

**Title:** Brazil in “Brics”, 25 years after PII.

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**Abstract:** This short paper analyzes the evolution of Brazil from the time of PII (1987-88) until today, looking to Brazil’s economic international performance, focusing in Aeronautics industry and in Brazilian tradition to “fly”, but also observing changes in the quality of life & society development in past decades.

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## Bibliography:

[1] Extracted from Embassy of Brazil in Wellington – New Zealand: <http://www.brazil.org.nz/page/brazilian-economy.aspx>

[2] Baer, Werner; “The Brazilian Economy – Growth and Development”, Copyright © 2008, Lynne Rienner publishers 1800 30th Street, Ste. 314 -Boulder, CO 80301 - USA, excerpt downloaded from the Lynne rienner Publishers website [www.rinner.com](http://www.rinner.com)

[3] Embraer website: <http://www.embraer.com.br/en-us/conhecaembraer/tradicaohistoria/pages/home.aspx>

[4] GROWTH, EMPLOYMENT AND INEQUALITY IN BRAZIL, CHINA, INDIA AND SOUTH AFRICA - AN OVERVIEW. Organisation for Economic Co-operation and Development (OECD), document downloaded from OECD website: <http://www.oecd.org/about/>

[5] José Graziano da Silva, Mauro Eduardo Del Grossi, Caio Galvão De França, FAO Document issued by Ministry of Agrarian Development, Brasília, 2011; <http://www.fao.org/docrep/016/i3023e/i3023e.pdf>

[6] Rampini, Federico: “The danger of European austerity”

[7] 2013 protests in Brazil, Wikipedia source: [http://en.wikipedia.org/wiki/2013\\_protests\\_in\\_Brazil](http://en.wikipedia.org/wiki/2013_protests_in_Brazil)

[http://pt.wikipedia.org/wiki/Manifesta%C3%A7%C3%B5es\\_no\\_Brasil\\_em\\_2013](http://pt.wikipedia.org/wiki/Manifesta%C3%A7%C3%B5es_no_Brasil_em_2013)

[8] “Brazilian passion to fly”, Wikipedia source: [http://en.wikipedia.org/wiki/Bartolomeu\\_de\\_Gusm%C3%A3o](http://en.wikipedia.org/wiki/Bartolomeu_de_Gusm%C3%A3o)

[http://en.wikipedia.org/wiki/Alberto\\_Santos-Dumont](http://en.wikipedia.org/wiki/Alberto_Santos-Dumont)

[http://en.wikipedia.org/wiki/Casimiro\\_Montenegro\\_Filho](http://en.wikipedia.org/wiki/Casimiro_Montenegro_Filho)

<http://www.ita.br/ingles/ingles.htm>

[9] Special thanks to my colleague Antonio Batista, from same ITA group, ELE-86. Sometime ago, we met around Geneve lake and we started an endless discussion about our beloved country.

# Introduction

Intentionally the word BRICS will be used with double meaning: first of all, it refers to a terminology brought by Goldman & Sachs ten years ago, referring to Brazil's presence into a new working group of fast-growing economies: Russia, India, China and South-Africa. All these countries, very different among each other, were put artificially in the same cluster of new rising economies, like a stock market classification, while neglecting the geo-political on-going processes [6].

But there is a second meaning hidden to most of us. It refers to the building blocks (tijolos) which makes Brazilian identity and culture: Carnival, afro-brazilian culture, Soccer and ....a strong passion for Aeronautics.

## 1. A Glimpse of Brazilian Recent History

### *a. Portuguese kingdom period until Republic [1]*

Until the beginning of the 20th century the Brazilian economy was characterized by a succession of cycles, each of them based on the exploitation of a single export commodity: timber<sup>1</sup> in the first years of colonization; sugarcane between 16th and 17th centuries; then precious metals (gold and silver) and gems (diamonds and emeralds) in the 18th century; and finally, coffee plantation from the 19th century onwards.

Slave workmanship was used for production, a situation that would continue until the last quarter of the 19th century. People were deported from Africa to Brazil for 300 years, and afro-Brazilians have been major part in social composition. Brazil was the last country in Modern Age to abolish slavery (May 13<sup>th</sup> 1888), and one of latest countries in Latin America to move from Monarchy to Presidential Republic (Nov 15<sup>th</sup> 1989).

