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INSTITUTIONAL OBSTACLES TO BRAZIL'S ECONOMIC GROWTH AND DEVELOPMENT*

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ABSTRACT | This article tries to discover some of the roots behind Brazil's slow economic growth. These include the generally low investment/GDP ratio, the country's incapacity to implement timely infrastructure investments, the long-term overvalued exchange rate, the poverty of human capital, the incapacity to do state-of-the-arts research and development, and the weak educational system.

KEY WORDS | Development; Institution; Infrastructure; Innovation; Education.

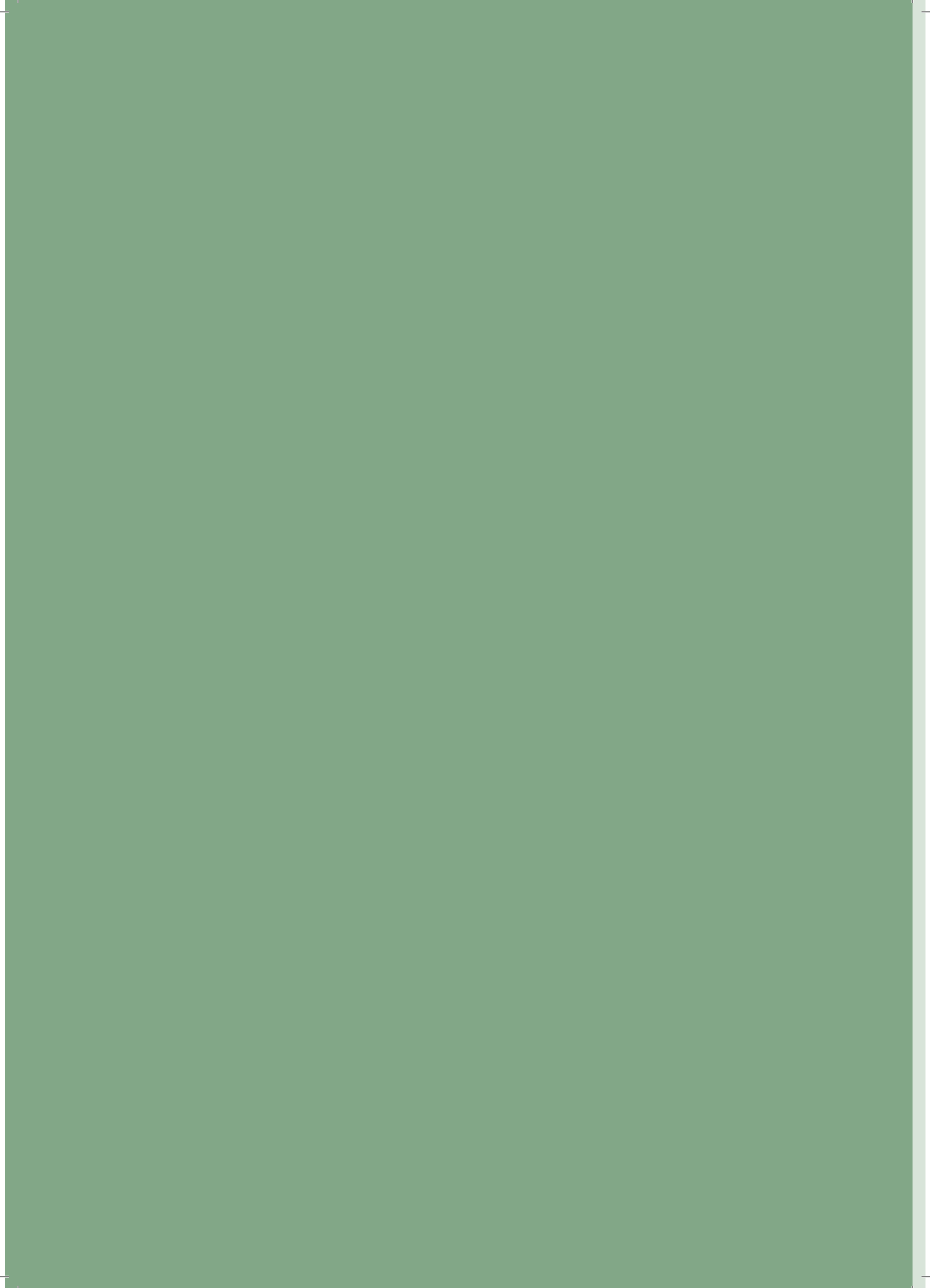
RESUMO | Este artigo tenta descobrir algumas raízes por trás do lento crescimento econômico do Brasil. Isto inclui a, geralmente, baixa proporção investimento/PIB, a incapacidade do país em implementar, em tempo, investimentos em infraestrutura, a taxa de câmbio valorizada, no longo prazo, a pobreza do capital humano, a incapacidade de fazer pesquisa e desenvolvimento no estado das artes e o fraco sistema educacional.

