

June 2014

Recent macroeconomic trends in emerging economies and implications for development

Country Study: Brazil¹

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ABSTRACT

The paper reviews the sluggish growth and inclusive developments of the Brazilian economy in the last decade. The first section analyzes the macroeconomic performance pointing export growth as the engine of growth. The second evaluates social policies and their relationship with the improvements in the labor market. The third examines Brazilian policy reactions to the global crisis that managed to recover consumption but failed to sustain investment and growth. The discussion of challenges for a sustainable development concludes the paper. Investment in education and infrastructure are consensual policy advices but there are plenty of disagreements and controversies with regards to industrial policies, financing strategies and the role to be played by the public sector.

JEL Classification: E63, E64, E65

Keywords: Brazil, Macroeconomic performance, Social policies, Financial crisis, Growth strategy

¹ Comments by Elisa Reis, Ajax Moreira, Joaquim Andrade, José Tavares, Miguel Foguel, Marcelo Abreu, Honório Kume, Diana Alarcón, Eduardo Zepeda, and the participants at the DESA Workshop are gratefully acknowledged with the usual caveats.

CONTENTS

I	Introduction	1
II	The Brazilian macroeconomic performance in the last decade	1
III	Social achievements.	4
IV	Financial crisis and the recent slowdown in the economy	9
V	Prospect and challenges for sustainable development	11
	References	17

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Typesetter: *Nancy Settecasì*

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I Introduction

This paper contributes towards the conversation on the post-2015 global development brought together by the Development Policy and Analysis Division (DPAD) of the Department of Economic and Social Affairs (DESA), by discussing recent trends of the Brazilian economy and the policy agenda for a sustainable development strategy. In the last two decades, the country was able to circumvent secular obstacles to economic development and social welfare, but macroeconomic performance has been somewhat frustrating, particularly in what concerns investment and growth.

The paper reviews the achievements and pitfalls of Brazilian development in the last decades. Major achievements are related to the inclusive growth process reflected in the eradication of poverty, redistribution of income, and the exceptional performance of the labor market. Pitfalls include persistent fiscal weaknesses and exorbitant interest rates which lie at the root of low investment rates and sluggish growth.

The first section describes the Brazilian macroeconomic performance in the last decade. Export growth and terms of trade improvements were the engines of growth of Brazilian economy during the period. The terms of trade improvements made income grow much faster than output, thus raising questions regarding sustainability in case of their deterioration.

The second section reviews the social achievements since 2003, and pays special attention to the policies used to combat poverty and the factors behind the improvements in the labor market.

The third section analyzes the impacts of the ongoing global economic crisis on the Brazilian economy and the ensuing policy reactions that managed to recover consumption but failed to sustain investment and growth in the medium run. Big mistakes included industrial policies implemented through Brazilian Development Bank (BNDES) and the government dubieties in what concerns concessions in infrastructure.

The fourth and the last section of the paper discusses the main challenges for a sustainable development strategy. The consensual policy advice is to increase productivity growth through investment in education and infrastructure, with particular emphasis on transportation and energy. However, there are disagreements and controversies with regards to industrial policies, financing strategies and the role to be played by the public sector.

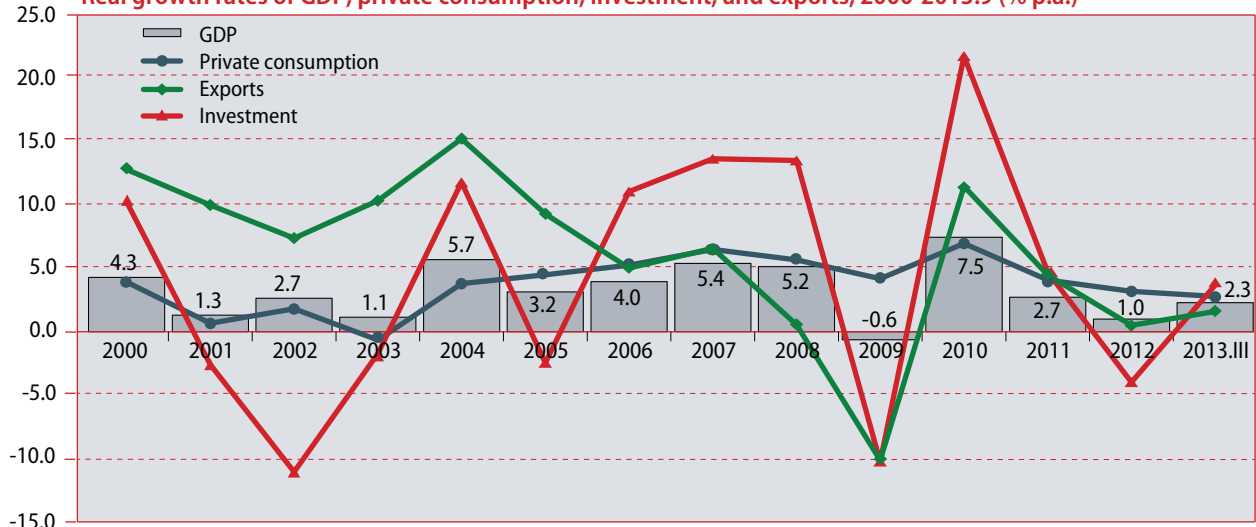
II The Brazilian macroeconomic performance in the last decade

Brazil has had major macroeconomic and social achievements in the last two decades. Price stabilization and liberal reforms in the late-nineties followed by adjustment of fiscal and external imbalances during the 2000's paved the way for growth recovery after decades of stagnation.

The main sources of growth in the last decade came from the favorable winds of the international economy and China, in particular. The combination of commodity exports and government policies sustained an inclusive growth process with remarkable reductions in both concentration of income and poverty incidence. The emerging middle class enlarged the domestic market. Brazil's future challenges will be how to sustain growth in a less auspicious international scenario and with the growing costs of redistribution.

Figure 1 summarizes Brazil's macroeconomic performance since 2000 when the growth was unstable. The low growth rates at the beginning of the period are associated with the energy crisis in 2001 and with the high interest rates required to curb exchange rate speculation triggered by the rise of the Workers Party to government in 2003. After financial markets calmed down, the economy experienced five bright years of investment led growth. Recovery was aborted by the global economic crisis in 2008 and since then the economy experienced wild fluctuations with fading growth prospects. The deceleration of the world economy, and particularly of China, more recently, were decisive for the slowdown of the

Figure 1
Real growth rates of GDP, private consumption, investment, and exports, 2000-2013.9 (% p.a.)



Source: Ipeadata

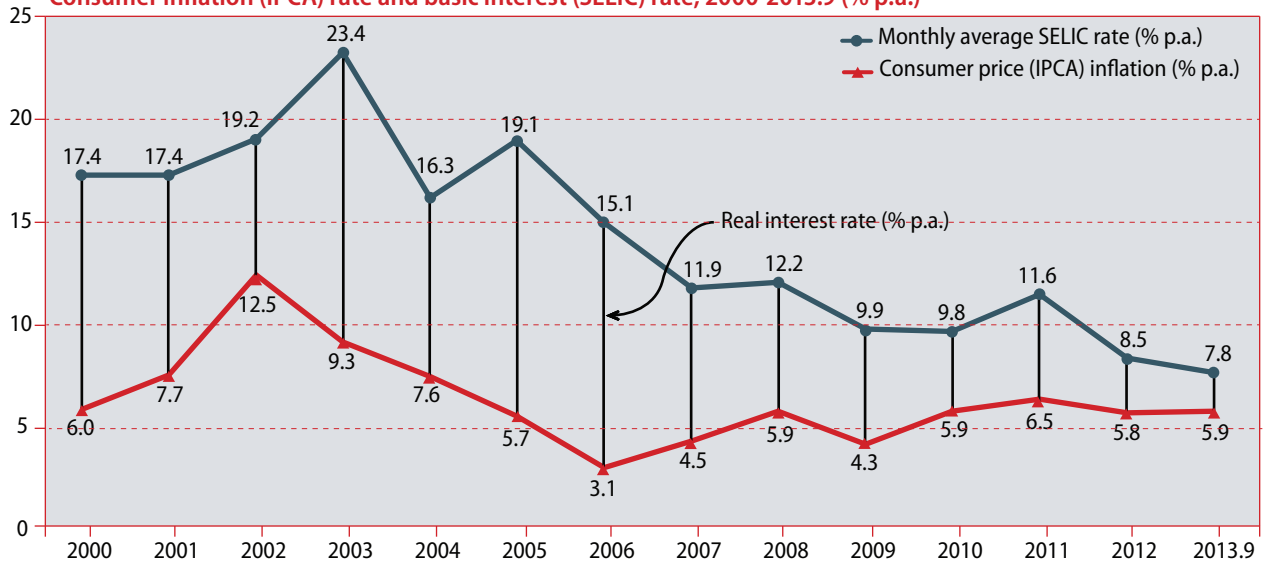
Brazilian economy, but misguided policy reactions also played an important role.