Paralleling these cycles, small scale agriculture and cattle raising were developed for local consumption. A first surge of industrialization took place during the years of World War I, but it was only from the 1930's onwards that Brazil reached a level of modern economic performance. In the 1940's, the first steel plant was built in the state of Rio de Janeiro at Volta Redonda with US Eximbank financing.

### *b. Brazil outlook during PII-EII existence (1957 - 1994):*

The industrialization process from the 1950's to the 1970's led to the expansion of important sectors of the economy such as the automobile industry, petrochemicals, steel, aeronautics as well as to the initiation and completion of large infrastructure projects. In the decades after World War II, the annual Gross Domestic Product (GDP) growth rate for Brazil was among the highest in the world averaging, until 1974, 7.4 percent. During 70's Brazil, like many other countries in Latin America, Brazil has absorbed excessive liquidity from U.S., European, and Japanese banks, leading to rapid growth of external debt.

The result of this capital infusion was impressive: Brazil's GDP increased at an average rate of 8.5 percent per annum from 1970 to 1980 despite the impact of the 1970's world oil crisis. Per capita income rose fourfold during the decade, reaching US\$ 2,200 in 1980. Obviously "per capita" income is meaningless considering that emerging countries like Brazil inherit post-colonial social structure in which few people maintain most portion of income and majority of low classes do not benefit from entrepreneurial profits. Brazil became a Presidential Republic only in 1889, 113 years after USA. For such cultures which left absolutist monarchies behind, poverty is a natural state, while spread of welfare among middle and low class, is artificial and derives from individual

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<sup>1</sup> "Pau-Brasil" whose strong red color recalls burning carbon ("brasa" in Portuguese), finally gave the name Brasil to the portuguese colony. It was used to color clothes and tissues.

entrepreneurial emancipation (development of middle class, creation of small companies and network of internal services and internal market).

When I joined ITA (Instituto Tecnológico de Aeronáutica) in 1982, I got my first cosmopolitan experience in Brazil: I had colleagues coming from different regions in Brazil and nearby countries (Uruguay) and it was possible to compare points of view, discuss and build individual basis for understanding the complexity of what a much wider cosmopolitan world would mean. World was still living "the Cold War" and Berlin Wall was still standing up.

When I was starting PII, in 1987, the government suspended interest payments on foreign commercial debt until a debt rescheduling agreement with creditors could be reached. Although such measures failed to bring about the desired results, Brazil's overall economic output by the end of the 1980's continued to grow, providing enough surpluses in the trade balance to cover servicing of the debt.

On the one hand, the 1980's crisis signaled the exhaustion of Brazil's "import substitution" model (a policy that nurtured Brazilian industry by prohibiting the purchase of certain manufactures abroad); on the other hand it contributed to the opening up of the country's economy. In the early 1990's Brazil was engaged in a series of far reaching economic reforms. They encompassed trade liberalization, deregulation, privatization, and the establishment of a legal and structural framework to promote foreign investment. Economic reforms continued through the 1990's and included such measures as the abolition of state monopolies, reduction or elimination of trade barriers in goods and services as well as of subsidies, in line with Brazil's obligations as member of the World Trade Organization.

### ***c. Brazil outlook after PII-EII ceased to exist (1994) and beyond:***

In 1994, after several frustrated attempts to bring down inflation, the Brazilian government introduced the Real Plan, a successful stabilization plan that replaced the currency then in use by the Real. The Real Plan managed to achieve a sustained reduction in prices, ending thus three decades of chronic inflation in Brazil. Since that time, prices have been under control without a price freeze or any other artificial heterodox economic methods. One of the main consequences of ending inflation was an improvement in income distribution. The restoration of the value of the currency and the return to economic growth brought about an increase in the purchasing power of the lower layers of the population and a significant reduction in poverty. For the first time in Brazil a low class employee could purchase white goods (TV, refrigerator, etc) using credit.

In the period from 1997 to 1999, a series of financial crises that culminated in the Russian moratorium led capital to exit from emerging markets, resulting in significant reserve losses to Brazil and other emerging economies. In January 1999, the government was then forced to let the currency (then pegged to the US dollar) float. The transition to a floating exchange rate regime and the monetary policy followed by the Brazilian Government was a remarkable success. The recession was short-lived, the Real quickly stabilized and inflation subdued. The success owed to a great extent to Brazil's strong commitment to structural fiscal equilibrium and economic reforms. These policies have restored market confidence in the country's economy.