PALAVRAS-CHAVE | Desenvolvimento; Instituição; Infraestrutura; Inovação; Educação.

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1. INTRODUCTION

Since the *Real Plan* successfully ended Brazil's hyper-inflation in 1994, a general aura of optimism prevailed about the country's economy. At the beginning of the 21st century the country was a major exporter of iron ore, of soybeans, various types of food, steel products, airplanes, etc. It was one of the world's major recipients of foreign direct investment and had attained 'investment status' grade from the world's major rating agencies. Also, for the first time there was a steady improvement in the country's distribution of income, as the Gini index steadily fell from 0.604 in 1993 to 0.530 in 2012. Finally, a crowning achievement for the country was to be the host of the World Cup Soccer Games in 2014 and the 2016 Summer Olympics. Thus many observers felt that for Brazil 'the future had arrived', i.e. there was growth, diversification and an improvement in equity.¹

A closer look at Brazil's recent growth record, however, is not impressive. The average yearly growth rate of GDP in the second half of the 1990s was 2.59%, it fell to 2.36% in the period 2000-3. In the years 2004-2008 the average yearly rate rose to 4.82; it was negative (-0.33%) in the world financial crisis year 2009, then jumped to 7.53% in 2010; however, in the years 2011-2014 it has averaged about 1.8% a year. These growth rates are unimpressive when compared to Asian rates of 7 to 14% a year.²

Also unimpressive are the low investment ratios. In the first decade of the 21st century these hovered between 15 and 18% of GDP, which is quite low when compared to rates of 35 to over 40% for many Asian countries.

¹ This was a reference to the book by Stefan Zweig, published in 1942, which was entitled *Brazil: Country of the Future*. Cynics would then say that Brazil will always be a 'country of the future'.

² It is possible that the higher growth rates in the period 2004-2008 and in 2010 was due to the improvement in the distribution of income as noted by the falling Gini Index, the rise in the real minimum wage and the rapid expansion in the use of credit.

What accounts for this unimpressive growth record? In this article we shall suggest that an explanation might be found in certain features of Brazil's institutions, whose changes might be needed to lead a more substantial long-term growth and development. The definition of institution that I use here is "an organizational structure through which activity occurs. The process takes the form of a culture, a way of doing things."³

2. INFRASTRUCTURE

Since the 1980s Brazil invested little in infrastructure. Little effort went into the improvement and expansion of roads, railroads, ports, airports, electric energy generation and distribution. Brazil's ranking in the surveys of the World Economic Forum with respect to infrastructure gives an idea of the problem. In 2013, of a survey of 180 countries with respect to infrastructure, Brazil's ranking was as follows:

1. general infrastructure: 114
2. quality of roads: 120
3. quality of railroads: 102
4. quality of ports: 131
5. quality of air transport: 123
6. supply of energy: 76

There exist other more graphic indicators of inadequate infrastructure. At harvest time on many of the highways from the interior to major ports have 25 or more miles of trucks waiting to discard their loads. Less than 1% of the GDP goes into the maintenance of roads, while the World Bank estimates that 6% of GDP should go to such expenses. Brazil's logistics expenses amount to 15.4% of GDP, compared to less than 10 % for industrial countries. The cost of handling of containers in the port of Santos was twice as high as in Buenos Aires. Also, until recently it took 50 workers to handle a ship in the port of Santos, compared to 14 workers in Buenos Aires.

The importance of infrastructure improvements as a basis for higher growth rates became so obvious that even the populist government of President Lula, in his second term, created a general economic program called PAC (Programa de Aceleração do Crescimento – Program for Accelerating Growth), whose major feature was a series of infrastructure projects.