Figure 2 shows the inflation performance of the last decade. In 1994 hyperinflation was tamed but stabilization lacked fiscal foundations. Inflation rates were only kept under control by the exchange rate anchor leading to the overvaluation that culminated in the Brazilian debt crisis by the end of 1999. An inflation target framework with flexible exchange rates

was put in place but inflation rates in the next three years escalated to the two-digit level. The justifications for the failure to control inflation are exchange rate devaluation in 2000, the energy crisis in 2001, and the exchange rate speculation preceding Presidential election in 2002.

After 2003, tight monetary and fiscal policies brought down inflation rates to more moderate levels of around 5% p.a. where they still linger (Aragón

Figure 2
Consumer inflation (IPCA) rate and basic interest (SELIC) rate, 2000-2013.9 (% p.a.)



Source: Ipeadata

and Medeiros 2013). Real interest rates were raised to 15% in 2003 and gradually declined to 7% in 2008. Fiscal policies maintained the primary surplus of the Public Sector Borrowing Requirements (PSBR) above 4% of GDP in the first three years and above 3% of GDP in the next three. High interest rates, however, precluded the reduction in the nominal deficit of the PSBR as interest payments remained close to 5% of GDP.

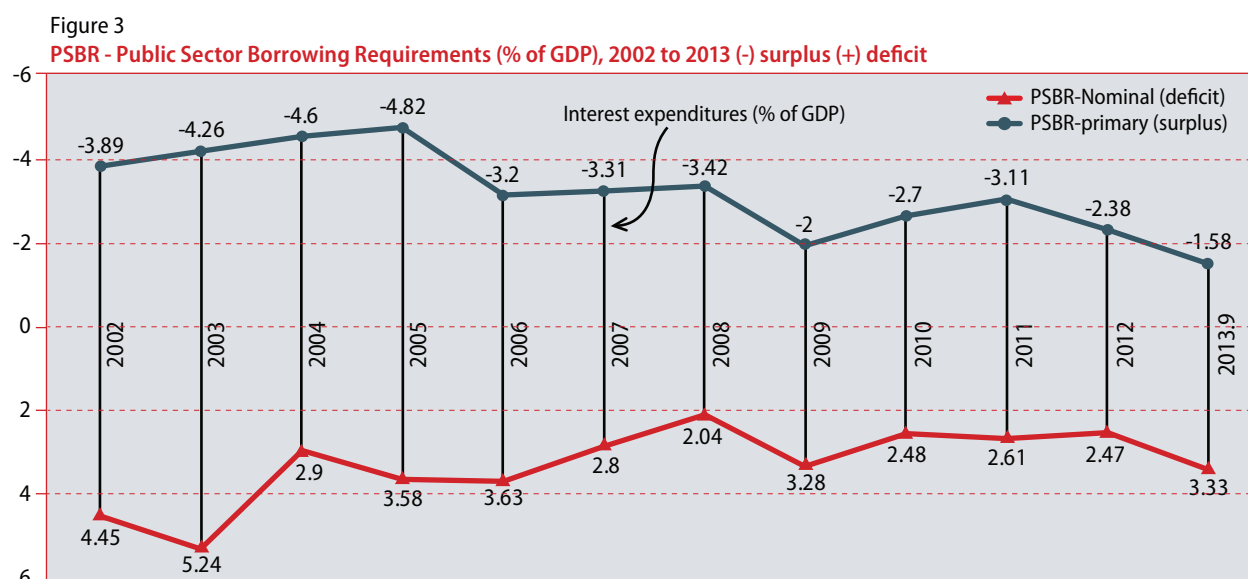
Growth possibilities during most of the last decade were jeopardized by the high real interest rates and the vacillations in the fiscal adjustment process (Werneck 2011). High real interest rates are a puzzling aspect of the Brazilian economy with no convincing explanation yet. The popular hypotheses among analysts are (a) the high levels of public sector borrowing requirements (PSBR)—pointing to the nominal concept (and the public debt) to emphasise the financial disequilibrium, or to the primary concept to emphasize the real disequilibrium; (b) the excessive segmentation, regulation and taxation of financial activities including foreign exchange transactions; (c) the lasting memory of the hyperinflation years and its consequences on price indexation which undermine the efficacy of interest rates and introduces uncertainties associated with high inter-temporal elasticity of substitution in consumption; and (d) the

juridical uncertainties associated with an institutional context where property rights are weakly enforced thus impairing the recovery of unpaid loans (Arida, Bacha et al. 2005, Bacha 2011, Goldfajn and Bicalho 2011, Lopes 2011).

The major drawback of fiscal expansion in the last decades was probably the steady growth of current expenditures in detriment of the badly needed public investment in infrastructure. From 2002 to 2012, primary expenditure of the federal government (excluding state owned enterprises) as a percentage of GDP went up from 18.7% to 22.4% while investments showed a meager increase from 0.3% to 1.3% of GDP (Giambiagi and Muinhos 2013).

To be fair, in recent years, the growth of current expenditure is largely explained by expenditures in education (Almeida 2013). The main problems, however, are hidden in the off-budget transfers to public banks (Werneck 2011).

The aggravating factor was the steady growth of taxation which during the same period went up from 32% to 37% of GDP. A large part of the increased burden has to do with social security and other transfers to the private sector. Indeed, the net burden of taxation showed a relatively small increase going up from 18% of GDP in 2002 to 20% of GDP



Source: Ipeadata

in 2012. Despite that, high taxation and deficient infrastructure are the fundamental constraints to higher rates of private investment in Brazil (Bicalho and Issler 2011).

Growth in the last decade was propelled by the favorable conditions of international trade and financial markets (Teles and Mendonça 2013). Iron, ore, and soybean made the Brazilian economy one of the major beneficiaries of Chinese growth in the last decade. Figure 4 shows that from 2000 to 2013 the terms of trade improved 1.38 times while the dollar value of exports grew 5 times (12.7% p.a.). In the same period, export to China increased 50 times (35% p.a.) and her share of Brazilian exports went up from 1.8% to 18%.

