

How Education Affects Brazil's Economic Growth

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INTRODUCTION

Without investment in human capital, countries cannot achieve sustainable economic development. Economic growth is often fueled by advancements in education. As a result many developing countries are placing priority on education with the intent of returns on their investment. Brazil has an interesting pattern of economic growth, and therefore it is interesting to investigate the education system.

Background:

- Typical school year in Brazil: Feb/Mar to Nov/Dec with summer vacation mid-Dec to early Feb
- High number of students leads to three sessions:
 - 7:00 AM – 12:00 PM
 - 12:00 PM – 5:00 PM
 - 5:00 PM – 10:00 PM
- Government expenditure on education: 6% of GDP in 2013
- 93% literacy rate country wide
- 98% school enrollment rate for ages 6-14 years old in 2012

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Denmark	7.93	8.08	8.22	8.21	8.12	8.21	8.09	7.73	7.82	7.48	8.45	8.56	8.48	7.24	8.49	7.83
Bolivia (Plurinational State of)	5.66	5.47	5.90	6.23	6.38	-	-	6.31	-	7.04	8.08	7.60	6.89	6.43	6.26	7.29
Malta	-	-	-	3.95	-	4.48	-	-	5.98	5.57	5.17	6.43	7.79	6.82	7.88	7.29
Finland	5.87	5.72	5.85	6.02	6.17	6.17	6.04	5.94	5.89	5.85	6.49	6.54	6.48	7.19	7.16	7.15
Costa Rica	5.42	4.69	4.85	5.17	(*) 5.16	4.91	-	4.64	4.66	4.92	6.05	6.83	6.46	6.89	6.85	6.58
Belgium	-	-	5.84	5.95	5.98	5.81	5.77	5.84	5.85	6.29	6.42	6.41	6.38	-	6.64	6.60
Belize	(*) 5.44	5.03	5.80	-	5.21	5.30	-	-	5.69	6.10	6.62	-	-	-	6.22	6.47
Barbados	4.25	4.62	5.94	5.78	6.12	5.90	5.56	-	5.18	5.09	5.31	6.10	-	5.26	5.10	6.23
Aruba	4.40	4.71	4.74	4.92	-	4.41	4.68	-	4.80	4.92	5.92	6.71	6.94	6.55	6.81	6.16
Ghana	(*) 4.11	-	5.35	-	-	7.54	7.42	5.26	5.52	5.78	5.32	5.54	6.14	7.92	6.10	6.16
Cyprus	4.72	4.89	5.03	5.49	6.66	6.08	6.20	6.23	6.25	6.72	7.21	6.58	6.56	-	6.43	6.12
Jamaica	-	5.02	5.41	5.43	4.26	3.91	4.62	-	5.49	6.19	6.20	6.37	6.27	6.11	6.25	6.02
Brazil	3.80	3.95	3.84	3.75	-	3.97	4.48	4.87	4.97	5.27	5.48	5.69	5.74	5.88	5.84	5.95
Bhutan	-	5.51	5.72	-	-	6.42	7.08	-	4.80	4.63	4.02	4.65	-	5.59	5.90	-
Israel	6.42	6.32	6.38	6.47	6.35	5.85	5.78	5.76	5.51	5.34	5.50	5.54	5.91	5.87	5.84	5.74
Kyrgyzstan	4.09	3.51	3.85	4.45	4.46	4.42	4.87	5.05	6.47	5.91	6.23	6.92	6.79	7.38	6.78	5.53
France	5.85	5.52	5.42	5.41	5.72	5.64	5.50	5.44	5.45	5.44	5.74	5.89	5.52	5.46	5.51	5.52
Estonia	6.69	5.34	5.24	5.47	5.29	4.91	4.84	-	4.86	5.52	5.95	5.53	5.02	4.71	4.84	5.48
Austria	6.11	5.59	5.58	5.52	5.36	5.30	5.25	5.23	5.15	5.26	5.73	5.70	5.59	5.48	5.55	5.45
Argentina	4.52	4.56	4.83	4.02	3.54	3.49	3.86	4.13	4.49	4.84	5.53	5.02	5.29	5.35	5.44	5.36
Kenya	5.32	5.19	5.21	(*) 6.17	6.49	6.80	7.34	7.05	-	-	-	5.51	5.34	5.51	5.41	5.29

