAL

Data Summary	
Number of Observations	158437
Sum of Weights	72402717
Weighted Mean of LNSAL	6.16819
Weighted Sum of LNSAL	446593430

Fit Statistics	
R-square	0.4714
Root MSE	0.7118
Denominator DF	158436

Class Level Information			
Class Variable	**Label**	**Levels**	**Values**
SEXO		2	HOMEM zMULHER
COR		2	BRANCO zNBRANCO
IDADE		5	60 ou mais De 15 a 25 De 25 a 35 De 35 a 45 De 45 a 60
CHAVED2		5	1 a 8 anos 12 a 15 anos 16 ou mais 9 a 11 anos zz0
NEW		3	Metropolitana Urbana zRural
TIPOSET	Tipo do setor	2	Não subnormal zSubnormal
CHAVMIG	Migrou	2	Migrou zNão Migrou
UF		27	AC AL AM AP BA CE DF ES GO MA MG MS MT PA PB PE PI PR RJ RN RO RR RS SC SE TO zzSP

ANOVA for Dependent Variable LNSAL					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	40	32710009	817750.2	3531.62	<.0001
Error	158396	36676790	231.6		
Corrected Total	158436	69386799			

Tests of Model Effects			
Effect	**Num DF**	**F Value**	**Pr > F**
Model	40	2440.09	<.0001
Intercept	1	908207	<.0001
SEXO	1	15249.2	<.0001
COR	1	1328.37	<.0001
IDADE	4	3199.27	<.0001
CHAVED2	4	9678.93	<.0001
NEW	2	781.90	<.0001
TIPOSET	1	159.76	<.0001
CHAVMIG	1	475.58	<.0001
UF	26	588.09	<.0001

NOTE: The denominator degrees of freedom for the F tests is 158436.

Estimated Regression Coefficients				
Parameter	**Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	5.1737959	0.01535351	336.98	<.0001
SEXO HOMEM	0.5156045	0.00417536	123.49	<.0001
SEXO zMULHER	0.0000000	0.00000000	.	.
COR BRANCO	0.1585961	0.00435144	36.45	<.0001
COR zNBRANCO	0.0000000	0.00000000	.	.

Estimated Regression Coefficients				
Parameter	**Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
IDADE 60 ou mais	-0.1344874	0.01460301	-9.21	<.0001
IDADE De 15 a 25	-0.6193702	0.00645040	-96.02	<.0001
IDADE De 25 a 35	-0.2161129	0.00595891	-36.27	<.0001
IDADE De 35 a 45	-0.0477288	0.00609781	-7.83	<.0001
IDADE De 45 a 60	0.0000000	0.00000000	.	.
CHAVED2 1 a 8 anos	0.3368332	0.00870773	38.68	<.0001
CHAVED2 12 a 15 anos	1.4321191	0.01083791	132.14	<.0001
CHAVED2 16 ou mais	1.8569555	0.01511645	122.84	<.0001
CHAVED2 9 a 11 anos	0.8119452	0.00920906	88.17	<.0001
CHAVED2 zz0	0.0000000	0.00000000	.	.
NEW Metropolitana	0.3135085	0.00798985	39.24	<.0001
NEW Urbana	0.2501892	0.00735116	34.03	<.0001
NEW zRural	0.0000000	0.00000000	.	.
TIPOSET Não subnormal	0.1165874	0.00922387	12.64	<.0001
TIPOSET zSubnormal	0.0000000	0.00000000	.	.
CHAVMIG Migrou	0.0906565	0.00415707	21.81	<.0001
CHAVMIG zNão Migrou	0.0000000	0.00000000	.	.