The successful transition in early 1999 to a floating exchange rate regime was due mainly to a rigorous fiscal adjustment program conceived to ensure long term stability of fiscal accounts. The program included such measures as the Fiscal Responsibility Law, which was approved by Congress in 1999. This comprehensive piece of legislation consolidates Brazilian fiscal management directives and establishes limits for personnel expenditures at the federal, state and municipal level.

The strength shown by the Brazilian economy derived not only from the firm implementation of macroeconomic policies mentioned above, but also from the substantial structural reforms introduced earlier since the launching of the Real Plan in 1994. This reform agenda will continue to be pursued in areas such as public finance, social security, and deregulation, which are essential to increase domestic savings, improve competitiveness, and economic welfare, and will provide a suitable environment for the continued recovery of domestic demand and for the achievement of a higher growth rate with low inflation in 2000 and beyond. It should be noted that, in spite of the economic crisis of 1999, Brazil continued to follow the trade liberalization path that has been a characteristic of the country's economy in recent years. In fact, as a result of trade reforms, Brazil has become an open economy, with low tariffs and no quantitative restrictions to imports. The average tariff came down from 32 percent in 1990 to 14 percent as of 1999. One of the consequences of trade liberalization was a surge of imports that submitted the industry to strong competitive pressures and brought about continuous trade deficits. For some numbers of Brazilian growth, see Appendix 1.

## **2. Economic growth is only a necessary condition but not sufficient**

These achievements, however, did not transform Brazil into an advanced industrial society. In terms of the welfare of its many citizens, Brazil remained a less-developed country. Although the per capita GDP in 2004 was US\$3,325, this number is not a good indicator of general well-being, because the distribution of income is highly concentrated among income groups and among regions of the country. At the beginning of the twentyfirst century, the average income of a family in the top 10 percent of the income distribution was 60 times higher than the income of a family in the bottom 10 percent. [The Gini coefficient](#)<sup>2</sup> was close to 0.6. Per capita income varied regionally in 2001 to such an extent that in many states of Northeast Brazil it was less than half the national average, while in the Southeast it was 34 percent higher than the national average.

In 2003, 89.6 percent of households had access to water supply systems, 55.3 percent were connected with a general sewage system, 99.5 percent had electricity, 88.6 percent had regular garbage collection services, 91.7 percent had a refrigerator, 90.3 percent had a television set, 38.4 percent had a washing machine, 57.8 percent had a landline telephone and 17.5 percent had a computer (13.2 percent with access to the Internet). In 2004, there were 20.6 physicians (assigned doctor) per 10,000 inhabitants in Brazil, compared to 27.9 in the United States and 33.7 in Sweden. In the same year there were 5.2 nurses and midwives per 10,000 inhabitants in Brazil, compared to 97.2 in the United States and 108.7 in Sweden. The infant mortality rate per 1,000 was 69.1 in Brazil in 1980, and fell to 29.6 in 2005, compared with 6.5 in the United States and 2.8 in Sweden.

These social indicators describe only national averages. In many regions of the country, the population was living in conditions much worse than these averages suggest. For instance, in 2003 83.3 percent of urban households in Northern Brazil had access to a general water supply system and 57.5 percent had water access in the North, as compared to 95.5 percent in the Southeast; only 34.7 percent of Northeastern households were connected with a general sewage system, compared to 80.8 percent in the Southeast.

In 2003, 45.3 percent of families in Northeast Brazil had an income of less than half the minimum wage, compared to 15.6 percent in the Southeast. Life expectancy at birth in 2004 was 74.6 years in the Federal District, while it was lowest in the northeastern state of Alagoas—at 65.5 years. Infant mortality rates in 2004 varied from 14.7 in the state of Rio Grande do Sul and 17 in São Paulo, to 55.7 in Alagoas and 43.5 in Maranhão.