A major problem has been the slowness with which the government has been able to follow through. Infrastructure investment in 2001-10 amounted to only 2.14% of GDP. A major

³ This definition was formulated by my colleague Fred Gottheil, after I discussed the Brazilian experiences with him.

specialist in the study of Brazilian infrastructure, Cláudio Frischtak, estimated that Brazil needs to invest at least 5 to 7% of its GDP in infrastructure in order: 1) to maintain what actually exists; 2) to accompany population growth; 3) to reach a 100% coverage of the population with adequate water and sanitation in 20 years; and 4) to attain a 100% coverage of the country with access to electricity within 5 years.⁴

One analyst, Marcos Mendes, has pointed out that the neglect of infrastructure investments is probably due to the lack of government resources for such investments. This is the result of the re-democratization which occurred since 1985 which resulted in the rapid growth of current expenditures.⁵ As Mendes succinctly states: "Tax receipts which used to be linked to public investments were transferred to a general account and became available for current expenditures."⁶ This is confirmed by just looking at the steady rise in number of public employees which rose from about 1.9 million in 2003 to 2.5 million in 2014.⁷

Another reason for the slowness in dealing with infrastructure project has been the complexity of Brazil's government bureaucracy and the many special commissions a project has to go through to be given permission to proceed (commissions involving the environmental impact, property rights, etc.).

3. CONCESSION CONTRACTS

Given the lack of investment resources, Brazil's government has increasingly turned to so-called 'Public-Private Partnership' to deal with infrastructure projects, such as roads, airports, ports, railways, etc. This has been done through 'concession contracts'. Under this system various infrastructure project contracts are auctioned off to the private sector for periods varying between 25 to 30 years. The winner of such contracts usually has to construct and/or administer a project, expand and maintain it. The contract specifies the ways it will be regulated, including the prices (e.g., tolls) that can be charged.

The use of concession contracts for infrastructure projects is not new. They represent a revival of an old method to finance various types of infrastructures. Already in the late 19th and early 20th centuries concession contracts with states and municipal governments were used in various infrastructure projects, such as the building of railroads, urban transport systems (streetcars),

4 Frischtak (2008).

5 Mendes (2014), pp. 42-44.

6 *Ibid.*, p. 44.

7 See IPEA Data.

electricity generation and distribution, and telephone systems.⁸ In more recent times the state of São Paulo developed a large portion of its highway structure through concession contracts. Thus the use of concession contracts to deal with infrastructure is not new to Brazil, except that it is being tried extensively on the federal level.⁹

The success in using concession contracts to deal with Brazil's infrastructure problems depends on the relations developed between the state's regulatory agencies and the concessionaires. To make it possible to initiate such a program calls for the government to make it attractive for private domestic and foreign groups to participate in auctions. However, since the concession contracts are usually of a long-term duration, it isn't clear what would happen if within a few years a populist government were elected which would try to regulate the concession contracts in a restricted manner.¹⁰ Early concession contracts began to decline in the 1930s as the more nationalist-populist government of Getúlio Vargas began to regulate prices in such a manner as to make such contracts unattractive, and gradually most of Brazil's infrastructure sector was taken over by state enterprises.

4. WORLD PERCEPTIONS OF BRAZIL

Reliance on the private sector, especially the foreign private sector, to make major investments in infrastructure requires some dramatic institutional adjustments which will change the current perceptions of the domestic and international business community about doing business in Brazil. According to the World Bank's survey of business leaders' perception of the business climate in 189 countries, here is Brazil's rank according to various criteria:

1. ease of doing business – 116
2. starting a new business – 123
3. obtaining a license for new construction – 130
4. obtaining a link to electric energy – 14
5. register property – 107
6. obtaining credit – 109
7. protecting investor – 80
8. enforcing contracts - 121
9. resolving debt delinquencies – 135

Improving these perceptions will require some longer-term changes in Brazilian institutions and institutional behavior, if Brazil plans to rely on public-private partnerships in infrastructure development.

⁸ Baer and McDonald (1998).

⁹ For more detailed discussion on the topic, see Oliveira and Oliveira Filho (2013) and also Mourougane and Piso (2011).