The bright export performance was carried to the current account surplus, reserve accumulation and debt reduction. The correction of trade imbalances in the context of growing international liquidity triggered a virtuous cycle with huge inflows of foreign direct investments, dollar devaluation and a vast accumulation of foreign reserve, which is now close to 380 billion dollars. As a consequence, the net foreign

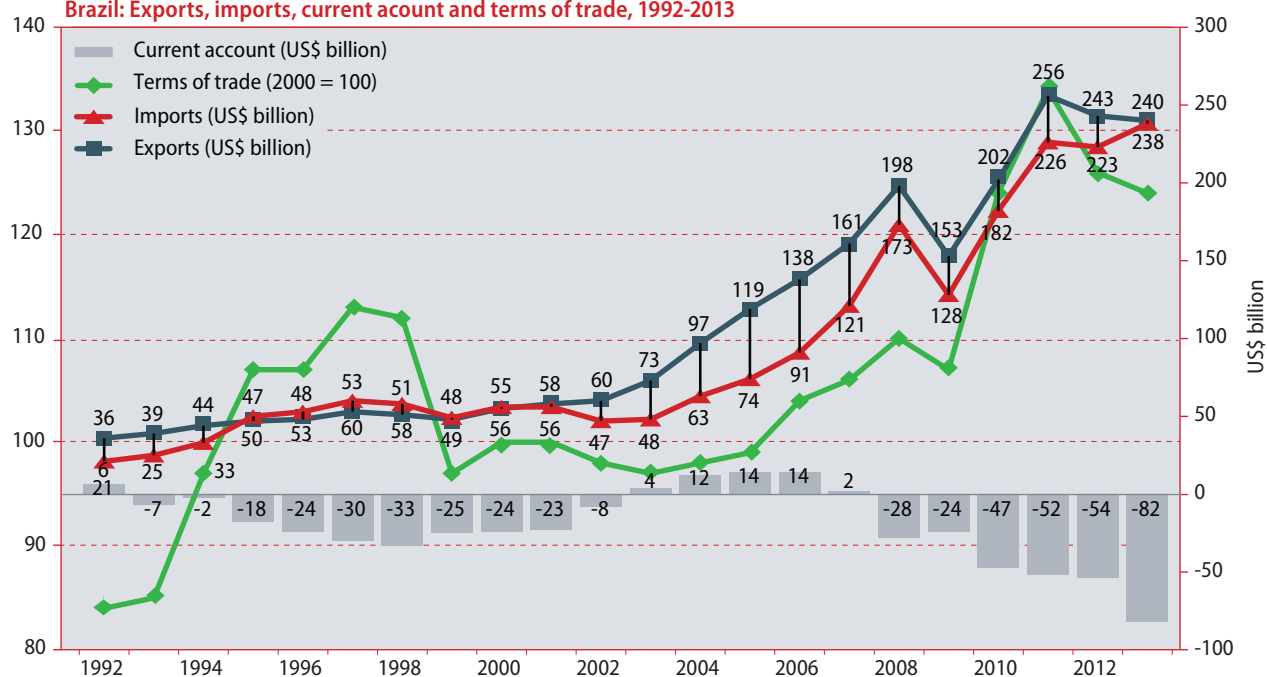
debt went down from 189 billion dollars in 1999 to a negative value of 62 billion dollar in 2012, and the dollar devaluated from R\$ 3.0, in 2003, to less than R\$ 2.0, from 2008 to 2012.

With dollar devaluation and reserve accumulation, the public sector became a net external creditor of an amount equivalent to 15% of GDP and net public sector debt declined from 60% of GDP in 2002 to 35% GDP in 2012. Moreover, the substantial improvements in the public sector debt profile show up in a much longer maturity-the buying out of dollar indexed bonds and a significant decrease in the share of indexed bonds in general. Last but not least, the Central Bank took a few important steps towards foreign exchange convertibility.

The importance of reduced vulnerability on both foreign and domestic debt for the Brazilian economy can hardly be exaggerated given her original stigma of recurrent episodes of hyperinflation, exchange rate crisis and debt moratoria (Bicalho and Issler 2011, Tourinho, Mercês et al. 2013).

Figure 4

Brazil: Exports, imports, current account and terms of trade, 1992-2013



Source: Ipeadata

III Social achievements

The social achievements in the last two decades have been remarkable from both historical and international perspectives. Historically, Brazil has been one of the most unequal societies in contemporary world. From 1970 to 2000 (period for which Census micro data are available), the Gini coefficients of household income per capita remained practically constant at 0.6, one of the highest levels recorded at national level in modern times.

In the last decade, however, inclusive growth policies made possible to bring down Gini figures to below 0.53.¹ The inclusive growth process of last decade benefited all classes but income gains were systematically larger for lower income classes. Taking the extreme deciles, from 2001 to 2011, annual average growth rates of income per capita went from 6.5% for the bottom 10.0% compared to 1.5% p.a. for the top 10.0%. In international terms, the 20 million Brazilians in the bottom 10% had income per capita growth close to those of China and India, while per capita growth rates of the 20 million Brazilians in the top 10% were close to those of Sweden. Thus, the speed of income per capita convergence between poor and rich citizens of Brazil was similar to the one between Chinese and Swedish (Ellery, Barros et al. 2013, pp. 7-8).

Cash transfer programs were the main tool used to combat poverty. Since the mid-seventies they were implemented as security assistance to old aged and disabled persons. In the mid-nineties, multiple programs targeting minimum income, health, and education were created. Their unification under the Bolsa-Familia program in 2003 brought fundamental changes in terms of scale, organization, and performance. Moreover, political organizations at municipal level were crucial for its implementation (Campello and Neri 2013, Rocha 2013).

With increasing concentration on childhood protection, Bolsa-Familia now reaches out to 13.8

million households making average cash transfers of 60 dollar per month, which on average represents approximately 20% of the beneficiary's income. In macroeconomic terms, the cost amounts to 0.5% of Brazilian GDP to which another 0.5% of GDP of the social security assistance programs should be added.

Figure 5 shows the evolution poverty and extreme poverty ratios in the last two decades. The coincidence of poverty reduction with the launching of Bolsa-Familia is impressive but part of the drastic decline since its inception depends, naturally, on the behavior of other factors like demographic changes and economic opportunities generated by growth recovery. More rigorous evaluations, however, estimate that Bolsa-Familia brought close to 36 million persons out of poverty; and close to 2.5 million out of extreme poverty. Last but not the least, Bolsa-Familia was responsible for the enrollment of approximately 16 million children and adolescents in school (Campello and Neri 2013). As a consequence, the poverty ratio target for Brazil in the Millennium Development Goal (MDG) for 2015 was achieved one decade in advance.²

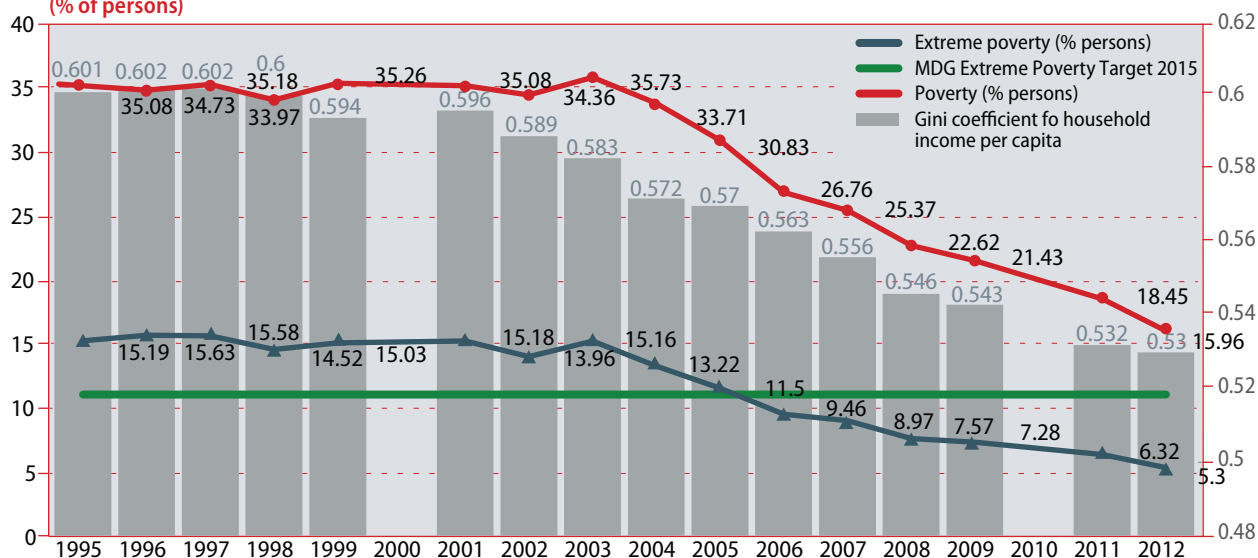
In what concerns income distribution, however, the crucial role in the recent process of upward mobility in Brazil was played not by income transfer programs but by the productive inclusion of the labor force, resulting mainly from the access to formal employment and better self-employment and/or entrepreneurial positions.