Estimated Regression Coefficients				
Parameter	**Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
UF AC	-0.2667693	0.02247566	-11.87	<.0001
UF AL	-0.4967347	0.01757506	-28.26	<.0001
UF AM	-0.1622717	0.01125153	-14.42	<.0001
UF AP	-0.1183032	0.02358811	-5.02	<.0001
UF BA	-0.5505688	0.00837499	-65.74	<.0001
UF CE	-0.7617641	0.01151910	-66.13	<.0001
UF DF	0.0368955	0.01201348	3.07	0.0021
UF ES	-0.1337138	0.01314678	-10.17	<.0001
UF GO	-0.1518240	0.00952010	-15.95	<.0001
UF MA	-0.7684769	0.01897018	-40.51	<.0001
UF MG	-0.2197945	0.00743762	-29.55	<.0001
UF MS	-0.0697209	0.01319318	-5.28	<.0001
UF MT	0.0082545	0.01218834	0.68	0.4983
UF PA	-0.3891926	0.01011109	-38.49	<.0001

Estimated Regression Coefficients				
Parameter	**Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
UF PB	-0.5907800	0.01502108	-39.33	<.0001
UF PE	-0.6192046	0.01039728	-59.55	<.0001
UF PI	-1.0201277	0.02352303	-43.37	<.0001
UF PR	-0.1067236	0.00897895	-11.89	<.0001
UF RJ	-0.1091220	0.00820044	-13.31	<.0001
UF RN	-0.5176364	0.01786687	-28.97	<.0001
UF RO	-0.1233638	0.01678482	-7.35	<.0001
UF RR	-0.2936917	0.02699846	-10.88	<.0001
UF RS	-0.1277198	0.00842871	-15.15	<.0001
UF SC	0.1203237	0.01096122	10.98	<.0001
UF SE	-0.4853244	0.01614816	-30.05	<.0001
UF TO	-0.3858790	0.01598428	-24.14	<.0001
UF zzSP	0.0000000	0.00000000	.	.

Source:CPS/IBRE/FGV processing microdata from PNAD 2005/IBGE

B) Binomial Logistic Regressions on Occupation – Active Age Population

Obs	Parâmetro	Categoria	Estimativa	Erro Padrão	Qui-Quadrado	sig	Razão condicional
1	Intercept	.	-1.5081	0.0021	514141**		.
2	SEXO	HOMEM .	1.3435	0.0005	8770198**		3.8326
3	SEXO	zMULHER .	0.0000	0.0000	.		1.0000
4	COR	BRANCO .	-0.0365	0.0005	5813.89**		0.9642
5	COR	zNBRANCO .	0.0000	0.0000	.		1.0000
6	id_16	.	0.5302	0.0019	79578.1**		1.6993
7	id_17	.	0.8770	0.0018	227026**		2.4038
8	id_18	.	1.2235	0.0018	450327**		3.3992
9	id_19	.	1.5265	0.0018	684310**		4.6020
10	id_20	.	1.7736	0.0019	916276**		5.8922
11	id_21	.	1.9374	0.0019	1056123**		6.9410
12	id_22	.	2.0799	0.0019	1212580**		8.0038
13	id_23	.	2.1664	0.0019	1305965**		8.7266
14	id_24	.	2.2408	0.0019	1373854**		9.4009
15	id_25	.	2.3668	0.0019	1491212**		10.6632
16	id_26	.	2.4836	0.0020	1574855**		11.9839
17	id_27	.	2.5477	0.0020	1593442**		12.7774
18	id_28	.	2.5224	0.0020	1546267**		12.4580
19	id_29	.	2.6588	0.0021	1675890**		14.2797
20	id_30	.	2.6285	0.0020	1663676**		13.8530
21	id_31	.	2.6940	0.0021	1612765**		14.7901
22	id_32	.	2.7436	0.0021	1713521**		15.5425
23	id_33	.	2.7901	0.0021	1752532**		16.2822
24	id_34	.	2.7641	0.0021	1688002**		15.8650
25	id_35	.	2.8205	0.0021	1760765**		16.7846
26	id_36	.	2.8546	0.0022	1741514**		17.3667
27	id_37	.	2.8494	0.0021	1770181**		17.2776
28	id_38	.	2.9104	0.0022	1778496**		18.3639
29	id_39	.	2.8644	0.0022	1748873**		17.5385
30	id_40	.	2.8804	0.0022	1787051**		17.8219
31	id_41	.	2.7686	0.0021	1660338**		15.9360
32	id_42	.	2.7738	0.0022	1656561**		16.0189
33	id_43	.	2.7505	0.0022	1588590**		15.6511
34	id_44	.	2.7820	0.0022	1558936**		16.1516
35	id_45	.	2.7298	0.0022	1590630**		15.3297
36	id_46	.	2.6646	0.0022	1457159**		14.3628
37	id_47	.	2.6069	0.0022	1403701**		13.5576
38	id_48	.	2.5145	0.0022	1284190**		12.3603
39	id_49	.	2.4389	0.0022	1237657**		11.4606
40	id_50	.	2.4296	0.0022	1191884**		11.3539
41	id_51	.	2.3591	0.0022	1111538**		10.5814
42	id_52	.	2.2643	0.0022	1019970**		9.6245
43	id_53	.	2.2119	0.0022	976980**		9.1329
44	id_54	.	2.1372	0.0023	876874**		8.4759
45	id_55	.	2.1009	0.0023	851353**		8.1734