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<sup>2</sup> The Gini coefficient (also known as the Gini index or Gini ratio) is a measure of statistical dispersion intended to represent the income distribution of a nation's residents. It was developed by the Italian statistician and sociologist Corrado Gini and published in his 1912 paper "Variability and Mutability". It measures the inequality among values of a frequency distribution (for example levels of income). A Gini coefficient of zero expresses perfect equality, where all values are the same (for example, where everyone has the same income). A Gini coefficient of one (or 100%) expresses maximal inequality among values (for example where only one person has all the income).

The Brazilian industrialization model was based on the ideology of market economies; that is, respect for private property and reliance on private domestic and foreign enterprises were stressed by most of the governments that promoted industrialization but no particular focus on cultural promotion and mass education of low and poor layers of society. For many years, however, the state became involved in economic activities to a far greater extent than was originally planned. This was due to the financial limitations and technological backwardness of the private domestic sector, the unwillingness of foreign capital to enter certain fields of activity, and the unwillingness of governments to allow foreign capital into some sectors.

### **3. Brazil's talent in good and in bad: "The Brazilian protest season"**

#### ***a. Brazil's talent: young culture fast-follower of new trends ... and increasing obesity:***

Another indicator of growing of middle/low class is the density of technology adoption: Brazil from 1994 and 1998 has adopted massively internet for marketing and advertizing and later on in eCommerce; Brazil is the country showing one of highest turn-over<sup>3</sup> of mobile phone hand-sets, followed by Italy.

At the same time, Brazil as many other ex-colonial occupation countries, gathers national and international cuisine which, after social emerging of lower classes, brought another phenomenon: obesity in adults and children.

The sudden diffused availability of food in past 20 years did not follow equivalent balanced-food culture and education to good nutrition. Again, it is not enough to eradicate hunger, it is necessary to educate recently raised classes to benefit from welfare without initial impulsive excesses which come along after long years of under-development difficulties.

#### ***b. Quality of life and social pacification does not grow together economic welfare: Criminality growth against expectations***

Brazilians of my generation faced different challenges like living with hyper-inflation, facing social tension and criminality while poor classes were longing for better welfare, and above all, controlling a strong desire of democracy (we had no elections to directly choose the President, and, in my case, i had no chance to vote for the Mayor in my home town). My impression at that time was: "when Brazil manages to emerge from underdeveloping situation, which includes overcome diffused poverty, achieving minimum education level, we will have less criminality, less poor people stacked in slum cities, and more political engagement.

Actually, I perceive that Brazil became richer from 1990 until today; I had chance to vote for my city Mayor, and each 4 years me and my children may regularly vote for President at Brazilian Consulate in our residence country. Unfortunately, Brazil did not improve social equilibrium: we have growing criminality, sometimes more sophisticated than before (like people high-jacking when a person is driving the car and stops at a red traffic light). It is not clear whether culture has been diffused among lower classes in the same way as credit and professional knowledge has been spread in a capillar way (see "Fome zero" program [5]). Criminality grows at the same rate, since there is "more money and resources circulating today", therefore, there is more available goods to steal than before.

The dream I had for Brazil when I was a kid, did not take place yet: I though Brazilians became criminals due to poverty, unemployment and low qualified work. Welfare is a necessary condition towards social equilibrium,

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<sup>3</sup> Purchasing turn-over means throwing away old hand-sets and purchasing new models.

but it is not a sufficient condition. Brazil is revealing his real personality which was hidden through decades of Cold War and a slow industrialization and development process.

### ***c. Brazilian political participation and link to social network viral communication [7]***

Some months ago, Brazil has gone through a national protest wave which lasted several weeks, named “The June journeys”, consisting on public demonstrations in several Brazilian cities, initiated mainly by the “Movimento Passe Livre” (Free Fare Movement), a local entity that defends free public transportation.

The demonstrations were initially organized to protest against fare increases in bus, train, and metro ticket prices in some Brazilian cities, but grew to include other issues such as the high corruption in the government, waste of money during World Soccer Cup preparations and police brutality used against some demonstrators. By mid-June, the movement had grown to become Brazil's largest demonstrations since the 1992, when protests focused on the impeachment of former President Fernando Collor de Mello, regularly elected by direct votes in 1990, the first direct election since 1961.