Indeed, according to recent decomposition exercises (Hoffmann 2013), at least 58% of the reduction of the Gini coefficient of household income per capita from 2001 to 2011 is explained by the changes taking place in the distribution of wages and profits; 18.6% by the social security benefits (mainly pushed by the

¹ A counterpoint is China where the Gini coefficient went up from 0.3 in 1980 to 0.48 in 2011.

² Other MDG targets already achieved include universal primary education, gender equality and women empowerment, reduction of child mortality, HIV and malaria targets. Targets still to be achieved are improved maternal health, environmental sustainability and some goals related to the global partnership for development.

Figure 5
Gini of income per capita, poverty and extreme poverty ratios, 1995-2012
(% of persons)



Source: Ipeadata

increases of the minimum wage); and only 16.1% by the income transfer programs (both Bolsa-Familia and the social security assistance programs). The contribution of income transfer programs was quite effective compared to their cost to the society — approximately 1% of GDP. To a large extent, the explanation lies in the progressivity of the Bolsa-Familia program.

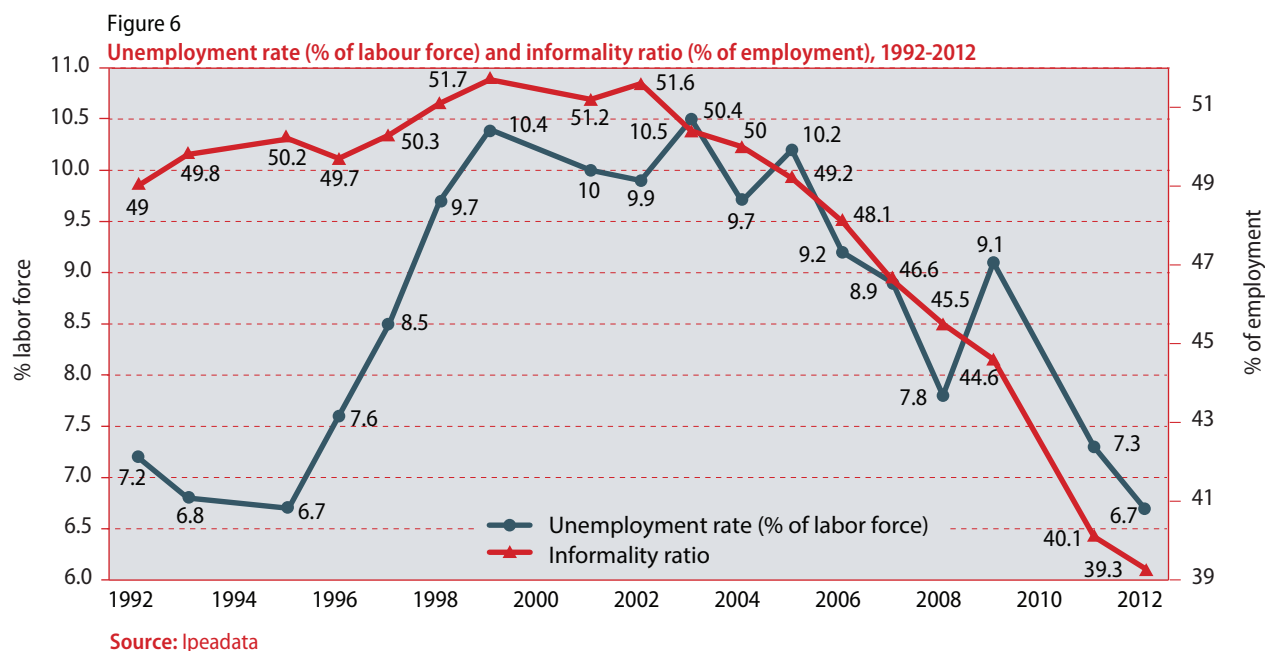
Analogous evidence comes from the decomposition of the sources of income of the 100 million people, which today constitute the so-called Brazilian emerging middle class. From 2001 and 2011, labor income explains 60% of their income growth, while government transfer represent 26% of it; and the increased proportion of adults in the labor force is responsible for the remaining 14% (Ellery, Barros et al. 2013: 12).

Additional evidence regarding productive inclusion is provided by the startling developments in the labor market during the last decade (Ulyssea and Barbosa 2013). Chiefly, the unemployment rate, as shown in Figure 6, which after a long time above 10% of the labor force started to decline steadily in 2005 and reached a historical low of 5.4% in 2013. For the metropolitan areas, the decline was also steep,

coming down from over 12% in 2002 to less than 6% of the labor force in 2013.

Figure 6 also shows that the decline in unemployment was paired with substantial improvement in the quality of jobs. Evidence is provided by the decline in the share of informal occupations, which means jobs with no labor contract, in non-rural (metropolitan and non-metropolitan) occupations. The corresponding figures remained above 50%, during the nineties, and declined steadily after 2002, reaching 39.3% in 2012.

A parallel development was the decline in the returns to schooling, defined by the ratio of wages between the educated and the uneducated workers—those with more than 7 years of schooling and those with elementary education or less than 7 years of education. This change was probably related to the increase in demand for unskilled labor, as well as to the significant increase in the relative supply of educated labor force, notwithstanding the low educational levels still prevailing in the Brazil. Anyway, the evidence regarding wages largely dismisses the debate on shortage of skilled/educated labor as a bottleneck to growth, at least in the short run (Schwartzman and Moura Castro 2013, Ulyssea and Barbosa 2013).



The improvements in the labor market are puzzling developments still in want for a rigorous and comprehensive analysis. Various factors have played role in association with the recovery of activity levels and income per capita after 2004. Concerning unemployment—the decline of participation rates was the main factor. Reasons being, first, the educational life of the adolescents is increasing, therefore postponing their entrance age in the labor market and second, the increase in minimum wage, pension and social benefits, which led to a retraction of the supply of labor of less educated and older people (Paula 2014).