¹⁰ For more details, see Amann, Baer, Trebatand and Villalora (2014). See also Mourougane and Pisu (2011).

5. OVERVALUED EXCHANGE RATE

One of the instruments used in the successful Brazilian stabilization program (introduced in 1994) was a high interest rate.¹¹ It not only helped avoid negative speculation against the new currency, the REAL, but it was high enough to attract enough capital to cause the new currency to appreciate. This appreciation helped in insuring the success of the stabilization program. Subsequently Brazil's central bank adopted an *inflation targeting* program in which the interest rate was a key instrument. Brazil's interest rates came to be one of the highest in the world. Given the low interest rates which have prevailed in the U.S. and Europe since the financial crisis of 2008, there has been a considerable inflow of capital to Brazil, causing the exchange rate to rise and remained what many economists felt was an overvaluation.

The overvalued exchange rate has made Brazilian manufactured goods less competitive in the international market, while increasing the competitiveness of manufactured imports. This has damaged Brazil's industrial sector. According to some analysts, it had accelerated the process of 'de-industrialization', which had been occurring since the 1980s.¹² Although this did not immediately affect Brazil's balance of trade due to the high demand for and price of some of its principal commodity exports, it could endanger the country's industrial structure as there will be less investment in modernizing many of its industries and thus increase its productivity and future international competitiveness.

The government tried to alleviate the situation through special fiscal stimuli (e.g. the automobile industry) and by not allowing certain controlled prices to rise (gasoline, electricity). It also stepped up the lending activities of the government development bank (BNDES) at highly subsidized interest rates. But these measures brought about distortions in relative prices and investment activities, which did not improve the general level of investments and economic growth.

Also noteworthy was the rapid rise of credit. The credit/GDP ratio rose from 25% in 2005 to more than 61% in mid-2014. The spread of debt burden among the country's middle classes and a newly emerging lower middle classes (so-called Class C) could also explain the decline in the sales of many consumer products in 2014.

6. DISTRIBUTION OF INCOME

As mentioned above, an important achievement in the years following the introduction of the REAL stabilization plan has been the decline in the concentration of income. Various factors

¹¹ See Baer (2014), ch. 7.

¹² "De-industrialization" means a relative decline of industry in a country's GDP and also a decline in the proportion of the labor force working in the industrial sector. This is a trend which has been observed in most industrial countries and has been attributed to many causes. For a good summary, see: Morceiro (2012), p. 57.

contributed to this trend: the end of hyper-inflation (which dramatically had increased income concentration in the 1980's and early 1990's), the steady increase in the real minimum wage, and possibly the cash transfer program (*Bolsa Família*).

It isn't clear at this writing what has happened to the distribution of wealth. The major participants of Brazil's privatization program of the 1990s and early 2000s were large domestic and foreign groups, which suggests that the distribution of wealth has become more concentrated in the last twenty years. If that is the case, then it is not clear whether the improvements in the distribution of income can be maintained.

7. HUMAN CAPITAL

Brazil has made substantial progress in the field of education in terms of the literacy rate (96.7 % for males and 98.3 % for females), of the proportion of school-age children that go to school (97 %), primary school survival (88 %), secondary school participation (74 %), and the proportion of the population that finished school. By 2012 the average adult citizen had 7.2 years of formal education. And the country was spending about 5.6 % of GDP on education.

These achievements, however, are not reflected in the quality of educational achievements. Much remains to be achieved to improve human capital and to spread it more evenly than in the past. The country ranked 68 out of 100 in average years of schooling (4.9 years) and only 17% of the population was enrolled in tertiary education. By the second decade of the 21st century, Brazil still lagged behind middle-income Latin American countries and dramatically behind OECD countries in all educational indicators. In the PISA (Program for international assessment) it ranked 58.¹³ In another survey, it ranked 33 in maths and sciences.¹⁴

Public universities (federal and state) are among the best in Brazil. However, to be accepted, students must pass an entrance examination (called “vestibular”). Most of the successful candidates have graduated from private secondary schools, and, once having succeeded in the vestibular, higher public education is free. With a few exceptions, public secondary education in Brazil does not provide adequate preparation to succeed in the vestibular. Thus, the educational system contributes to the maintenance of socio-economic inequality.¹⁵

13 Here is a comparison of the Brazilian to the average OECD score:

	OECD average	Brazil
Math	494	391
Reading	496	410
Science	501	405

14 In 2014 for the first time a Brazilian mathematician won the prestigious Fields Medal. He was trained at IMPA, the government-sponsored mathematics institute. IMPA, however, represents an exception in Brazil.