Similar protests took place in Turkey, in Gezi Park, Istanbul 2013, following same pattern like in other Muslim countries (Tunisia, Egypt, then Libya and Syria, named “Arab Spring”), and even in US, on the process “Occupy Wall St”, and “Los Indignados” protest in Spain [6]. All these social protests have a common denominator: social media has played an important role in the organization of public outcries and in keeping protesters in touch with one another.

This raise of social awareness although neither organized nor focused in well-defined goals, demonstrated that a mass o people perfectly knows the potentiality and support that social networks can play in such events. Uncovering the real potential of internet in education and creation of interest groups engaged politically can represent the future democracy channel which Brazil can exploit for his own social benefit.

## **4. “Brazilian passion to fly” - From early pioneers until first Brazilian aircraft industry**

### ***a. The adventure of “giving wings to mankind”***

Bartolomeu Lourenço de Gusmão (born in my home town, Santos, in 1685), was a priest and naturalist born in the former Portuguese colony of Brazil; he has done his early work on lighter-than-air airship design. In 1709 he presented a petition to King John the 5<sup>th</sup> of Portugal, seeking royal favour for his invention of an airship, in which he expressed the greatest confidence. The contents of this petition have been preserved, together with a picture and description of his airship.

### ***b. The French club of aviators and the pioneer Santos-Dumont***

Alberto Santos-Dumont (born in Palmira on 20 July 1873 – died in Guarujá on 23 July 1932) was a Brazilian aviation pioneer. The heir of a wealthy family of coffee producers, Santos Dumont dedicated himself to aeronautical study and experimentation in Paris, France, where he spent most of his adult life.

Santos-Dumont designed, built, and flew the first practical dirigible, demonstrating that routine, controlled flight was possible. This "conquest of the air", in particular his winning the “Henri Deutsch de la Meurthe Prize” on 19 October 1901 on a flight that rounded the Eiffel Tower, made him one of the most famous people in the world during the early 20th century.

On 23 October 1906, in addition to his pioneering work in airships, Santos-Dumont flew a fixed-wing aircraft of his own design and construction, the 14-bis or "oiseau de proie" (French for "bird of prey"), the first heavier-than-air flight to be certified by the Aéro Club de France and the Fédération Aéronautique Internationale (FAI). In his homeland, Brazil, Santos-Dumont is a national hero and honored as the father of aviation, having his name written in Brazilian Hero Panthéon.

### ***c. Foundation of Brazilian Air Force and the pioneer in Aeronautics industrial education in Brazil***

Casimiro Montenegro Filho (born in Fortaleza on 29 October 1904— died in Petropolis on 26 February 2000) was a Brazilian army and air force officer. He reached the rank of “Marechal-do-Ar”, the highest rank of the Brazilian Air Force rank system. Born in Fortaleza, Montenegro joined Realengo Military School in 1923, and in 1928 became an Aspirant in the Brazilian army's first class of aviators for its new Military Aviation Branch. He later served under Eduardo Gomes, another future “Marshal of the Air”.

In 1943, while a lieutenant-colonel, he proposed the creation of the Instituto Tecnológico de Aeronáutica - ITA (Aeronautical Technology Institute) - and CTA, Centro Técnico Aeroespacial - CTA (Aerospace Technical Center) and Comando-Geral de Tecnologia Aeroespacial (Brazilian General Command for Aerospace Technology), nowadays the “Departamento de Ciência e Tecnologia Aeroespacial – DCTA” (Department of Aerospace Science and Technology), the aeronautic complex developed here in Sao José dos Campos.

Two years later, 1945, that proposal was translated into an executive plan, with the collaboration of MIT Professor Richard Harbert Smith, who became, in the sequence, the first rector of ITA [8].

[Instituto Tecnológico de Aeronautica](#) is a federal government institution dedicated to provide high level education and research in Science and Technology areas of interest to the aerospace sector in general, and especially to the Aeronautical Command. Created in 1950, and supported by intense international cooperation, ITA has a tradition in pioneering experiences in engineering-related education in Brazil. Rated one of the best academic institutions in Brazil in engineering and related fields, ITA offers regular



undergraduate courses in engineering, and graduate programs leading to the degrees of Master and Doctor. Extension and specialization courses are also offered according to market demands.