Obs	Parâmetro	Categoria		Estimativa	Erro Padrão	Qui-Quadrado	sig	Razão condicional
46	id_56	.		1.9765	0.0024	699209**		7.2175
47	id_57	.		1.7979	0.0023	596202**		6.0367
48	id_58	.		1.7250	0.0024	528321**		5.6123
49	id_59	.		1.7122	0.0024	494360**		5.5412
50	id_60	.		1.4239	0.0025	337187**		4.1534
51	id_61	.		1.3436	0.0025	291524**		3.8328
52	id_62	.		1.2968	0.0025	259104**		3.6575
53	id_63	.		1.2788	0.0026	248048**		3.5922
54	id_64	.		1.1959	0.0027	197923**		3.3067
55	id_65	.		0.8663	0.0026	109147**		2.3780
56	ed_1	.		0.3301	0.0014	53326.2**		1.3911
57	ed_2	.		0.2077	0.0013	23790.2**		1.2308
58	ed_3	.		0.1848	0.0012	24779.3**		1.2030
59	ed_4	.		0.2472	0.0009	70541.9**		1.2805
60	ed_5	.		0.2119	0.0011	34023.4**		1.2360
61	ed_6	.		0.2249	0.0013	31921.9**		1.2522
62	ed_7	.		0.2652	0.0012	49916.4**		1.3037
63	ed_8	.		0.3556	0.0010	130200**		1.4271
64	ed_9	.		0.2851	0.0013	48694.5**		1.3299
65	ed_10	.		0.3405	0.0013	71401.4**		1.4056
66	ed_11	.		0.7812	0.0009	743760**		2.1840
67	ed_12	.		0.6691	0.0019	118402**		1.9524
68	ed_13	.		0.7768	0.0020	156607**		2.1746
69	ed_14	.		0.9909	0.0021	232190**		2.6937
70	ed_15	.		1.3667	0.0015	877425**		3.9223
71	ed_16	.		1.5215	0.0023	456367**		4.5789
72	ed_17	.		0.4849	0.0027	33401.8**		1.6239
73	ed_18	.		2.1013	0.0057	137806**		8.1764
74	NEW	Metropolitana	.	-1.1313	0.0009	1738200**		0.3226
75	NEW	Urbana	.	-0.9800	0.0008	1674855**		0.3753
76	NEW	zRural	.	0.0000	0.0000	.		1.0000
77	TIPOSET	Não subnormal	.	-0.0773	0.0011	4744.06**		0.9256
78	TIPOSET	zSubnormal	.	0.0000	0.0000	.		1.0000
79	CHAVMIG	Migrou	.	0.0367	0.0005	6402.56**		1.0374
80	CHAVMIG	zNão Migrou	.	0.0000	0.0000	.		1.0000
81	UF	AC	.	0.1032	0.0046	509.92**		1.1087
82	UF	AL	.	-0.3325	0.0018	35246.9**		0.7171
83	UF	AM	.	-0.1502	0.0019	6157.57**		0.8605
84	UF	AP	.	-0.1604	0.0040	1631.64**		0.8518
85	UF	BA	.	-0.0298	0.0010	971.88**		0.9706
86	UF	CE	.	0.1143	0.0012	9779.25**		1.1211
87	UF	DF	.	0.0097	0.0019	25.25**		1.0097
88	UF	ES	.	0.0382	0.0016	538.19**		1.0390
89	UF	GO	.	0.0440	0.0013	1097.11**		1.0450
90	UF	MA	.	0.1054	0.0014	5978.27**		1.1111
91	UF	MG	.	0.1319	0.0008	26226.4**		1.1410

