

# Core Issues Facing Brazil's Quest towards Sustainable Growth

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## ABSTRACT

The new global economic order is creating an inflection point in the global economy. BRIC countries have experienced a shift in global wealth, resulting in an increase in their economic and political clout on a global scale. Reflecting these recent trends and changes, the Brazilian economy was ranked 6th in the world in 2012. Companies doing business in Brazil need to understand the nature of its economy and design strategies and policies to maximize their earnings in the Brazilian market. Brazil's booming oil & gas industries, agribusiness, services, and manufacturing industries offer a high potential for companies willing to face Brazil's many challenges, such as shortages of qualified labor force, and high taxes. Brazil's booming middle class also poses a number of challenges for companies that need to tailor their offerings to a young and evolving middle class. At the same time, Brazil is also building a sophisticated and vibrant middle class that will increasingly demand products and services that resemble offerings found in traditional developed markets. Still, market efficiency and productivity enhancers will have to be addressed in order to make the Brazilian economy more competitive. This paper addresses Brazil's core issues permeating its quest towards sustainable growth. The paper addresses the different dimensions of Brazil's economic and social environments, paying heed to recent developments and driving forces shaping Brazil's economy and society.

**Key Words:** Brazil, sustainable growth, economy, society, BRIC

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## **INTRODUCTION**

In the last two decades, the economic and the international political clout has been shifting towards BRIC countries. These countries have turned into engines of global economic growth and development. The global economic and financial crisis of 2008 further accentuated the increasing share of BRIC countries in global income, creating an inflection point in the global economy. This gradual shift in global income implies a drastic reconsideration of the role of these economies in the new global economic order. The BRIC countries are also redesigning trade and foreign direct investment patterns globally (IMF 2013; Izquierdo and Talvi 2011; Kharas 2010; Zenner and Berkovitz 2010; World Economic Forum 2012).

This new global economic order has provided a major impetus of economic growth and development for the Brazilian economy. This proximity has resulted in the substantial rise of commodities exported to Asian economies. This new global dynamism has had a substantial impact on the Brazilian economy, creating a new paradigm of growth and development. Brazil, however, has neglected to address many important reforms that have created a number of bottlenecks for the future sustainable growth of the Brazilian economy and society.

## **THE BRAZILIAN ECONOMY**

Like many other Latin American markets, the Brazilian business environment has changed substantially in the past two decades (Baer 2008; Ban 2012; Robles 2003; Robles 2012). In the early 1990s, during the Fernando Collor de Mello administration, Brazil opened up its market to foreign competition, ending four decades of an autarchic economic model. Brazil embraced market oriented reforms, initiating a bold privatization program aiming at redefining the role of the state in the Brazilian economy. Thus, Brazil began to lay the foundation for a more efficient and more competitive economy. The Fernando Henrique Cardoso administration further stabilized the Brazilian economy, introducing the foundations for a sounder macroeconomic environment, a sine qua non condition for a long-term sustainable growth strategy. These early efforts provided the foundations for current economic, social and political transformations permeating the Brazilian economy (Baer and Love 2009; Gonçalves 2010; Castelar Pinheiro and Bonelli 2011; Luque 2011; Baer 2008; Baer and Amann 2011; Bacha 2010; Bacha and Bolle 2013; Santos

2011; Lima Gonçalves 2011).

At the end of 2011, Brazil was showing very low levels of unemployment, rising foreign currency reserves, expanding foreign trade, and increasing levels of foreign direct investment. Culminating Brazil's past years efforts, in 2011, the Brazilian economy was ranked 6th in the world. In 2011, foreign currency reserves reached US\$352 billion, total trade flows reached US\$482 billion, the unemployment rate reached 6.7%, and the Brazilian economy received US\$66 billion in foreign direct investment (FDI) ranking Brazil amongst the world's fourth largest recipients of foreign direct investment (Amaral 2011; Bacha 2013; Baer and Sirohi 2013; CEBR 2011; Banco Central 2011; Todeschini and Rydlewski 2012; Unctad 2012).

Brazil is a country of 192 million people, with a large and expanding domestic market, and a country that is experiencing substantial socio-economic changes. The country has close to 84% of its population living in cities, with 15 Brazilian cities showing a population larger than 1 million people. Brazil is also a country of disparities, i.e., more than 26% of Brazil's population - close to 50 million people still reside in "favelas"/slums (IBGE 2011; Giambiagi 2007; Lahoz 2011). These disparities have characterized Brazil's economy and society, imposing additional challenges for the establishment of an equitable growth strategy.

## **ECONOMIC AND SOCIAL POLICIES**

In 2011, Brazil's GDP reached US\$2.5 trillion and ranked 6th largest in the world. These accomplishments were only possible as a result of economic policies and strategies designed in the past two decades, and embraced during the Lula administration (CEBR 2012; Chade 2012; Banco Central 2012). This section reviews Brazil's economic and social policies during the period 2003-2010.