15 For a more elaborate discussion of Brazil's educational system, see Fishlow (2011), ch. 4.

Over the last decades there has been a substantial expansion of higher education which was due mainly to the private sector. Private entrepreneurs have founded faculties in many parts of the country. Most function at night, as the students have day-time jobs. Most of the faculties are hired to give classes and the owners of these private faculties have little interest in their professors' research output. It is thus doubtful whether the private sector is capable of adequately filling the country's educational gap.

8. RESEARCH AND DEVELOPMENT

Brazil lags substantially behind other countries in resources devoted to research and development and has made few notable contributions to new technologies, as indicated by the rate of patents granted. Expenditures for R&D amounted to about 1% of GDP, compared with between 3 and 4 % in more advanced industrial economies. In the years 2009-13 patent application of Brazil amounted to 4,804 – compared to 268,782 for the U.S., 287,013 for Japan, 46,620 for Germany. Patents granted per million people amounted to 2 in 2010, compared to 289 in the U.S., 235 in Germany and 994 in Japan.¹⁶

The distribution of resources for R&D in universities may also be biased in favor of equity at the expense of quality. This manifests itself both in the distribution of research funds and the remuneration of university professors. Even though there is a national competition for certain research funds from federal agencies, there has been a reluctance to designate some universities as “centers of excellence”, which would entitle them to a steady flow of resources for long-term research. This is due to a bureaucratic tradition of “isonomia”, which means that all professional ranks are paid the same salary throughout the country.

9. CONCLUSION

It should be clear from this institutional survey that Brazil needs to deal with some basic structural changes to attain a sustainable level of growth with equity. This was succinctly stated by Marcos Mendes who finds that behind the slow economic growth one finds a social conflict within an unequal society in which various groups pressure the state for different policies, while the state tries to accommodate this conflict by “redistributing to almost every group, with perverse effects on potential economic growth”.¹⁷

¹⁶ World Bank; NationMaster.com

¹⁷ Mendes (2014), p. 78.

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Annexe

Table 1 | Brazil: Economic Growth Measurements

	GDP Growth	Agriculture	Industry: Total	Manufacturing	Service	Investment Growth rate
1995	4.42	5.74	4.72	4.93	3.16	7.29
1996	2.15	2.95	1.07	0.08	2.19	1.50
1997	3.38	0.81	4.24	2.49	2.58	8.73
1998	0.04	3.41	-2.59	-4.84	1.11	-0.34
1999	0.25	6.53	-1.91	-1.86	1.20	-8.20
2000	4.31	2.72	4.83	5.69	3.58	5.03
2001	1.31	6.06	-0.62	0.70	1.90	0.44
2002	2.66	6.58	2.08	2.44	3.21	-5.23
2003	1.15	5.81	1.28	1.85	0.76	-4.59
2004	5.71	2.32	7.89	8.47	5.00	9.12
2005	3.16	0.30	2.08	1.25	3.68	3.63
2006	3.96	4.80	2.21	0.97	4.24	9.77
2007	6.09	4.84	5.27	5.60	6.14	13.85
2008	5.17	6.32	4.07	2.97	4.93	13.57
2009	-0.33	-3.11	-5.60	-8.73	2.12	-6.72
2010	7.53	6.33	10.43	10.14	5.49	21.33
2011	2.73	3.90	1.58	0.13	2.73	4.72
2012	1.03	-2.14	-0.76	-2.43	1.88	-4.01
2013	2.49	7.30	1.69	2.71	2.15	5.18

Source: IPEA, 2014.

Table 2 | Brazil: Macro Ratios of Fixed Capital Formation

	1995-2003	2004-2008	2009	2010	2011	2012	2013	2014
Fixed Capital Formation/GDP	16.74	16.92	16.95	20.03	19.28	18.30	18.60	16.80

Source: IPEA, 2014.