Figure 2. Expenditure on education as % of GDP (from government sources). Reprinted from UIS.Stat

Private vs. Public

- 80 % of students enrolled in public schools
- 14% increase in private school enrollment from 2010 to 2013
- Private school students are on average academically 3 years ahead of students who attend public school (Gois, 2010)

Issues with public schools:

- Teacher shortages and absenteeism
- Overcrowded classrooms
- Lack of infrastructure

ILLINOIS

Elementary Education (Ensino Fundamental)

- Mandatory for students aged 6-14
- 9 “years” (similar to grades)
- Curriculum consists of Portuguese language, history, geography, science, mathematics, arts and physical education
- Years 6-9 require foreign language enrollment
- School year must be at least 200 days



Rio de Janeiro public school, March 2018.

Secondary Education (Ensino Medio)

- Age 15-18
- 3 years
- Minimum 2200 hours of teaching required

Higher Education (Ensino Superior)

- Competitive entrance exams for public university
- Public universities (aka federal universities) are tuition free for admitted students
- Free colleges are more prestigious than private institutions
- From 2002 to 2012, number of college attendees in Brazil doubled (Horch, 2014)
- 3/4 of all college students are enrolled in private institutions in Brazil
 - In the US, in 2014 about 72% of students were enrolled at a public college (Statista, 2018)
- University graduates earn on average 2.5 times more than those without a degree



PUC-SP: Pontifical Catholic University of São Paulo, a private university in Brazil, March 2018

Bolsa Familia

Background:

- Large scale conditional cash transfer (CCT) started in 2004 aimed to alleviate poverty
- Main selection criteria is family per capita income
- Eligibility: pregnant women, nursing mothers, children & adolescents up to the age of 17
- Benefits paid on a monthly basis if conditions are met:
 - Health: children under 7 must have growth monitored and vaccinations up-to-date, pregnant & nursing women must receive prenatal and postnatal care
 - Education: children 6-15 y/o must be enrolled in school and have 85% attendance rate, 16-17 y/o must have at least 75% attendance rate
- Recertification every 2 years

Program Impact:

Health:

- Increase in prenatal visits among pregnant women
- No impact on height for age, weight for age, stunting or wasting prevalence
- Increased the probability that infants receive all seven vaccines required by 6 months

Education:

- Overall increase in school attendance and grade progression
- Helps keep kids in school after the age of 14
- Increased girls participation rate in schooling while no impact on boys participation rate
- Larger of the program seen in rural regions

Source: “The Impact of Bolsa Familia on Schooling” A. De Brauw et al., 2015, *World Development*