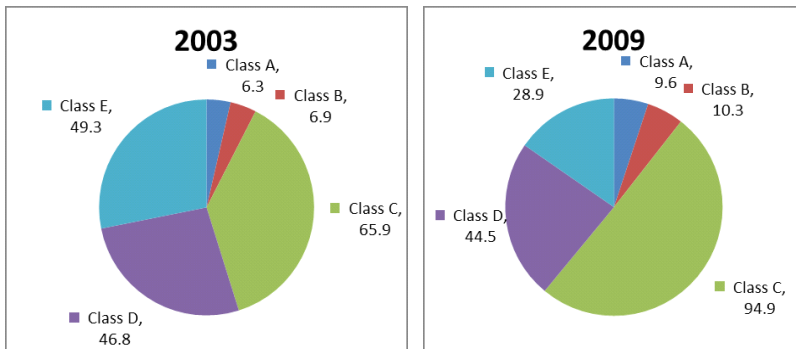
Lula's government kept in place Fernando Henrique Cardoso's economic policies and guidelines, such as the flexible exchange rate regime, inflation targets, and a budget surplus. Lula also gave continuity and expanded Cardoso's income transfer programs, such as the "Bolsa Familia" designed after Cardoso's "Bolsa Escola" and "Bolsa Alimentacao" programs (Castro and Modesto 2010; Kuntz 2010; Goncalves 2010), Lula's government placed the social agenda at the core of his government. For instance, he promoted a 53.7% real increase in Brazil's minimum wage and the "Bolsa Familia" program led classes C & D to become important consumers. During his tenure, 20.5 million Brazilians were removed from poverty

(Neri 2012; Ramon 2010; Zorovich and Guedes Neto 2011).

Lula's government, however, did not promote the needed structural and institutional reforms such as labor reforms, tax reforms, and the pension reforms, among others. These were extremely necessary to increase the country's competitiveness. During Lula's tenure in government, Brazil showed the lowest levels of economic growth amongst the BRIC countries (Gonçalves 2010; Mendonça de Barros 2012).

The "Lula-Petista" project put a premium in "building a strong state" i.e., a state that heavily taxed the Brazilian economy, not a "strong state" that stressed providing the needed services such as health care, education, security and infrastructure that will lay the foundation for a healthy economy and society (Cruz 2011a; 2011b; 2012; IBPT 2012).

Figure 1 illustrates the substantial changes that took place in Brazil's income pyramid during the Lula administration. (Moreover, during this period, Brazil saw a substantial improvement in its income distribution as measured by the Gini Coefficient. In the last two decades, the Gini Coefficient has decreased from 0.59 to 0.53 (Lustig, Ortiz-Juarez and Lopez-Calva 2011).



Source: Villamea 2011

Figure 1. Population in millions by Income Classes

## **FACTORS SHAPING BRAZIL'S GROWTH and DEVELOPMENT**

There are several important factors shaping Brazil's economic growth and development. The following paragraphs will expand on these factors.

**Expanding Domestic Market:** In the last two decades a number of BRIC economies such as China and India, saw a dramatic increase in their middle class. A new tipping point has been reached in BRIC nations, where an increasing share of their population will enter the middle class and dramatically change consumption patterns in these economies. The word economic order, shifting economic power to BRIC nations is resulting in the enlargement of their middle class (Kharas 2010).

Brazil is no exception to this global trend; in 2011 Brazil had 20 million people in income brackets A&B; in 2014, this number is expected to grow to 31 million. In 2011, Classes A&B accounted for US\$516 billion, or close to 40% of Brazil's US\$1.4 trillion total consumption. Still, Brazil is a highly unequal country in terms of income distribution, where the top 10% of Brazil's richest account for close to 50.6% of all income, and the poorest 10% for only 0.8% of the country's income (IBGE 2012).

However, in the past few years, the combination of economic growth, increase in formal employment, and reduction in income disparities, is allowing the poor, classes D&E to ascend the social and economic ladder very fast. This is one of Brazil's main accomplishments of the last ten years (Alberto and Reis 2011; Paduan 2011; Ramon 2010).

These recent changes in Brazil's social income distribution, is also impacting their share in the country's total consumption. For instance, in 2015 it is expected that class A will account for 16.1% of all consumption, class B for 41.7%, Class C for 36.6% and Classes D&E for 5.6% (DeChiara 2012). Thus, Brazil's expanding classes B, C, and D&E will lead Brazil's consumption in the next few years (Sato and Casado 2012a; 2012b; Todeschini and Salomão 2009; Gradilone and Mazoni 2012).

**Expanding Service Industry:** Like other BRIC countries, Brazil's increasing middle class is providing a major impetus for the country's service industry, from education to tourism. In 2011, Brazilians spent close to US\$1.4 trillion in products and services, following a 24.3% increase in Brazil's average income per capita between 2004 and 2009. In 2012 alone, 43 new shopping centers will be opened in Brazil, an investment of US\$4.4 billion.

A major revolution in Brazil's spending pattern is also unfolding. For instance, in 2002, out of R\$100 reais, approximately 50.5% was spent on products and 49.5% on services. In 2011, out of R\$100, 62.5% was spent on services, and 34.8% in products. The increasing size of Brazil's middle class is prompting a new wave of demands for the service industry.