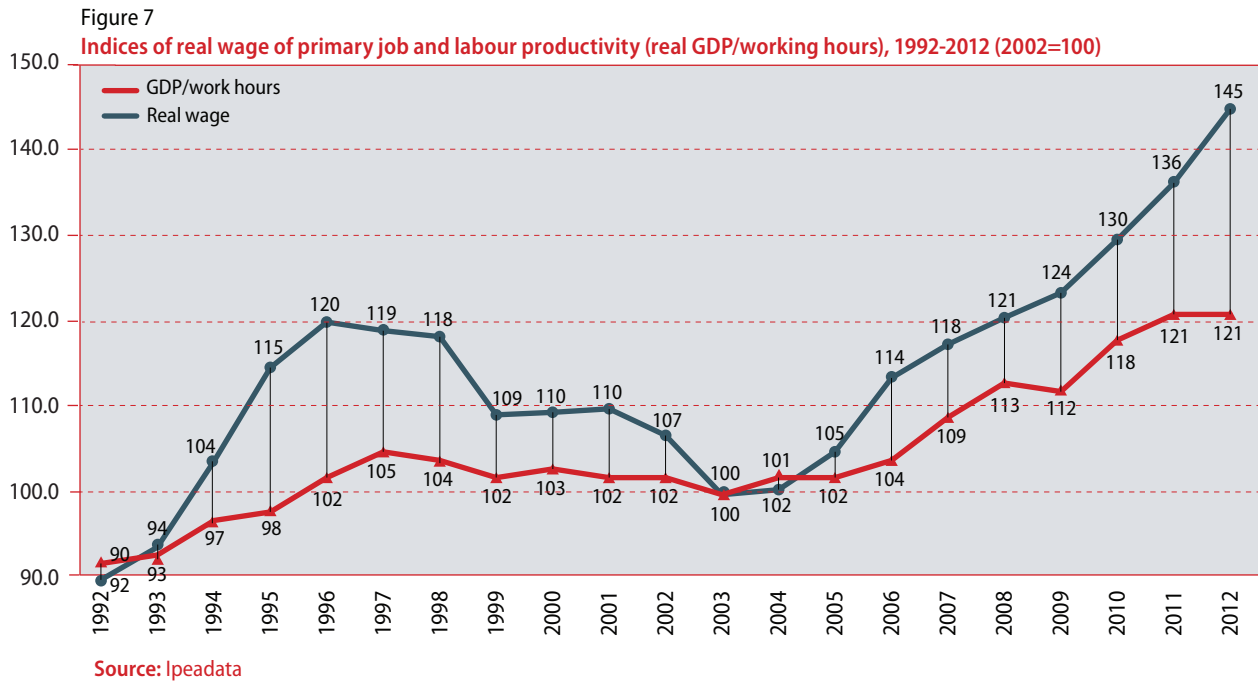
Concerning the decline in informality and the associated improvement in the quality of jobs, the main factors were: First, the labor force became more educated and as such more demanding in terms of job quality. Second, since the mid-nineties federal and the state governments have launched several programs to bring firms and works out of informality. The incentive measures to formalization include direct and indirect tax rebates, and simplification and deregulation of bureaucratic requirements for hiring workers as well as for the creation of small firms. Additionally, since 2009, as a reaction to the crisis, the federal government started shifting the incidence of some taxes from wage payroll to turnover sales

for selected industrial sectors. Third, the substantial improvement in the monitoring and taxing capabilities of governments brought by information and telecommunication technologies.

Last, but not least, the labor union imprint of the federal government has had a significant impact on the implementation of all kinds of labor legislation with particular emphasis on the combat of job precariousness in rural areas.³ Apart from the direct impact, one should consider the demonstration effects of this kind of policy initiatives (Coslovsky 2013). The developments in the labor market were combined with a steady rise of real minimum wages, which increased 64% since 2004, on top of a 30% increase from 1995 to 2004. Through indexation mechanisms, the growth of minimum wages was transmitted not only to the labor market but to pensions and other kind of social security benefits and transfers as well.

As a consequence there was significant convergence in the real wage distribution. From 1993 to 2012,

³ According to official figures, during 1995 to 2013, 46 thousand workers were released from “slave” working conditions (Renato D’Ercole, “Carvão com trabalho infantil”, O Globo, 22/01/2014, p. 19).



Gini indices of the real wage distribution declined systematically from 0.58 to 0.48. Thus, after 2004, poverty eradication was coupled with a strong decrease in the concentration of wage incomes.

As it should be expected, declining unemployment increased real wages as displayed in Figure 7. After declining 13% from 1996 to 2004, real wages showed a steady 45% increase from 2004 to 2012.

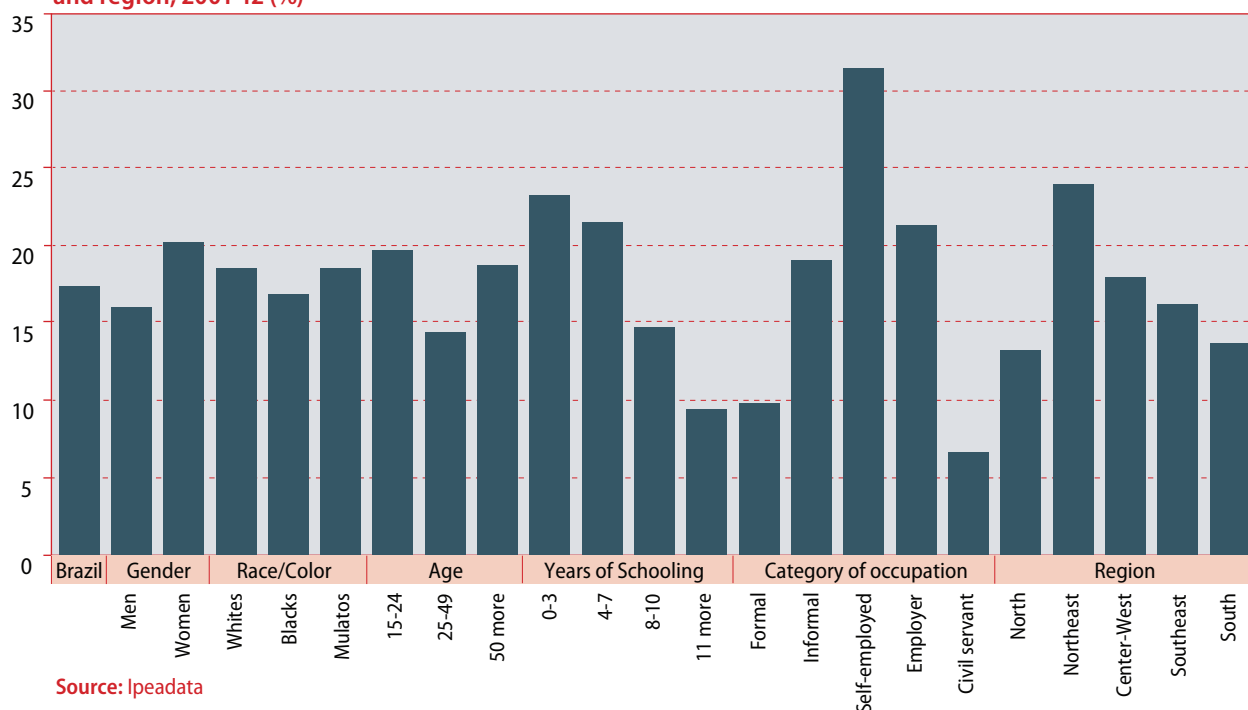
A major cause of policy concern is that real wage growth was not supported by labor productivity (measured by the ratio between real GDP and employed labor force in PNAD), which grew only 18% from 2004 to 2012 (SAE 2011). The picture gets a little better when we look at a longer period with labor productivity measured by hours of work. Thus, from 1996 to 2012, productivity grew 18% and real wage 20% (Barbosa Filho and Pessôa 2013).

Though the measures of labor productivity are sensitive to choices of concepts and time periods, evidence point towards a widening gap between real wage and labor productivity in recent years, which can potentially put a break on future growth of real wage.

Finally, it should be mentioned that the remarkable performance of the labor market was practically unaffected by the global economic crisis of 2008. The expanding domestic market and the growth of the agricultural exports intermingled in a virtuous cycle to give resilience to the labor market. Countercyclical policies implemented by the government sustained the domestic market while quick recovery in China propelled both volumes and prices of commodity exports.

Figure 8 gives a broad idea about just how inclusive the real wage recovery was in the last decade. Disaggregation of real wage growth, according to major social categories, show that female, young, uneducated, self employed, and informal workers in the least developed regions of the country had larger real wage growth from 2001 to 2012. The only notable exception is the smaller growth of real wage for black workers compared to non-black workers. Though average comparisons hide intervenient factors like education, occupations and region, the race/color figures are still dissonant as far as equity achievements are concerned.