Obs	Parâmetro	Categoria		Estimativa	Erro Padrão	Qui-Quadrado	sig	Razão condicional
92	UF	MS	.	0.1011	0.0020	2504.25**		1.1063
93	UF	MT	.	0.0705	0.0018	1455.08**		1.0731
94	UF	PA	.	0.0762	0.0014	3078.12**		1.0792
95	UF	PB	.	-0.1212	0.0016	5591.10**		0.8858
96	UF	PE	.	-0.1915	0.0011	30457.2**		0.8257
97	UF	PI	.	0.2776	0.0019	21514.2**		1.3200
98	UF	PR	.	0.2488	0.0010	57953.3**		1.2825
99	UF	RJ	.	-0.1795	0.0008	44780.7**		0.8357
100	UF	RN	.	-0.4022	0.0017	53869.5**		0.6688
101	UF	RO	.	0.1020	0.0029	1244.12**		1.1073
102	UF	RR	.	-0.0998	0.0052	366.24**		0.9050
103	UF	RS	.	0.3635	0.0010	125853**		1.4383
104	UF	SC	.	0.3190	0.0013	55926.0**		1.3757
105	UF	SE	.	-0.0855	0.0021	1658.49**		0.9181
106	UF	TO	.	0.2836	0.0028	10147.4**		1.3279
107	UF	zzSP	.	0.0000	0.0000	.		1.0000

** Statistically significant at a confidence level of 90% . ** Statistically significant at a confidence level of 95% .*

Source:CPS/IBRE/FGV processing microdata from PNAD 2005/IBGE

Obs	Parâmetro	Categoria		Estimativa	Erro Padrão	Qui-Quadrado	sig	Razão condicional
1	Intercept	.		0.6994	0.0016	195866**		.
2	SEXO	HOMEM	.	1.2951	0.0004	8635661**		3.65152
3	SEXO	zMULHER	.	0.0000	0.0000	.		1.00000
4	COR	BRANCO	.	-0.0528	0.0005	12689.3**		0.94859
5	COR	zNBRANCO	.	0.0000	0.0000	.		1.00000
6	IDADE	60 ou mais	.	-1.0151	0.0010	1110839**		0.36238
7	IDADE	De 15 a 25	.	-0.9388	0.0006	2316996**		0.39112
8	IDADE	De 25 a 35	.	0.2828	0.0007	187905**		1.32682
9	IDADE	De 35 a 45	.	0.5199	0.0007	585747**		1.68187
10	IDADE	De 45 a 60	.	0.0000	0.0000	.		1.00000
11	CHAVED2	1 a 8 anos	.	0.3081	0.0008	153755**		1.36088
12	CHAVED2	12 a 15 anos	.	1.3353	0.0011	1399654**		3.80118
13	CHAVED2	16 ou mais	.	1.4051	0.0017	691661**		4.07583
14	CHAVED2	9 a 11 anos	.	0.8307	0.0009	906359**		2.29482
15	CHAVED2	zz0	.	0.0000	0.0000	.		1.00000
16	NEW	Metropolitana	.	-1.0962	0.0008	1744861**		0.33414
17	NEW	Urbana	.	-0.9417	0.0007	1652694**		0.38997
18	NEW	zRural	.	0.0000	0.0000	.		1.00000
19	TIPOSET	Não subnormal	.	-0.1016	0.0011	8527.85**		0.90335