The new emerging class “C” or lower middle-class is spending more on educational services. In the last ten years, Brazil’s college population doubled to 6.5 million students (Orsolini and Ferreira 2012). This increasingly wealthier urban population will add more pressure and demand for a number of different service offerings, such as good quality urban transportation (Novox 2012). Brazil’s 2013 urban demonstrations were a clear sign of Brazil’s population dissatisfaction with the quality of services offered by the state at the municipal, state and federal levels.

**Brazil’s Booming Oil & Gas Industry:** In the next few years, Brazil is poised to become a major player and exporter in the oil & gas industries. In 2012, Brazil had 16.6 billion barrels of oil reserve, with a forecast that these reserves will increase to 100 billion barrels once the “Pre-Sal” oil reserves are added to Brazil’s total oil reserves, making Brazil the world’s 7th largest producer of oil (OSEC 2011). Petrobras, Brazil’s state run oil company alone is expected to invest US\$227 billion between 2012-2015 in exploration and refining (Baccocina and Queiroz 2012; Postali 2011).

Despite Brazil’s recent oil and natural gas discoveries, the country needs to add 5,000 megawatts in the next few years. The growth of Brazil’s energy supply will come mostly from renewable energy, like hydropower. Most of the new hydropower supply will come from Brazil’s Amazon region. The construction of hydropower power plants in the Amazon region, such as Belo Monte, has raised a number of social and environmental concerns that will have to be addressed by the Brazilian government (Pyper 2012).

**Brazil’s Growing Agribusiness Industry:** Brazil has close to 200 million hectares of farming land. In addition, Brazil’s mild climate allows for some crops to be harvested twice a year. In 2011, Brazil was the world’s third largest exporter of food products (Lopes, Lopes and Rocha 2011; Governo de Minas 2011).

Availability of farming land coupled with a vibrant biotech domestic industry and farming equipment are positioning Brazil as a world leader in the agribusiness industry. Between 2001 and 2011, farming land has expanded from 40.2 million hectares to 50.4 million hectares in 2011. In millions of tons, production in the same period has expanded from 96.7 million tons to 159 million tons (Conab 2012).

**Foreign Trade Policy:** In 2011, Brazil's total exports amounted to US\$256 billion and total imports to US\$226 billion, a trade surplus of US\$30 billion. Despite Brazil's substantial increase in its trade flows, the country is still accounting for only 1.4% of global trade. In addition, Brazil has become extremely dependent on a number of commodities and natural resource based goods. In 2010, five products accounted for 43% of Brazil's total exports. The top five products were iron ore, petroleum, soya beans, sugar and meat products.

The shifting of exports from manufacturing to commodities, or the relative decline in exports of manufactured and knowledge-intensive products and services raises a number of concerns such as impacts on per capita income, exports revenues, deindustrialization, overall employment in these industries and impacts on the ability of Brazilian workers to obtain higher paying jobs in these value-added industries. In addition, lower levels of exports of manufactured and knowledge – intensive products and services also impacts the growth and development of existing segments of the Brazilian economy, such as services, linked to these industries and their future expansion, further impacting the Brazilian economy. Furthermore, the related lack of demand for high skilled labor by these industries will also affect the offering of programs in Brazilian technical schools and universities, further aggravating the quality of Brazil's labor force and productivity. Thus, the relative decline of exports of manufactured products and knowledge-intensive products and services have a substantial impact on the Brazilian economy and its commons.

Brazil's foreign policy agenda also did not help to achieve a larger global market share for Brazilian products. Lula's archaic foreign policy, stressing a "1950s South-South" alliance in a 21st century multipolar environment, considerably weakened Brazil's economic and political standing globally, and has diminished the share of exports to the U.S. market. Between 2002 and 2010, the U.S. market share of Brazilian exports has declined from 25.4% in 2002 to 9.5% in 2010 (Lamucci 2012). This is a substantial loss for the Brazilian economy, since the U.S market has traditionally been an important market for Brazil's manufactured products and knowledge-intensive exports such as IT (Pereira and Souza 2011).

Brazil has also increased its trade links to China in the past few years. For instance, in 2010, 88% of Brazilian exports to China were made of primary products and only 4% were made of manufactured products. China's exports to Brazil were 96% made of manufactured products and 4% of primary products. This is in sharp contrast to Brazil's trade with

China in the 1980s, when 64% of Brazil's total exports to China were made of manufactured products (SECEX 2012). Brazil needs to find ways to diversify its export portfolio to China, mostly emphasizing manufacturing and knowledge-intensive products. The low levels of Brazilian investments in China also compromise Brazil's ability to penetrate the Chinese market (Gouvea and Montoya 2013; Soares 2012).