### ***b. EMBRAER industry comes into the picture [3]***

Since the mid- 1990s Brazil's EMBRAER has become the world's fourth largest aircraft manufacturer, specializing in regional jets. Between 1996 and 2005 EMBRAER delivered 710 regional jets around the world and is expected to deliver 145 and 150 planes in 2006 and 2007, respectively.

Created in 1969, Embraer - Empresa Brasileira de Aeronáutica, was a mixed capital company under government control. With the support of the Brazilian Government, the Company would transform science and technology into engineering and industrial capability. First aircraft was named Bandeirante<sup>4</sup>. More aircraft models were entirely designed in Brazil, like the EMB 326 Xavante, an advanced trainer and ground attack jet, developed under license of Italian company [Aermacchi](#). Other developments that marked the beginning of Embraer's activities were the EMB 400 Urupema high-performance glider and the EMB 200 Ipanema agricultural airplane.

By the end of the 70's, the development of new products, such as the EMB 312 Tucano and the EMB 120 Brasília, followed by the AMX program in cooperation with the companies like Aeritalia (then renamed Alenia - now Selex Sistemi di Difesa) and Aermacchi, allowed Embraer to reach a new technological and industrial level. The entry into service of the new EMBRAER 170/190 family of commercial aviation in 2004 was the confirmation of Embraer's definitive presence in the executive aviation market with the launch of new products. Embraer is one of Brazil's largest exporters, working through three business units: Commercial Aviation, Executive Aviation, and Defense & Security.

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<sup>4</sup> "Bandeirante" is a portuguese name given to the scout pioneers who explored Brazil's hinterland on 16th and 17th century; some of them came from Portuguese nobility, some others looked more like "Indiana Jones" (avid people looking for gold, silver, etc), some others were ex-prisoners given a second chance of freedom.

## 5. A small theory about Brazilian cyclic processes <sup>5</sup>

Although the social and political dynamics have laws that are more decisive than simple model cycles, when viewed from a national perspective they have an immense inertia that resists against fast changes. Thus, to a good approximation, and without going into details of each local group of people, it is possible to identify in latest Brazilian decades some kind of dumped sinusoid with half-cycles of roughly years: low peaks are observed at around 10 years from the beginning of each half-cycle, followed by a return to the starting point every 40 years. The damping effect due to new peaks show less amplitude, if a strong disturbance does not occur (a big boost) that disrupts stability.

In each half-cycle, Brazil has oscillated between two opposite social-political behaviors: "the right of the power" and "the power of state right". And every 40 years, the cycle repeats bringing new protagonists, generally a class or population layer who were ignored in the previous cycle (law of action and reaction). There was a moment of great disturb due to the Proclamation of the Republic, generating instability and repeated social tsunami, combined with freedom of whole black population from slavery. At the same period, Brazil has welcome hords of European immigrants at the coffee plantation; these parallel social processes developed until Brazilian social dynamics gained more stable inertial motion.

Since the end of World War II, we can roughly speak about the following cycles:

1944 – "The power of rights"<sup>6</sup>

1964 – "The right of power"<sup>7</sup>

1984 – "The power of rights"

2004 – "The right of power"

2024 – according to this forecast, next cycle will be again "the power of rights"

Now it is 2014, therefore, Brazil is living a peak of several social processes which may invert back in 2024. Such social changes will be largely helped by international visibility brought by Soccer World Cup and then by 2016 Olympic Games. A similar phenomenon happened about 30 years ago, in 1980, after Pope John Paul II has visited Brazil for the first time. Thinking carefully in the 80's, both my life and world changed drastically:

- I started high school in 1979; 10 years later, I was graduated at ITA, Post graduated by PII, married and got a daughter.

- In 1979, peak of Cold War, Afghanistan quest, revolution in Iran; 10 years later, destruction of Berlin Wall, German unification, Iron curtain ceased to exist, Nelson Mandela became a free citizen.

Our opinion is that Brazil is currently living in a cycle similar to "right of power", much softer than Cold War decades, People who were formerly persecuted in the sixties and seventies, now are having the chance to assert their cries for justice (sometimes, more than pure justice, strictly speaking). The damping of this maximum peak with respect to the previous cycle shows that we are moving towards a balanced steady-state in the coming decade.

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<sup>5</sup> Special thanks to Antonio C. Batista for his contribution to the discussion.

<sup>6</sup> "Força do direito" in Portuguese, "forza dello stato di diritto" in Italian.