Figure 8
Growth of real wages in main occupation, according to sex, race, age, schooling, category of occupation, and region, 2001-12 (%)



The performance of the labor market was, to some extent, the result of the primary export-led growth mainly propelled by China since the early 2000's. Primary exports implied a growth pattern of employment that was spatially dispersed in rural areas and in the service sector of small towns, far from big industrialized centers, intensive in unskilled and uneducated labor. More important, perhaps, agricultural growth gave rise to an emerging middle class of self-employed workers/entrepreneurs in the urban services related to agribusiness (Barros 2005, Reis 2013).

IV Financial crisis and the recent slowdown in the economy

The Brazilian financial sector was not exposed to subprime equities. Major financial reforms and safeguards were implanted since the Plano Real stabilization program in the mid-nineties. Thus, before the crisis, the Brazilian banking system was in a quite strong financial position compared to the other economies, displaying one of the lowest leverage ratios in

terms of both assets and credit ratios. Furthermore, it was relatively insulated from the international financial system, with a relative small share of foreign-owned banks in the value assets, and foreign exchange denominated liabilities represented only 11% of the total value of liabilities.

The Brazilian corporate sector, however, was heavily exposed in dollars and was badly hurt. The trigger mechanism was the drastic contraction of foreign credit lines which dropped more than 50% in the aftermath of the Lehman Brothers collapse. The credit crunch resulted in a significant exchange rate devaluation and the late attempt to hedge themselves was self-defeating, making the dollar skyrocket from 1.6 to 2.4 Brazilian reals in the first half of October 2008. The vicious cycle was completed by the massive outflows of foreign capital and the huge drop in prices of primary commodity exports which combined to give the final blow to the stock market. In the aftermath of the crisis, countercyclical policies—a big novelty in Brazilian crisis management history—were promptly implemented. The Central

Bank reduced required reserves and made massive injection of liquidity to the banks and the corporate sector. With some delay, the Monetary Policy Committee slashed interest rate by 500 basis points to historical record lows.

To cover up for the drastic reduction in external credit lines, special credit line to agriculture, housing and machinery investments were sustained by state-owned banks. Thus, in 2010 the National Development Bank (BNDES) responded for 53% of total credit disbursement for industry and infrastructure in the country, compared to 31% in 2008.

Fiscal stimuli came through tax rebates on domestic sales of investment goods and durable consumer—automobiles, in particular—and credit subsidies to investment on machinery and housing. From 2007 to 2012, special credit lines from BNDES went from 5.8% to 10.8% of GDP, while mortgages, mainly from the Federal Saving Bank (CEF) went up from 1.8% to 6.8% of GDP. Most of the funding of BNDES came from federal government loans which went up from 7 to 370 billion Brazilian reais, in the same period (Appy 2013).

On the expenditure side, the government granted generous increases to civil servants payroll and to the social program (Bolsa Familia) benefits. To a large extent that resulted from the indexation rule for the minimum wage introduced in 2007 which is based upon lagged inflation rate plus the two years lagged growth rate of GDP.⁴ From 2007 to 2012, the minimum wage increase was 30%, in real terms, and was directly transmitted to the payroll of states and municipal governments, as well as of the social security benefits, which, since 2008, were linked to it by a legislation approved by the Congress. Indirectly, they affected the private sector wage payroll.

⁴ By a law approved by the Congress in 2011, the rule is in principle valid up to 2015, but its extension to 2023 is already considered. The de-indexation of wages was an essential part of the stabilization program, Plano Real, in 1994. Since then, annual adjustments of the minimum wage were made by discretionary decisions of the President.

Indexation of minimum wages produced a substantial increase in the permanent income of lower wage echelons and pension beneficiaries, which combined with the tax rebates and credit incentives to boost the demand of consumer durables and investment expenditure, particularly in housing.

Fiscal stimuli caused some deterioration of public accounts but regrettably they took the form of current expenditure instead of badly needed government investments in economic and social infrastructure. The long run costs will be less flexibility in the government budget and smaller growth rates in the future (Giambiagi and Muinhos 2013). A cause of much concern, because of this, are the implications of minimum wage indexation for the deterioration and stiffness of fiscal accounts, particularly in the social security items (Giambiagi 2013, Sinigaglia and Teixeira 2013).

The growth rebound in 2010 was short lived and already in mid-2011 the Central Bank started a new cycle of monetary easing to stimulate the economy. Results, however, were unsatisfactory as GDP growth rates were mediocre and inflation rates quickly reached the upper limits of the inflation target. A new round of monetary tightening started at the beginning of 2013. Thus, since 2008 the economy went through stop and go cycles with mounting growth frustration.

Evidence show that during the easing cycle, private bank lending was impaired by the deteriorating conditions of consumer and business confidence, expectations and indebtedness, as well as by the strong expansion of public bank lending (Garcia-Escribano 2013). Counterfactual simulations suggest that the short run trade-offs between inflation and output would have been more favorable if the Central Bank had implemented the inflation target regime in a more orthodox way (Berriel, Carvalho et al. 2013, Sinigaglia and Teixeira 2013). In other words, if he had not curbed the exchange rate valuation pressures coming from the expansionary monetary policies of

advanced economies. The exchange rate impacts on inflation, however, were not convincingly analyzed.

After 2011, the hesitations of the Central Bank were compounded by the deterioration of the international economy. In the last two years, both the value of exports and the terms of trade reversed and the trade surplus have now practically vanished. The current account balance has already reverted and, at the end of 2013, reached unsafe levels of close to 3.7% of GDP. As a consequence, during 2013, there was a flight to the dollar with a 30% devaluation of the real, notwithstanding exchange rate swaps amounting to 75 billion dollars which represents close to 20% of the stock of foreign exchange reserves.

Surprisingly, however, the deceleration of the economy did not show up in the labor market. As already shown, from 2007 to 2012, rates of unemployment declined from 9% to 6.7% of the labor force while real wages increased approximately 23%.

Summing up the five years period since the inception of the crisis, the picture one gets is one of moderate growth with GDP rates (on a four quarter basis) close to 2.6% per annum. On the demand side, consumptions and investment grew close to 4% per annum, exports practically stagnated, growing at 1.2% per annum, while imports boomed, growing at more than 8.0% per annum.

On the supply side, credit incentives to housing and government investments sustained the construction and infrastructure sectors with growth rates a little below 4.0% per annum. Sustained by income growth, the service sector grew close to 3.0 per annum, with information and financial intermediation as star performers growing above 4.0% per annum.

Manufacturing industries, however, contracted at -0.6% per annum showing a strong susceptibility to both high interest rates and overvalued exchange rate. With flexible exchange rates, the increases of tariff rates for selected sectors (in particular textiles, garments, footwear, and automobiles) since 2004 proved to be a self-defeating instrument of

protection.⁵ On top of that, tax rebates and credit incentives to consumer durables and capital goods introduced after the crisis were unable to compensate the increases of unit labor costs and the consequent loss in international competitiveness (IBRE/FGV 2014).

Concluding, moderate growth rates were sustained by a virtuous cycle of consumption growth, increasing wages and declining unemployment. At least up to 2011, terms of trade were crucial to keep income growing faster than output. The reversal of the terms of trade after 2011 raises doubts about the sustainability of this process (Teles and Mendonça 2013). The reason being that increased labor costs were not compensated by improvements in the terms of trade, thus giving rise to the worrying current account deficit. In this way, there are policy lessons to be drawn from the similarity of the developments in the wage-productivity ratio (Figure 8), the terms of trade, and the current account figures (Figure 4) during the 1990's and 2000's.

V Prospect and challenges for sustainable development

Growth prospects for the next few years are lukewarm. GDP is projected to grow 2.5% this year and to stay around 3.0% for the coming years. Approaching full employment, the labor market is under stress and it is no wonder that there were wage strikes along with political protests all over the country, last year.