The increasing penetration of imported manufactured products in the Brazilian market and Brazil's declining share of manufactured products' exports are raising the issue of deindustrialization in the Brazilian economy. As a result of increasing concerns about the deindustrialization of Brazil's economy, the Dilma Rousseff's government is reviving Brazil's old protectionist policies. Brazil's policy-makers should instead be addressing the bottlenecks that are currently making the Brazilian business costly to companies doing business in the country and Brazilian exports of manufactured less competitive in global markets. According to the International Chamber of Commerce "2011 Open Markets Index", Brazil was ranked the lowest in the "Open Market Index". Brazil still imposes a number of barriers at the trade, investment, and trade-enabling infrastructure when compared to the other G-20 countries (ICC 2011; Welch 2012).

## **FACTORS STIFLING BRAZIL'S GROWTH AND DEVELOPMENT**

Brazil has been able to show progresses in the quality of its institutions and economic policies, turning Brazil into a more appealing destination for private investments (Giambiagi and Castelar Pinheiro 2012). The successful insertion of Brazil into the new global economy will demand that Brazil addresses a number of barriers and challenges that permeates its economy and may enhance or compromise the country's ability to seize the opportunities and challenges resulting from the post-global economic crisis.

**Brazil's Aging Logistics and Infrastructure Industries:** Brazil's lack of attention and investment in its logistics and infrastructure industries are imposing a heavy burden on Brazil's global competitiveness (World Bank 2010). For instance, Brazil's increasing exports of commodities need an efficient and modern infrastructure and logistics in order to remain competitive. Brazil is currently facing a gridlock in its logistic industry.



Brazil's heavy dependence on highway transportation and low emphasis on railroads and hydroways has made logistics costs in Brazil very high and inefficient. For instance, hydroways account for only 8% of all cargo transported in Brazil, highways for 65%, and railroads and air transportation for 27% (Borges 2012).

Brazil's lack of investments in its ports limits the amount of cargo exported and imported by companies established in Brazil. For instance, Brazil in 2011 only handled 5 million containers; some individual cities in China handle more containers than Brazil does. Brazil's ability to expand its exports of commodities is being compromised by its poor infrastructure. This situation, however, is finally changing. In 2012, a number of new deep water ports are being developed such as Açú "superport" in the North of Rio de Janeiro State. In 2012, investments totaled US\$17 billion, of which US\$14 billion are being undertaken by the private sector and US\$3 billion by the government (Batista 2012).

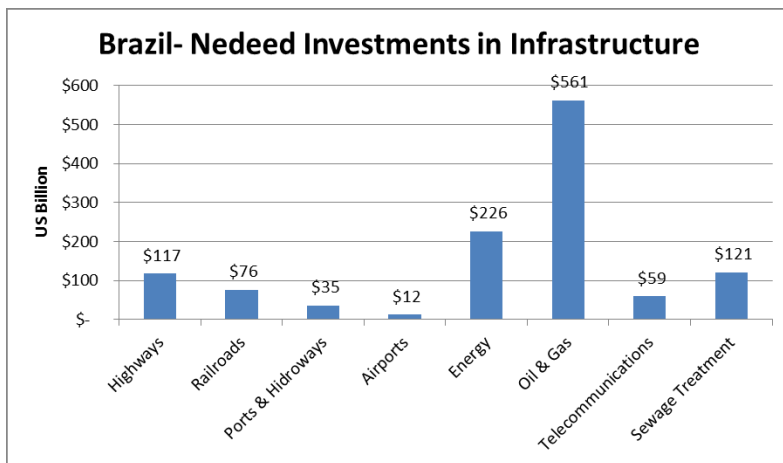
In 2012, 61% of all cargo in Brazil is handled by highway, 21% by railroads, and only 14% by sea. In 2012, the government decided to privatize a number of key airports aiming at increasing the efficiency of Brazil's air transportation network (Safatle 2011).

The Lula administration did not place investments in infrastructure very high on the list of priorities for his two terms in government. His government's lack of understanding that an efficient and modern infrastructure has a deep impact on a country's overall competitiveness, including the "physical internet" or logistics, has deeply impacted the country's economy. As a result, today Brazil faces a number of bottlenecks in its ports, airports, highways, railroads, and telecommunications. The needed investment in Brazil's infrastructure is quite expressive. Between 2010 and 2022, Brazil will have to invest close to US\$1.1 trillion in infrastructure projects. Figure 2 below illustrates the massive need for infrastructure investment in Brazil (Ferreira and Dutra 2011; World Bank 2010).

The lack of organization and management skills in the Dilma administration has forced the government to postpone close to R\$50 billion in infrastructure projects. In 2011, infrastructure projects such as hydropower plants, bullet train, airports, ports, highways, are all entangled in environmental disputes and frauds, and delays in the public procurement bidding process. A new mining code is also waiting for the government to decide what to do (Morgan Stanley 2010; Rodrigues and Mendes 2011).

This lack of attention paid to Brazil's logistics industry is reflected in Brazil's high ratio logistics/GDP, close to 15.4%, compared to the U.S.'s

8%. In addition, Brazil is ranked in 41th place by the Logistics Performance Index, out of 155, countries, below other BRIC countries such as China and India. Moreover, the cost of shipping a container (TEU) is close to US\$1,240 well above OECD rates, and it takes twice as long to export a container in Brazil than it does in the U.S. Brazil is still needs to improve its customs performance and international shipping, in addition to updating and modernizing its infrastructure. In today's global economy, logistics have become a paramount dimension of a nation's ability to improve its competitiveness (World Bank 2010b).