<sup>7</sup> "Direito à força" in Portuguese, "diritto all'uso della forza" in Italian.

## 6. Conclusions

Looking to the identity of Brazilian nation, the “brics” which this country is made from, it is possible to distinguish:

- Culture & tradition “DNA”: historical development, inheritance from European monarchies (mainly Portugal), religious legacy, dancing & Afro-Brazilian tradition in Samba, Carnival, etc.
- Social composition: people deportation from Africa, European immigration from 19<sup>th</sup> century onwards, war refugee immigration after world wars/civil wars, etc
- Passion and Talent: political passion on the 90’s which led to President direct elections, Aeronautic & Space passion which led to Brazil’s Aeronautics center in “Vale do Paraiba” (our “Silicon Valley”), worldwide recognized soccer talent (for five times, Brazilian National team won Fifa world cup).

If Brazil wants to keep improving development and social welfare, it is good to:

- not forget the past fifty years experience, both bad ones and good ones; *studying past history is useful to understand the present, otherwise it is meaningless* (cit. Friedrich Nietzsche). Some books about Casimiro Montenegro, aeronautics pioneer, are recommended to Brazilians, mainly those who studied at ITA<sup>8</sup>.
- *continue improving school quality* (cit. Nelson Mandela, Nobel prize for Peace); basic school and possibility to grow up with suitable and accessible resources (not only financial) is the key to rescue moral values and decrease criminality.
- maintain high knowledge level of Brazilian engineering schools (cit. Alberto Santos Dumont, aviation pioneer)
- bet in improving social awareness, promoting political engagement, and fighting against mistrust on population, which leads to motto “ignorance is power”; the “Arabic Spring”, the “indignados” movement and many other social-network based movements demonstrated the opposite.
- ultimately, keep promoting mass population to emerge from poor to middle class (cit. John Kenneth Galbraith “senior”).
- keep on playing good soccer!! Brazil welcomes the world in June/July 2014 during FIFA World Cup!!

Que vença o melhor!

To the memory of my father,  
who will not watch World Cup in Brazil this year;  
I’m happy we’ve watched together World cup games in 2006.

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<sup>8</sup> <http://www.ita.br/online/2006/itanamidia06/dez06/oesp3dez06.htm>

Morais, Fernando; “Montenegro – As aventuras do Marechal que fez uma Revolução nos Céus do Brasil”, Ed. Planeta, S. Paulo, 2006. Besides focusing on his monumental work, it reveals the righteous character of a “soldier” who managed not to bend in front of repressor radicalism of some colleagues, mainly during Cold War, sometimes even suffering due to intrigues and jealousies. The work of Fernando Moraes is a “full body picture” of this unusual Brazilian, whose honesty hovers above all his many qualities and whose faith in education transformed ITA in one of the most respected Aeronautic learning centers in the world.

## Appendix 1

### Some numbers of Brazil's economic growth [2]

Brazil has undergone profound socioeconomic changes since the Great Depression of the 1930s, especially since World War II. Brazil's economy had been geared for centuries to the exportation of a small number of primary products; after 50's, same economy has grown to be a large and diversified industrial sector in a relatively short period of time. At the same time, Brazilian society, which had been predominantly rural, has become increasingly urbanized.

This rapid socioeconomic transformation can be illustrated with a few numbers. The total population of Brazil grew from 17.4 million in 1900 to 186.8 million in 2007 and was expected to pass the 200 million mark in 2012. In 1940, only 30 percent of the country's population was urban; this proportion increased to 56 percent by 1970 and to 85 percent by 2006.<sup>1</sup> The contribution of agriculture to the gross domestic product (GDP, measured in current prices) declined from 28 percent in 1947 to 8 percent in 2005, whereas that of industry rose from not quite 20 percent in 1947 to 37.9 percent in 2005.