Overheated labor market and exchange rate devaluation put pressure on inflation. Despite repressed public tariffs and regulated prices of energy and transportation, consumer inflation rate was just below 6% p.a. in 2013. To bring inflation down, at the beginning of 2013, the Central Bank started to raise interest rates bringing it to levels above 10%

⁵ In addition to tariff increases, after 2004, imports started paying social contributions, which were previously restricted to domestic production. Despite its tax fairness, the measure increased the relative price of imports.

per annum by the end of the year, hence, restricting investment and growth prospects for 2014.

Growing fiscal imbalances raise credibility problems among analysts and investors. During 2013, the stock market dropped by 15.5% while the dollar went up by 15%. Fingers are pointed to the fiscal situation (Tourinho, Mercês et al. 2013). The PSBR primary surplus was close to 1.8% of GDP, coming down from 3.1% in 2011. The net debt of the public sector is kept well under control at less than 35% of GDP but debt figures are under suspicion. Accounting makeups attempt to conceal huge off-budget transfers to state and municipal governments as well as to back up National Development Bank (BNDES) loans of dubious quality.

Some hope for investment recovery coming from the government concessions in infrastructure—pre-salt oil and transportation—which started last November with the successful auctions of the Libra oil fields; followed by the auction for the construction and operation of paved roads in the agricultural frontier of the Northwest region; and for the expansion and modernization of the airports of Confins and Galeão.

Though concessions are still hampered by regulatory and incentive problems, the National Development Bank (BNDES)—with mandatory optimism—projects US\$ 1.75 trillion of investments for the period 2014-2017. Petrobras alone is expected to invest some US\$ 230 billion during this period. Government concessions in infrastructure are expected to add 1.8% of GDP to investment rates that are projected to reach 22.2% of GDP in 2018 compared to 18.0% in 2012. The largest recipients will be the oil and gas sectors, and transportation infrastructure with respective shares of 10.0% and 2.5% approximately (S.A. 2013).

In the long run, there are plenty of reasons for optimism in relation to the Brazilian economy. The country is particularly well endowed with natural resources in mining, energy and agriculture and thus prospects of international trade are encouraging. The emerging middle class provides a promising basis for expansion of the domestic market, human capital

accumulation, and for the consolidation of both social and political democracy.

The challenges are how to assure the investments required for viable exploration of natural resources and how to sustain the increases of productivity levels, thus reducing vulnerability of the emerging middle class and increasing welfare levels for society as a whole. In addition, the country will have to confront the environmental problems that afflict large segments of her population, particularly those living in the urban congested areas.

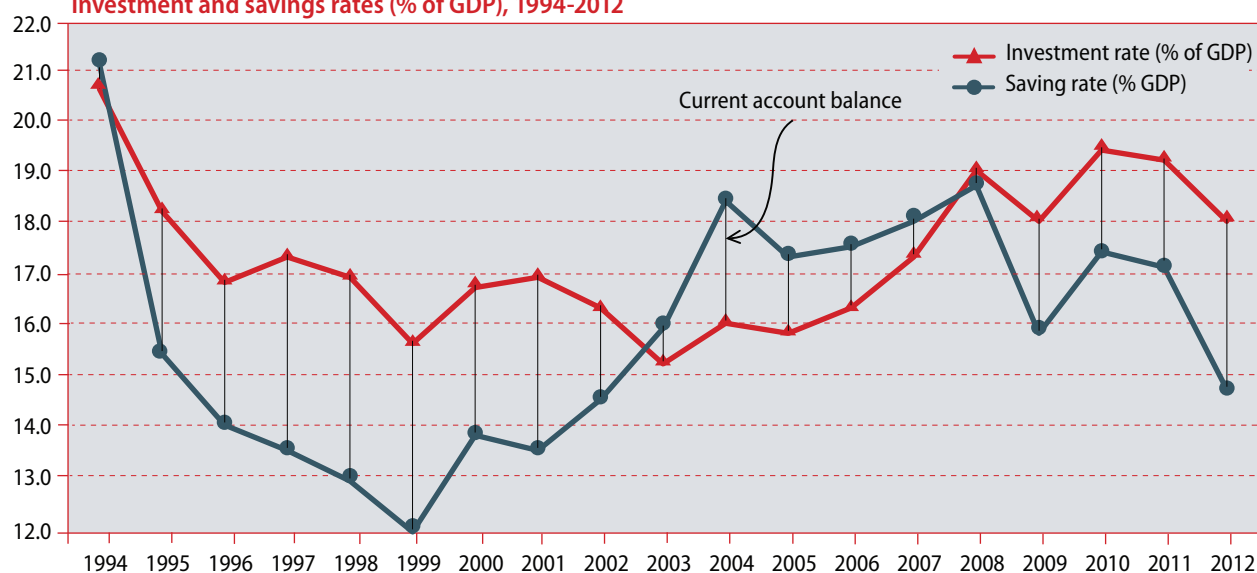
Education is recognized as the top priority to increase productivity, to reduce income vulnerability of emerging middle classes, and to sustain growth in the long run. There is an increasing awareness of the importance of education in Brazilian society, particularly among the emerging middle class. Therefore, there is hope for a virtuous cycle finally taking off to reduce the historical educational gap of Brazilian society. Results, however, will take some time to materialize.

Brazilian backlog in education is well documented (UNDP 2013). Average years of schooling of the Brazilian population is close to 7.2 years, with a vexing second to the last position among Latin American countries. This is supposedly one of the main factors behind the slow growth of total factor productivity (TFP) which in the last twenty years was below 1.0% per annum (Barbosa Filho and Pessôa 2013).

The Brazilian figures for government expenditures in education are reasonable. In 2009, they were close to 5.7% of GDP compared to the 5.8% in OECD countries. Quality of spending is the main problem (Lisboa and Latif 2013). The ambitious policy target is to bring expenditures to 10.0% of GDP in the near future. Financing sources will be the pre-salt oil receipts, which according to legislation are 50.0% earmarked to education and 25.0% to health.

At present, access to elementary education is practically universal in Brazil. The crucial problems are in the secondary level and more specifically in the low quality of education. Thus, only 71.2% of children

Figure 9
Investment and savings rates (% of GDP), 1994-2012



Sources: PNAD and Contas Nacional. Obs.: Geometric interpolation for the years, 1994, 2000, and 2010

with 11 to 14 years of age were enrolled in the concluding years of fundamental school and when concluding the secondary grade, only one-third of the students have compatible knowledge levels, a figure that drops to one-tenth in the case of mathematical knowledge (Weber 2014).

Professional and technical education is a related aspect of the educational challenges. The number of technical schools and the share of students enrolled in them is relatively small in Brazil—14% compared to 36% in Chile, and 27% in Colombia. Recently, however, the government launched the National Program of Technical Education (PRONATEC), a bold initiative to create an integrated and parallel system of technical education going from high school to graduate level. The program promises to overcome the elitist educational system in Brazil, but it is still too early for a technical assessment of its performance (Schwartzman and Moura Castro 2013).

The immediate obstacles to growth are the low levels of savings and investment. Figure 9 shows that the investment rates remained below 20% during the last decade. Compared to the other emerging economies this is a frustrating performance: analogous figures for China, India, and Russia were 40%, 30%, and

32% of GDP respectively (Fouré, Bénassy-Quéré et al. 2010). Surprisingly, however, after the crisis in 2008 Brazilian investment rates were kept above 18% of GDP, reaching their highest levels in almost two decades. A bit disturbing, though, is the declining trend that insinuates after 2010.

Even more alarming is the declining trend of the saving rate that goes from 19% of GDP in 2008 to 15% in 2012. There is a clear cyclical component in the behavior of saving rates. But the strong decline in recent years was, to a large extent, the outcome of the countercyclical policies based upon consumption, credit injections and real wage increases.