Obs	Parâmetro	Categoria		Estimativa	Erro Padrão	Qui-Quadrado	sig	Razão condicional
20	TIPOSET	zSubnormal	.	0.0000	0.0000	.		1.00000
21	CHAVMIG	Migrou	.	0.0813	0.0004	32754.0	**	1.08474
22	CHAVMIG	zNão Migrou	.	0.0000	0.0000	.		1.00000
23	UF	AC	.	0.0866	0.0045	368.02	**	1.09051
24	UF	AL	.	-0.2986	0.0017	29652.6	**	0.74184
25	UF	AM	.	-0.1294	0.0019	4735.10	**	0.87862
26	UF	AP	.	-0.2036	0.0039	2736.84	**	0.81581
27	UF	BA	.	-0.0069	0.0009	53.81	**	0.99315
28	UF	CE	.	0.1245	0.0011	12144.3	**	1.13257
29	UF	DF	.	0.0184	0.0019	95.14	**	1.01860
30	UF	ES	.	0.0374	0.0016	533.36	**	1.03811
31	UF	GO	.	0.0296	0.0013	516.52	**	1.03001
32	UF	MA	.	0.1021	0.0013	5857.56	**	1.10745
33	UF	MG	.	0.1318	0.0008	27270.6	**	1.14085
34	UF	MS	.	0.0982	0.0020	2465.86	**	1.10321
35	UF	MT	.	0.0573	0.0018	1006.87	**	1.05899
36	UF	PA	.	0.0753	0.0013	3136.98	**	1.07826
37	UF	PB	.	-0.1021	0.0016	4132.65	**	0.90293
38	UF	PE	.	-0.1637	0.0011	23172.1	**	0.84897
39	UF	PI	.	0.2656	0.0018	20716.1	**	1.30427
40	UF	PR	.	0.2375	0.0010	54784.5	**	1.26806
41	UF	RJ	.	-0.1688	0.0008	40800.4	**	0.84471
42	UF	RN	.	-0.3698	0.0017	47232.2	**	0.69089
43	UF	RO	.	0.1095	0.0028	1490.97	**	1.11576
44	UF	RR	.	-0.0704	0.0051	189.69	**	0.93200
45	UF	RS	.	0.3496	0.0010	121656	**	1.41853
46	UF	SC	.	0.3142	0.0013	56804.7	**	1.36913
47	UF	SE	.	-0.0640	0.0021	963.88	**	0.93799
48	UF	TO	.	0.2358	0.0027	7416.07	**	1.26594
49	UF	zzSP	.	0.0000	0.0000	.		1.00000

** Statistically significant at a confidence level of 90% . ** Statistically significant at a confidence level of 95% .*

Source:CPS/IBRE/FGV processing microdata from PNAD 2005/IBGE

Obs	Parâmetro	Categoria		Estimativa	Erro Padrão	Qui-Quadrado	sig	Razão condicional
1	Intercept	.		0.6790	0.0016	184691	**	.
2	SEXO	HOMEM	.	1.2859	0.0004	8565065	**	3.61774
3	SEXO	zMULHER	.	0.0000	0.0000	.		1.00000
4	COR	BRANCO	.	-0.0449	0.0005	9178.03	**	0.95613
5	COR	zNBRANCO	.	0.0000	0.0000	.		1.00000
6	IDADE	60 ou mais	.	-1.0113	0.0010	1103647	**	0.36374