Source: Coscarelli and Polo (2011)

Figure 2. Bazil's Infrastructure Investment Needs

**The Increasing Shortage of Qualified Labor:** The rapid economic growth and development of Brazil's economy is also adding pressure to the country's human capital pool. The increasing lack of professionals available in the marketplace to address Brazil's increasing business needs are creating a labor bottleneck, further showcasing Brazil's polarized economy. The failure to improve Brazil's educational standards are highlighted by a recent study by OECD, "Program for International Student Assessment – PISA 2009", released in 2010. The study assesses how far students close to the end of their compulsory education were able to acquire the skills and knowledge to fully participate in their respective societies. The survey covered 65 countries. Students from China ranked first, while Brazil ranked fifty-third behind other Latin American countries such as Chile, Mexico, and Trinidad and Tobago. It is clear that the Lula government failed to address Brazil's

most pressing educational needs (OECD 2010; 2011). The study shows that 69.1% of Brazilian students younger than 15 years old did not advance beyond the basic training in mathematics, 54.5% have no basic knowledge of science, and 49% showing very basic reading skills ranked 53rd in reading and 57th in mathematics. These results have dramatic implications for the quality of Brazil's labor force. Brazil needs to urgently address its shortcomings in the education front. If Brazil is to become an active player in the knowledge-intensive driven global economy, Brazil will need to pay heed to its educational system (Barbosa Filho 2011; Bizzo 2011).

Brazil is going through an inflection point, i.e., Brazil needs to establish a knowledge-intensive economy that will create the right environment for increasing innovation and technological development. Brazil has invested only 1.3% of its GDP on R&D and Innovation; this is a very low level for an economy that is ranked among the top ten economies in the world. The announced cut of US\$352 million of Brazil's Science & Technology budget for the 2011 fiscal year sends a message that the Dilma Administration will not place as much emphasis on technology and innovation as the country needs (Monteiro 2010). In order to become more attractive to knowledge-intensive companies, Brazil needs to develop a comprehensive innovation and technology infrastructure and support system (Brito Cruz 2011; Cruz and Vermulm 2011; Royal Society 2011).

Brazil is also facing a shortage of qualified labor. The lack of attention paid to education during the past decades, is now affecting Brazil's labor market (Maximo 2011). There has been traditionally a lack of "White collar" workers in Brazil such as managers with MBAs, engineers, and multilingual executives. Now, there is a lack of blue collar workers as well. In December 2011, the unemployment rate reached 6.7%, the lowest rate since 2002. Very low unemployment also implies high wages, pressuring companies' profits and costs. Labor-intensive industries, such as services are having a hard time hiring. Thus, Brazil will have a hard time securing a long-term sustainable development if it is not able to address this issue (Garcia 2010; Sciarretta 2010). The estimated need for new professionals by 2015 should reach 8 million workers, if the Brazilian economy continues to show momentum. The main shortages can be found in the retail, construction, oil & gas, textile, and information technology. In addition, only 40,000 engineers are graduating annually, well below market needs (Lahoz 2011; Manpower 2011; Salomão 2010b).

**Productivity Issues:** Brazil has a serious productivity problem, performing well below other nations such as South Korea, China, and even Argentina.

For instance, between 2000 and 2008, Brazilian productivity only expanded by 0.9% per year, compared to China's 5.2% and South Korea's at 7.4% for the same period. In 2011, productivity rates increased, but at a much lower rates than other countries. For instance, Brazil was ranked in 15th place in Latin America, with a productivity of US\$19,764 per worker, well below countries like Chile with US\$35,864, Mexico with US\$35,579 and Peru with US\$24,054. In 2011, Brazilian productivity rates compared very poorly, around 1.4% yearly, with other Latin American countries, an average rate of 2.1% yearly (Ribeiro 2012; The Conference Board 2012).

Several factors explain Brazil's low levels of productivity. For instance: a) The low level of skills of the Brazilian worker, resulting from Brazil's poor educational system, b) The lack of substantial investments in education, research and development and innovation, c) Low investments in Brazil's infrastructure, d) Low levels of investments by the private and by the government sectors on innovation, e) Brazil's increasing dependence on commodities and the decreasing share of high-valued added activities such as manufacturing and knowledge-intensive activities, and increasing share of services, f) high and complex levels of taxation, g) high levels of arbitrary government interference in the economy. These are some of the main factors pushing Brazil's productivity rates down (CNI 2012; Dantas 2012; Ribeiro 2012).