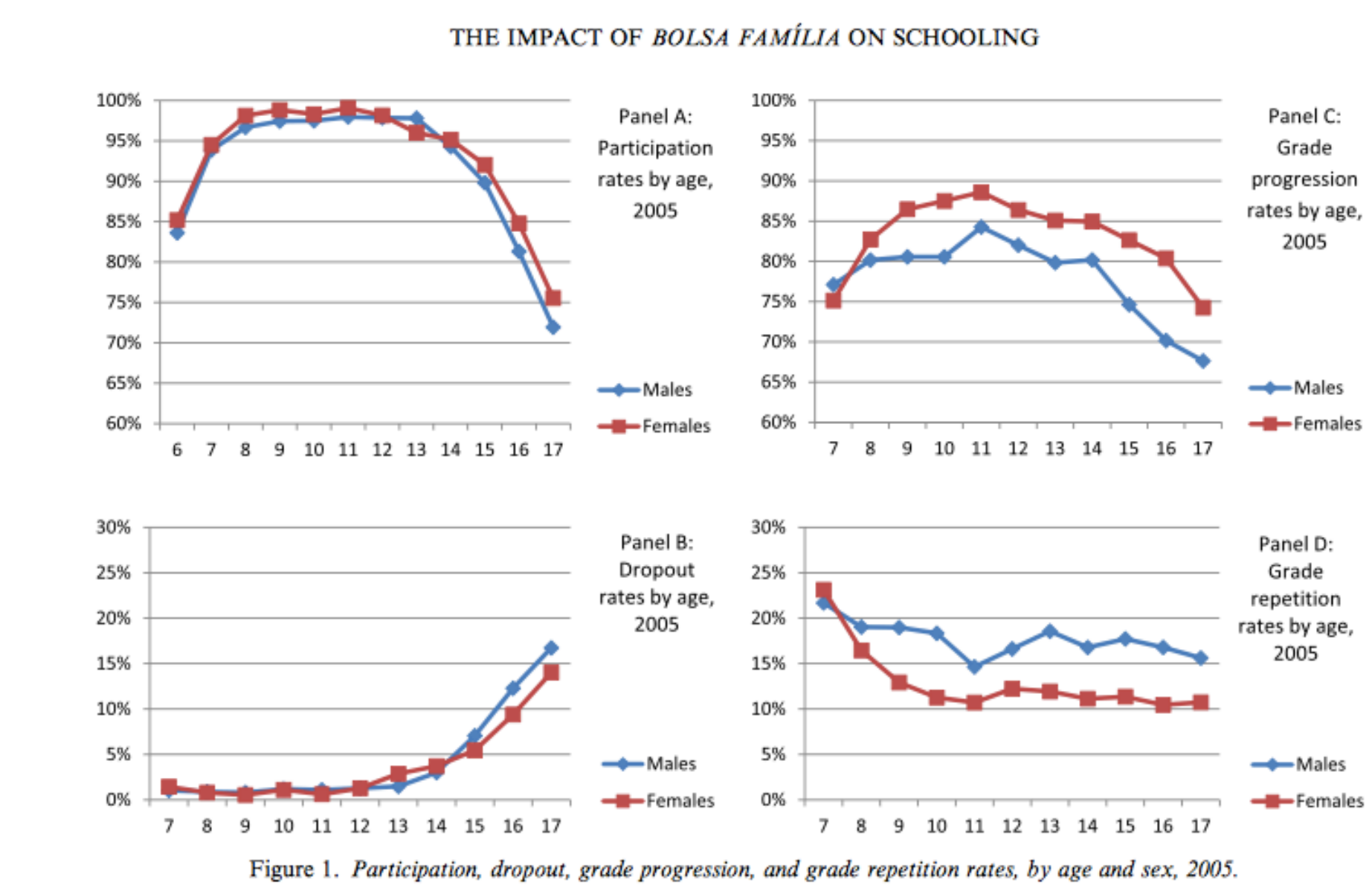


Figure 1. Impact of Bolsa Familia on schooling. Reprinted from “The Impact of Bolsa Familia on Schooling” A. De Brauw et al., 2015, *World Development*

Economic Impacts:

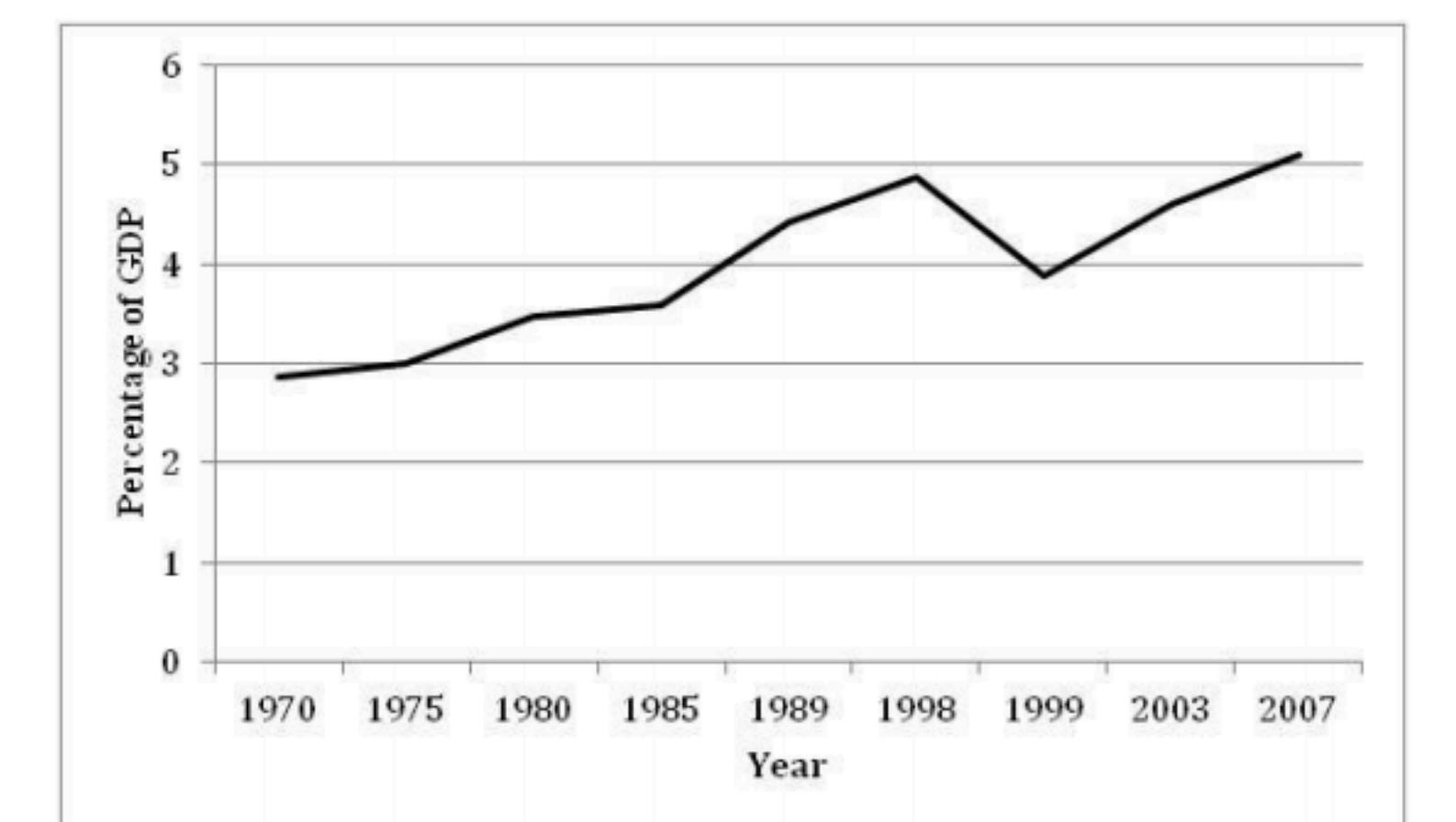


Figure 3: Education spending as percent GDP, 197—2007 From “The Effect of Education on Brazil’s Economic Development” Sandoval, created based on World Bank (2011) World Development Indicators.

- 19 % of national budget goes to education
- Suffers from mismanagement of funding → spending on education is more than in most Latin American countries
- Failing policy created a generation of uneducated workers which will have long term implications
- High drop out rates stem from extreme poverty
- Better educational attainment for women can result in higher returns

Source: “The Effect of Education on Brazil’s Economic Development”, Lindsay Sandoval, 2012, *Global Majority E-Journal*

CONCLUSIONS

- Education is capable of generating economic growth over the long term.
- Examples:
 - Education to enhance education include quantity and quality.
 - Longer school days & more time in class
 - More resources in classrooms such as computers
 - Qualified teachers who are committed to teaching
- Raising education expenditure does not guarantee increases in student performance.
- Educational reform is necessary to address the educational system failures.

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