The implication is increased reliance on foreign sources of finance, now coming to uneasy levels of close to 4% of the GDP. The trade off between higher investment rates and the contribution of foreign savings is tough. Simple simulation exercises show that to raise investment rates to 22% of GDP would require foreign savings of at least 5.5% of the GDP (Barbosa 2013). Therefore, the country's credibility among foreign investors becomes a crucial issue, bringing mounting pressures and anxieties on the management of macroeconomic policies. This is a particular case in the general election year of 2014.

High interest rates, high taxation and the lack of infrastructure are the main culprits for the low investment and saving rates in Brazil. From a macroeconomic perspective, the main requirement is to balance the fiscal trajectory to make a non-inflationary reduction of interest rate feasible; an increase of public investment; or a reduction of taxation in order to stimulate private investment. Once again, trade-offs are hard and supplementary initiatives will have to be pursued (Hausmann 2008). The reduction of interest rate to international levels will require profound reforms in the Brazilian financial markets—improving their role in the allocation of savings and investments as well as increasing the efficacy of Brazilian monetary policy.

Financial markets in Brazil are exceptionally segmented and pervaded by all kinds of cross subsidies. Required reserves are close to 50% of demand deposits thus creating a captive market for government bonds. Additionally, a large part of the loans are earmarked, charging interest rates much below the market (Lisboa and Latif 2013).

The policy suggestion would be the gradual dismantling of quantitative restrictions on banking operations. That would increase the supply of private credit to the private sector thus bringing down the spreads and rates practiced. In addition, competition in the banking system should be enhanced by liberal measures, and *pari passu*, financial taxation reduced.

Long run credit lines are practically restricted to BNDES and foreign institutions. Thus, in 2010 BNDES accounted for approximately 44% and foreign loans responded for 17% of credit disbursements for investment in industry and infrastructure. With highly subsidized credit lines—charging interest rates of 5% per annum—BNDES attracts the best borrowers paying little attention to the performance criteria. In that sense, BNDES credit lines act as source of biased selection in credit concession, creating distortions and increasing the loan costs of private banks. Here, the gradual reduction of subsidies, recently started, is a healthy initiative. Another initiative would be joint credit concession programs with

private banking where the share of BNDES would depend on the activities or sectors in case, as well as declining in time (Fraga Neto 2011, Appy 2013).

Even more distortionary, however, was BNDES policy of picking the winners to create “national champions” to compete in international markets. The failure of this mistaken industrial policy is exemplified by several cases in the industrial sectors like food, beer, meatpacking, and oil drilling. The suggestion here is twofold: First, to move towards more competition-friendly and “softer” industrial policies making use of more technical criteria instead of discretionary decisions (Harrison 2009, Aghion, Dewatripont et al. 2012, Harrison and Rodríguez-Clare 2010); Second, to give more priority to infrastructure investments where growth bottlenecks are clear.

Concerning investments in public infrastructure the alternative has been to rely on private concessions. Foreign investment is particularly welcome as source of both finance and technology. However, ideological bias and interest group pressures hampered major initiatives of private concessions, which were delayed until last year when they were finally undertaken in the oil and transportation infrastructure.

Analogous problems affected Petrobras ambitious investment programs in deep sea and pre-salt oil prospection and exploration. Despite the huge potential of reserves and the undeniable technological capability of Petrobras, the investment program is pervaded with protectionist objectives that significantly impact investment costs. Furthermore, Petrobras decisions on price policies are constrained by anti-inflationary objectives, thus reducing profitability and increasing financial costs of investments, as reflected in its stock market value which dropped from US\$ 200 billion in 2009 to US\$ 90 billion in 2013.

Taxation reduction is another priority in order to stimulate investment and competitiveness. The tax burden is reaching its feasible limits and the complexity of the Brazilian tax system is daunting (Hausmann 2008). The implementation of value added taxes in a federation with a history of hyperinflation has generated all kinds of distortions and

inefficiencies—chiefly, the fiscal wars among the units of the federation leading to significant disparities in tax incidence and creation of several sale and transaction taxes earmarked to a plethora fiscal purposes. Broad and difficult political negotiations will have to be made in order to solve these problems (Afonso, Morais Soares et al. 2013, Maciel 2013).

In trade policy the priority should be to dismantle the trade barriers in the industrial sector. Dollar devaluation brought by commodity exports and terms of trade gains were ineffectively fought with tariffs. Confronted with a flexible exchange rate regime they were undermined by the consequent exchange rate changes and thus proved to be a self-defeating instrument to sustain industrial output and employment.

In tandem with the dismantling of protectionism, regional integration policies should give up the objective of Mercosur as a custom area, transforming it into a free trade area. In addition to the benefits of tariff liberalization, such an initiative would loosen many of the obstacles for extending free trade agreements to other countries and regions like the United States and the European Union (Frischtak and Mesquita 2013).

From the Brazilian perspective, the economic benefits of a custom area are restricted to a few industrial sectors, specially the auto industry. The common tariffs, however, impose heavy costs to the rest of the economy (Lee 2013). Summing up, Mercosur imposes significant costs to nourish the political and diplomatic projects aiming at regional leadership in South America.

Closely related, innovation policies implemented by BNDES and FINEP were obsessed with the industrial sectors and high technologies, paying little attention to the unexplored possibilities of introducing technological innovations, as well as increasing domestic value added in the productive chains related to agriculture (soybean, coffee, cocoa, etc.), mining, and forestry (Coslovsky 2013, Coslovsky 2013, Frischtak and Mesquita 2013).

The counterpoint is the Brazilian agency for agricultural research (EMBRAPA) success story in the adaptation of cultivars (soybean, cotton, eucalyptus, etc.) to the poor soils and high temperatures prevailing in tropical areas (Arantes and Souza 1993, Helfand and Rezende 1998, Homma n.d.). Most of the productivity gains, however, are transferred to international markets due to the lack of processing and marketing capabilities in Brazil. This is clearly an area where government coordination and investments will probably show high rates of return.

Environmental sustainability poses a big challenge. Notwithstanding the assigned preeminence of Amazon deforestation and the global warming in the Brazilian government agenda, the main challenge to environmental policies comes from the interaction between poverty and urban congestion. The lack of transport and sanitary infrastructure in the urban areas has led to excruciating problems of urban mobility, water pollution, as well as to risky and unhealthy encroachments. Naturally, regulations and policies will have to be implemented by municipal and state governments, but the federal government will have to play a pivotal role with regards to coordination and financing.

In what concerns Amazon, recent Brazilian policies have been particularly successful in bringing down deforestation. Annual rate of deforestation, which reached closed to 28 thousand km² in 2004, declined steadily to less than 6 thousand km² in 2013. Environmental monitoring and penalties coupled with credit conditionality on deforestation imposed by the Central Bank have played significant roles (Assunção, Gandur et al. 2012, Assunção, Gandur et al. 2013).

The major challenge now is to reconcile the preservation of the Amazon and other ecosystems with the exploration of Brazilian comparative advantages in agriculture, cattle raising, and forestry. Land abundance shaped an extensive pattern of land use in Brazil. Thus, there are plenty of opportunities to intensify cattle raising and to promote planted forests but global warming will certainly impose heavy losses to

the productivity of agriculture in the tropical areas bordering Amazon. Technological innovation, technical assistance, education and financing are the key policy tools, aimed particularly at the small farmers (Assunção, Bragança et al. 2013). Once again, EM-BRAPA should play the leading role.

Finally, the country should retract from attempts to champion climate agreements. As a small contributor to global emission of greenhouse gases, with a rather clean energy infrastructure (hydroelectricity, biofuels, wind, and solar radiation), the country

should collaborate with mitigation agreements, provided that the most advanced economies—United States, European Union, and Japan, in particular—make concrete proposals for their own mitigation initiatives as well as for international compensations. The environmental priorities should be adaptation policies with regards to global warming—where there is plenty of space for international collaboration, particularly with other tropical countries—and environmental policies to deal with the problems that directly afflict the Brazilian population.

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