**Corruption:** In the 2000s, corruption became a pervasive feature in the Brazilian business environment (Alvarenga 2011; FIESP 2010). Corruption has reached very high levels, affecting investments in infrastructure, health care, education and security. It is estimated that since 2000, close to US\$400 billion have been diverted from Brazil's government. Corruption occurs at the federal, state, and municipal levels. In 2011 alone, it is estimated that close to US\$47 billion was diverted from the government. This state of affairs imposes a heavy burden on companies doing business in Brazil. Since 2011, 7 ministers have been dismissed by the Dilma government on alleged charges of wrongdoing, showcasing the extent to which corruption has evolved. In 2011, Transparency International ranked Brazil 73rd out of 183 countries (Cabral and Diniz 2011; Transparency International 2012). Brazil's ability to become a more mature society and economy is compromised by its inability to curb domestic corruption, creating a compatibility crisis, i.e., a country ranked amongst the top 6 economies in the world needs to build stronger institutions, a more sophisticated political system, and a more responsible

private and state sectors.

## **ADDITIONAL COMPETITIVENESS HURDLES & BOTLENECKS**

In 2012, the Brazilian economy showed a much slower rate of growth than it was expected. It is becoming clear that there are no more degrees of freedom to postpone Brazil's needed and urgent structural reforms. The slower growth of China, the European economic crisis, a more protectionist Argentina, and a slow moving U.S. economy impacted the Brazilian economy and exports.

In 2009, the Lula government induced a domestic growth strategy by stimulating domestic consumption, mostly by the emerging middle class. However, in 2012 the increasing levels of indebtedness of Brazil's emerging middle class have compromised the ability to rely on Brazil's consumers to jump start the economy again. The Dilma administration's "Plano Brasil Maior" (the "Richer Brazil Plan") attempted to jump start the economy based on a demand shock, expanding consumption via increase in salaries, credit expansion, and lower specific taxes of some segments of the industry such as white goods and automobiles. It did not work out. The government also tried to use the purchasing power of the government to benefit some specific sectors, but it was not able to create a growth momentum (Cruz and Matos 2012). The industry was already facing very high costs of production, and private investments did not follow the government measures. In addition, several sectors of the Brazilian economy, such as construction and manufacturing were laying off workers introducing additional uncertainties on Brazilian consumers (Landim and DeChiara 2012; Mendonça de Barros 2012; Palley 2002).

In the Fall of 2012, the government unleashed a bold privatization program, "The Logistics Investment Program", aimed at attracting Brazil's private sector to invest in the country's infrastructure. The government is interested in attracting private investments to Brazil's highways, railroads, ports and airports. A new state company, "Empresa de Planejamento e Logística - EPL" was created to structure and coordinate these infrastructure projects in conjunction with the private sector. A number of these projects were initially under the PAC program (Borges 2012b).

In 2012, the global economic crisis made Brazil's sins and vices more visible and more meaningful to companies doing business in Brazil. For instance, in 2011, Brazil lost two more positions as measured by the

International Institute for Management Development (IMD)'s World Competitive Scoreboard competitiveness assessment, 46th out of 59 countries, below other BRIC countries like China and India. These results showcase Brazil's urgent need to address the large number of bottlenecks that are still permeating its economy and demanding a new paradigm of growth and development (Castelar Pinheiro 2012; Pereira 2012).

Thus, despite Brazil recent accomplishments, a number of steps need to be taken in order to sustain Brazil's long term growth and development, and diminish its "sins and vices".

**High Taxes:** In 2011, taxes reached 33.9% of Brazil's GDP well above other countries that compete with Brazil in global markets (IBPT 2012; Coelho 2012). In 2011, taxes accounted for close to 40.3% of the final price of manufacturing products in Brazil. In addition, Brazil's cumbersome red tape demands time from companies that on average cost 1.16% of their annual revenues.

**High Cost of Labor:** The cost of labor in Brazil is one of the highest amongst its competitors as well. For instance, in the period 2006-2011 the cost of labor in Brazil has increased by 46% in dollar terms, compared to 3.6% in the U.S. The overvalued exchange rate, low unemployment levels, high demand for skilled labor, and employment taxes and social benefits related expenses, and a 13rd salary is making Brazilian labor very costly (Landim 2012). In addition, the low productivity of Brazilian workers aggravates the cost of labor in Brazil.

**High Cost of Electricity:** Brazil's cost of electricity is also very high compared to other countries, even countries like Canada that have a similar energy matrix, heavily dependent on hydropower plants have lower prices. Brazil's excessive taxation on energy is imposing a burden on the Brazilian economy. This further aggravates the cost of doing business in Brazil. For instance, between 2003 and 2011 the cost of electricity has gone up by 246% compared to only 35% in the U.S. In 2010, the average cost of a MWh in Brazil was close to US\$58 compared to a global average cost of US\$40. Energy intensive manufacturing such as, aluminum and glass products are closing plants in Brazil as a result of the high energy cost. Between 2006 and 2012 the cost of energy for these sectors has increased by 76%, reaching on average US\$74 by MWh (Pereira 2012b).