In 2005, after more than five decades of industrialization, Brazil was producing 2.4 million motor vehicles, 33 million tons of steel, 34.4 million tons of cement, 5.9 million television sets, 23.3 cellular phones, and 4.8 million refrigerators yearly. The country's paved road network increased from 36,000 kilometers in 1960 to about 190,000 kilometers in 2006. Brazil had 90,700 megawatts of installed electric power capacity in 2004, and over 60 percent of its exports consisted of industrial products. Although agriculture was not the leading sector in these years, its growth was substantial. The country's land area in crops expanded from 6.6 million hectares in 1920 to 52.1 million in 1985, surpassing 65 million in 2003. Planted pasture lands rose from 74 million hectares in 1985 to 197 million hectares in 2002. Brazil became the world's largest producer of sugar and concentrated orange juice and the world's largest exporter of soy, cattle meat, and tobacco.

Nevertheless, in 2000, Brazil expected its first trade balance surplus since 1995. As of June 2000, the accumulated surplus reaches US\$ 856 million and a total of US\$ 5 billion is expected for the whole year. Even though a part of this improvement in the trade balance is due to the realignment of the exchange rate, it is not wrong to say that productivity gains and increasing competitiveness of the Brazilian industry also played a role on it. Exports are growing steadily especially in value added sectors such as aircraft and telecommunications. Destinations are diversified: the European Union absorbs 27%, North America 23% (the U.S. is the largest individual trading partner), Mercosul 14%, Asia 10%, and the remaining exports are distributed over a variety of smaller markets. With a Gross Domestic Product of US\$ 650 billion in 1999, the Brazilian economy is dynamic and diversified. Industry accounts for 20% of national production, agriculture for another 20% and the services sector for 60%.

The dynamism of the economy could be evaluated through the volume of foreign direct investment (FDI) that flew into the country in recent years. FDI, that was very low in the beginning of the 1990's, has increased to US\$ 5,5 billion in 1995, US\$ 10,5 billion in 1996, US\$ 18,7 billion in 1997, US\$ 28.5 billion in 1998, reaching a historical level of US\$ 30 billion in 1999, the fourth in the world and the highest among developing countries except for China. An important fraction of this FDI was directed to the massive privatization program implemented by the Brazilian government, which ended long lasting state monopolies and moved into private hands important sectors of the Brazilian economy such as steel, telecommunications and electricity.

## Appendix 2

### **How does Brazil look like amongst other BRICS members [4]?**

During the two decades until 2008, the BRICS countries have all experienced sustained economic growth, with real Gross Domestic Product growing at above the average of developed countries. This was particularly the case in China and India, which had annual growth rates approaching and exceeding two-digit levels in the years prior to the current economic crisis, and to a lesser extent in Brazil and South Africa, which experienced more volatile economic growth in the past decade. These developments were favored by major macro-economic policy reforms, which started in the 1980s in China, in the mid-1980s in India, and in the early 1990s in Brazil (as mentioned) and South Africa, and which consolidated in the 1990s with the countries' rapid integration into the world economy. Trade and investment flows grew as never before, spurring significant trade and capital integration and increasing the countries' weights in the world economy.

However, while strong economic growth has helped to reduce extreme poverty, measured by both the 1.25 USD/day and the 2 USD/day poverty lines, significantly in China, India and Brazil, and to a lesser extent in South Africa, the overall benefits of economic integration have not been shared equally. Indeed, except in Brazil, income (and consumption) inequalities increased in the 2000s from the 1990s. However, the patterns of economic growth, poverty reduction and inequality outcomes vary between countries, with few characteristics in common. National poverty estimates provide some insight into differences in the composition of poverty (and poverty reduction paths) in each of the four countries. This concerns, in particular, regional and urban/rural differences as well as differences in poverty incidence among different population groups. In Brazil, the poverty rate remains higher in rural areas and is regionally unbalanced, with the North-eastern regions having triple the poverty rates of the South-eastern areas, even if the former experienced sharper decreases than the latter. In China, even if rural poverty reduction has been impressive, there is still a significant poverty divide between rural and urban areas, even larger than the regional divide. In India, poverty rates, and particularly poverty depth, decreased faster in rural areas than in urban areas, and by the mid-2000s had equalized the proportions of poor population in the two. Finally, in South Africa, poverty incidence also remains geographically concentrated, which is an inheritance from its recent history.

In all BRICS countries poverty incidence is still higher amongst those with lower educational. Children face a higher poverty risk than adults and the elderly. In addition, in South Africa, poverty incidence is mainly racially biased, with the African population accounting for the bulk of poverty, with poverty headcount rates being 30 times higher than for the White population.