Obs	Parâmetro	Categoria		Estimativa	Erro Padrão	Qui-Quadrado	sig	Razão condicional
7	IDADE	De 15 a 25	.	-0.9288	0.0006	2218056	**	0.39502
8	IDADE	De 25 a 35	.	0.2958	0.0007	204446	**	1.34416
9	IDADE	De 35 a 45	.	0.5177	0.0007	580216	**	1.67812
10	IDADE	De 45 a 60	.	0.0000	0.0000	.		1.00000
11	CHAVED	1 a 3 anos	.	0.3070	0.0009	106375	**	1.35938
12	CHAVED	12 ou mais	.	1.3407	0.0011	1589866	**	3.82163
13	CHAVED	4 a 7 anos	.	0.2760	0.0008	110212	**	1.31786
14	CHAVED	8 a 11 anos	.	0.6975	0.0008	681914	**	2.00871
15	CHAVED	zz0	.	0.0000	0.0000	.		1.00000
16	NEW	Metropolitana	.	-1.0800	0.0008	1677631	**	0.33960
17	NEW	Urbana	.	-0.9318	0.0007	1608351	**	0.39386
18	NEW	zRural	.	0.0000	0.0000	.		1.00000
19	TIPOSET	Não subnormal	.	-0.0886	0.0011	6484.37	**	0.91526
20	TIPOSET	zSubnormal	.	0.0000	0.0000	.		1.00000
21	CHAVMIG	Migrou	.	0.0747	0.0004	27719.4	**	1.07753
22	CHAVMIG	zNão Migrou	.	0.0000	0.0000	.		1.00000
23	UF	AC	.	0.0845	0.0045	350.99	**	1.08815
24	UF	AL	.	-0.2965	0.0017	29327.6	**	0.74341
25	UF	AM	.	-0.1143	0.0019	3717.84	**	0.89199
26	UF	AP	.	-0.1984	0.0039	2614.25	**	0.82001
27	UF	BA	.	0.0029	0.0009	9.38	**	1.00287
28	UF	CE	.	0.1191	0.0011	11137.0	**	1.12646
29	UF	DF	.	0.0179	0.0019	89.80	**	1.01802
30	UF	ES	.	0.0429	0.0016	703.01	**	1.04383
31	UF	GO	.	0.0353	0.0013	736.83	**	1.03588
32	UF	MA	.	0.1043	0.0013	6127.91	**	1.10991
33	UF	MG	.	0.1300	0.0008	26627.9	**	1.13887
34	UF	MS	.	0.0971	0.0020	2421.29	**	1.10200
35	UF	MT	.	0.0629	0.0018	1216.45	**	1.06492
36	UF	PA	.	0.0749	0.0013	3111.84	**	1.07777
37	UF	PB	.	-0.0987	0.0016	3871.39	**	0.90602
38	UF	PE	.	-0.1578	0.0011	21588.6	**	0.85398
39	UF	PI	.	0.2720	0.0018	21765.3	**	1.31254
40	UF	PR	.	0.2288	0.0010	51016.6	**	1.25707
41	UF	RJ	.	-0.1771	0.0008	45073.4	**	0.83768
42	UF	RN	.	-0.3599	0.0017	44899.9	**	0.69771
43	UF	RO	.	0.1154	0.0028	1660.33	**	1.12233
44	UF	RR	.	-0.0576	0.0051	127.26	**	0.94407
45	UF	RS	.	0.3385	0.0010	114481	**	1.40287
46	UF	SC	.	0.2991	0.0013	51631.6	**	1.34869
47	UF	SE	.	-0.0611	0.0021	881.40	**	0.94072
48	UF	TO	.	0.2396	0.0027	7688.09	**	1.27068
49	UF	zzSP	.	0.0000	0.0000	.		1.00000

** Statistically significant at a confidence level of 90% . ** Statistically significant at a confidence level of 95% .*

Source:CPS/IBRE/FGV processing microdata from PNAD 2005/IBGE

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