**Low Levels of Investment:** Investments levels in Brazil in relation to the country's GDP in 2012 were around 18.7%, with 16% undertaken by the private sector. Thus it is clear that the Brazilian government needs to expand its investment share, especially in the areas of education, infrastructure, health care and security (Landim 2012). The government should also be fostering more private-public partnership arrangements to promote private investments in areas such as infrastructure where the government has shown a poor performance, efficiency, and clearly lack the funds to undertake these projects. Private-Public partnerships were first introduced in the early 2000s, but were not fully implemented. In addition, the government should also promote a more aggressive privatization program specially geared to investments in infrastructure, one of Brazil's most pressing problems. In 2012, Brazil imported 15% of its gasoline needs as result of postponements in the construction of refineries, such as "Refinaria Abreu e Lima" further showcasing the government investment paralysis and its implications for the Brazilian economy (Valle 2012).

**High Level of Domestic Interest Rates:** Brazil's banking spreads and real interest rates are also one of the world's highest, further compromising and aggravating Brazil's business environment and keeping the value of the Brazilian currency, the Real, high. More efficient government expenditures would allow the Brazilian government to lower taxes what in return would have a positive impact on domestic interest rates and on the exchange rate and on private investments (Moreira 2012).

**Excessive Red Tape & Bureaucracy:** Brazil is only investing close to 4% of its GDP on infrastructure, well below Brazil's needs. For instance, between 2010 and 2011, investments in transportation, electricity generation, oil & gas, telecommunications and sewage treatment saw only a 2% real increase in expenditures. In addition, delays in the Accelerated Growth program – PAC infrastructure projects are also plaguing the economy. For instance, only 22% of all infrastructure projects of the first PAC or PAC I were finalized on time. Some projects that are now part of the PAC 2 are also running late, some are now delayed by as much as 54 months. Several infrastructure projects deemed essential for Brazil's competitiveness are running way behind schedule. For instance: a) The railroad "Norte Sul" and "Transnordestina" are delayed by 54 months, b) Hydropower plants such as Belo Monte, Santo Antonio are also running late by 32 months, c) Refineries "Premium I" and Abreu e Lima are

also running late by as much as 30 months, d) Bullet Train linking Rio de Janeiro to Sao Paulo is running 72 months late and it will no longer be able to alleviate traffic for the 2014 Soccer Cup (Fariello 2012). Environmental issues, managerial issues, oversight and legal issues are plaguing these very important projects for the Brazilian economy. Between 2007 and 2011, only 68% of the budget allocated to infrastructure was spent (Fariello 2012). The implementation of privatization strategies and public-private partnerships could provide a way to expedite investments in Brazil's infrastructure (Pereira 2012).

**Government Efficiency:** The Brazilian government pattern of spending and management of expenditures is also being called into question. For instance, the low quality of services offered by the Brazilian government such as education, health care, infrastructure and security further penalize the efficiency of Brazil's private sector. Brazil's high taxation model and the low quality of public service offerings, is not conducive to building an efficient business environment. IMD's "The Government- Business Efficiency Gap" showcases the substantial gap in efficiency between Brazil's government and private sector, indicating that Brazil has one of the world's most inefficient governments (IMD 2011).

## **BRAZIL'S QUEST FOR INNOVATION and COMPETITIVENESS**

In recent decades, innovation has been the main focus of a number of nations quest for increasing levels of competitiveness and economic and social prosperity. The knowledge economy is highlighting the increasing role of innovation in nation's quest to implement sustainable growth and development strategies. It is clear that a new growth and development paradigm is in place; one that places a premium on investments in intangibles, such as human capital development, research and development, and innovation. There is close relationship between investments on research and development and on innovation and the competitiveness of companies and nations (Greenhalgh and Rogers 2010; Porter and Stern 2003; Sala-i-Martin et al. 2009; Schwab and Porter 2009; Yetkiner, Pamukcu and Erdil 2013).

Brazil, however, over the past decades has not followed global trends on innovation and R&D expenditures. Investments in research, development, and innovation have been greatly neglected by the Brazilian government



(Arbix and De Negri 2009; Cruz 2005; ILO 2011; Pochman 2008; Wright 2008; Gouvea and Kassicieh 2012). It is clear that Brazil is still not addressing innovation as a vital factor and issue in Brazil's quest towards sustainable economic growth and development. Studies such as Insead's Global Innovation Index rank Brazil in 47th place, out of 125 countries. It is clear that Brazil's progress in the areas of R&D and innovation is not following Brazil's increase in GDP. It is important to note that the construction of a modern and efficient business environment demands substantial investments in the area of R&D and innovation.

Brazil has been lagging compared to other BRIC countries in this area. Several proxies have been used to assess a country's progress in this area, such as the ratio R&D expenditures/GDP and patent fillings. For instance, in 2011, Brazil filled 572 patents overseas, compared to China's 16,406 patents and India's 1,430. Brazil also invested a smaller share of its GDP on R&D and innovation than a number of its competitors such as China. In 2010, Brazil invested only 1.16% of its GDP on R&D, compared to South Korea's 3.74% and China's 1.7% (MCTI 2012; Cruz 2009).

It is also important to notice that most of the R&D investments and innovation efforts are state-driven, with the Brazilian private sector playing a secondary role. Brazil needs to commit to an innovation mindset that involves Brazilian universities, private sector, and the government, otherwise Brazil runs the risk of falling behind in the global R&D and innovation race (Edelman 2012; Gouvea and Kassicieh 2012).

Brazil needs to address its governance issues related to fostering indigenous innovation, research and development. For instance, excessive bureaucracy, and inefficiencies in the allocation of limited resources towards innovation and research and development stifles Brazil's innovation efforts. For instance, since 2002, Brazil has not substantially increased the allocation of resources on innovation; i.e., Brazil only allocates close to 1% of its GDP towards innovation and R&D compared to an average of 2.2% for OECD countries. In addition, a lack of coordination amongst the many agencies in charge of fostering and supporting indigenous innovation and research and development stifles these efforts (Cristoni 2010; Cruz 2009; Dahlman 2009).

Moreover, Brazil is still in the earlier stages of fostering a closer relationship between the country's private sector, academic environment and research institutions, and the government. Brazil has not been able to build an efficient and competitive "triple helix". There is an urgent need to develop coherent and coordination amongst Brazil's main innovation actors. Efforts

to encourage a stronger entrepreneurial culture in Brazil's colleges and universities, via stronger linkages between Brazil's colleges and universities with Brazil's private sector, and by reflecting Brazil's private sector needs in colleges and universities would foster the implementation of an innovation mindset in Brazil (Arbix and De Negri 2009; Gouvea and Kassicieh 2012).

Brazil also needs to: a) expand its financial environment to support the expansion of Brazil's venture capital industry, b) expand its incubator programs, c) increase funding for state-driven research programs and procurement policies, and d) support private driven innovation efforts, via trade and investment liberalization policies and support to start-ups (Cruz 2009; Dahlman 2009; Edelman 2012).

Brazil also needs to develop focus areas on which to concentrate its innovation and research and development efforts. For instance, areas such as biotechnology, nanotechnology, sustainable energy, environmental technologies and innovation, and aeronautics, offer a great potential to foster innovation and competitiveness of Brazil's economy. In addition, these new frontiers of innovation, research and development, have the potential to induce new cycles of economic growth and development.

## **DISCUSSION**

The Brazilian economy has enjoyed a remarkable transformation since the early 2000s. The Brazilian economy has become more sophisticated and more egalitarian, allowing millions of families to join Brazil's expanding middle class and flee from poverty, expanding Brazil's domestic market and consumption. In addition, the country has expanded its trade flows and attracted increasing flows of foreign direct investment. Brazil has also developed a closer proximity to Asian economies resulting in increasing exports of commodities and increasing imports of manufactured products from Asian nations. This closer proximity to Asian markets has allowed the country to grow and develop at faster rates. However, this proximity has also raised the level of competition in the Brazilian market, potentially resulting in the further deindustrialization of the Brazilian economy, and raising Brazil's dependency on exports of primary products. In order to address this pressing issue Brazil needs to invest in research & development and innovation at faster and more efficient ways in order to face the deindustrialization threat and to better compete with other nations such as China. In addition, Brazil also needs to address its bottlenecks in order to offer a more competitive and efficient business environment for companies

doing business in Brazil.

Thus, the successful insertion of the Brazilian economy into the new global economy order will require a new vision for the Brazilian economy and a new set of policies, that can increase the country's ability to pursue the new opportunities brought about by the new global economic order. This new paradigm of growth, however, needs to be carefully addressed. Brazil needs to emphasize exports of knowledge-intensive, creative, and manufactured products, not only primary products and commodities. The U.S. and European markets have been traditional buyers of Brazil manufactured, creative, and knowledge-intensive products and services. These markets have been important to expand Brazil's pool of valued-added industries that provide important forward and backward linkages throughout the Brazilian economy, good paying jobs, and offer the possibility of expanding Brazil's service industry.

On the other hand, despite Brazil's more stable economy, a number of institutional and structural reforms have not been addressed, hampering the future growth and development of its economy. The lack of substantial investments by the government in areas under the government's domain such as education, security, health care and infrastructure imposes an additional burden on Brazil's private sector. In addition, the lack of efficiency, coordination, and increasing corruption, challenges the Brazilian political system and its ability to provide the effective leadership that a country in 6th place in the global economy deserves.

Still, a number of macroeconomic risks permeates Brazil's path towards a higher level of insertion in the new global economic order. Rising capital inflows, rising exports, and rising oil and gas discoveries may manifest themselves in the further appreciation of Brazil's Real. Brazil's strong Real has compromised Brazil's ability to increase its exports of manufactured products and has resulted in a neo-colonial paradigm, where the country is again heavily dependent on a number of commodities. The deindustrialization of Brazil's economy may have serious implications for the country's commons, with potential impacts on segments of its service industry that are dependent on its manufacturing sector. Still, the expansion of Brazil's middle class is also providing a new impetus for the country's service industry.

In sum, Brazil is in an unique position to capitalize on the new global economic order, however it needs to use sound macroeconomic, institutional, and social policies to avoid any buildup or expansion of current vulnerabilities.

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