

# Quarterly Knowledge Report



## INTERVIEW



**10** BNDES's Fernando Puga, on Brazil's long term credit market.

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## KEY DATES

- **Presidential and State Elections**—October 3
- **World Development Report Consultations**—Brasília, August 30-31
- **LAC Flagship global launch**—São Paulo, September 13
- **Brazil Knowledge Day**—Washington, December 2
- **Brazil Knowledge Day**—Brasília, December 14

## SOCIAL ASSISTANCE AND SHOCKS: THE FOOD CRISIS AND CCTS

By Anna Fruttero

For a long time, Brazil was been known as a country with persistent poverty and high inequality. In the last few decades, however, the country's substantial social investments have proven efficient, effective, and well targeted, and results are plain to see. The efforts to address the structural causes of poverty started in 1995, with municipal conditional cash transfer (CCT) programs, which led to the creation of several national CCT programs in the early 2000s.

In 2003, the Brazilian Government merged four existing federal CCT programs into *Bolsa Família*, and in January 2004 it created the Ministry of Social Development (MDS), to integrate non-contributive social protection policies for



the poor/vulnerable population.

*Bolsa Família* represented a new multidimensional strategy to reduce poverty and inequality. The program has achieved impressive results while using a very limited amount of resources, only 0.35 percent of GDP. This investment has contributed not only to

the strong performance in poverty reduction, but also as a useful instrument to mitigate the effects of some types of shocks.

This article highlights some results of an on-going research on the distributional effect of shocks and the mitigating role of social protection programs<sup>1</sup>. Us-

(Continued on page 2)

## A CRITICAL JUNCTURE

EDITORIAL BY MAKHTAR DIOP

Come October 3rd, Brazil will hold general elections. We hope that some of the Bank's studies could inform the debate. From social security to sustainable development, the Bank is producing a record number of analytical reports, all of which

focused on critical issues for Brazil's future. A few of these are summarized in this issue of the Quarterly Knowledge Report, and more will be featured in the coming editions.

Brazil's flagship *Bolsa Família* CCT program helped millions

out of poverty. The question Anna Fruttero raises in her thought-provoking piece is whether and to which extent the increase in *Bolsa Família*'s benefits in 2008 may have mitigated the losses due to food prices in-

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## FOOD CRISIS AND CCTs...

(CONTINUED FROM PAGE 1)

*“Our analysis suggests that these increases in food prices were markedly regressive, with the bottom income percentiles of the population experiencing a much higher reduction in welfare than the top percentiles”*

ing monthly consumer prices for 16 different food items, collected in the main 11 metropolitan areas of Brazil, we estimated first-order welfare impacts of food price rises observed during 2008, on the basis of detailed pre-shock household consumption patterns (POF 2002/03), across the expenditure distribution. We then used the Brazil’s 2006 National Household Sample Survey (PNAD) to estimate the effect of increases in the values of the two main income transfer programs, *Bolsa Família* and *Benefício de Prestação Continuada* (BPC), which occurred during the first half of 2008.

Between 2005 and 2008, world prices of many staple food commodities rose substantially, driven by rapidly rising demand during the global economic

expansion. Dairy prices rose by 90 percent, maize by 80 percent, wheat by 70 percent, rice by 25 percent<sup>2</sup>. Increases of this magnitude and over such a short period were unprecedented for basic food-stuffs, and led to widespread concern about their impacts on hunger and poverty. A number of governments resorted to export restrictions in order to guarantee domestic supply, while international organizations<sup>3</sup> fretted about possible reversals and delays in meeting the Millennium Development Goals.

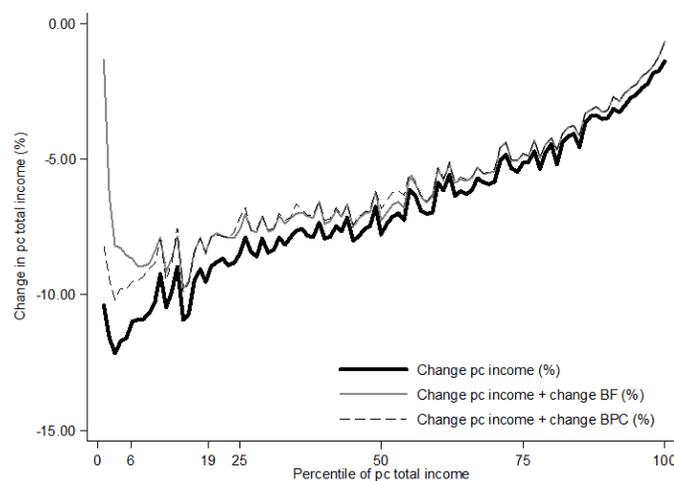
While maintaining relatively low levels, inflation in Brazil increased in early 2007, driven mainly by food prices, and reached a peak of about 7 percent in June 2008. However, there were marked differences across categories of

goods. Except for food, prices remained constant at around 5 percent or lower. Food prices, on the other hand, peaked in July 2008, expanding by about 20 percent (with prices for cereal hitting 80 percent and meat 40 percent).

Our analysis suggests that these increases in food prices were markedly regressive<sup>4</sup>, with the bottom income percentiles of the population experiencing a much higher reduction in welfare than the top percentiles. This average regressive incidence reflects substantial differences across food items, in terms of average price increase and of the relevance of each item in total consumption.

During the first half of 2008 the Government of Brazil increased the value of benefits for *Bolsa Família* and BPC, which is tied to the minimum wage<sup>5</sup>. In our analysis, we investigate the extent to which these measures might have mitigated the welfare losses due to the price increases. To gauge the differential effect of the price changes across the income distribution and the effect of the different policies, we define “price-increase incidence curves” that show how the change in consumption for a given percentile varies across percentiles ranked by income. In Figure 1, we can see the price-increase incidence curves for the changes in prices (black bold line), for the changes

Figure 1—Price-Increase Incidence Curves Under Different Scenarios





Ms. Juraci Santana de Brito, 48, shows her benefit card in Acauã, Piauí.  
Photo by Benonias Cardoso

in prices and in the value of *Bolsa Família* benefits (grey thin line), and for change in prices and in the value of BPC benefits (broken line).

The analysis suggests that the benefit increases in *Bolsa Família* and BPC may have mitigated the welfare losses among the extremely poor, but did not have had much protective impact among the moderate poor, or elsewhere along the distribution, thus having no effect on aggregate measures of poverty and inequality. Moreover, it is evident that most of the effect is due to *Bolsa Família*. This can be explained by the different coverage of the two programs and the level of the benefits. While both programs are well targeted, *Bolsa Família* has almost 4 times as many beneficiary households as BPC (12.4 vs. 3.4 million in 2009) but a benefit level that is about one third of that of BPC, which is equivalent of one minimum wage<sup>6</sup>. Thus,

very few of the BPC beneficiaries remain in the lowest percentiles of the income distribution, while most of *Bolsa Família* beneficiaries are still poor. The limited overall impact can be explained by the limited size of the transfer relative to the welfare loss.

While *Bolsa Família* and BPC are programs designed to address structural poverty, they can be used by the Government in response to shocks. *Bolsa Família*, with its good targeting performance and high coverage level, can provide a relatively inexpensive way to transfer resources promptly to a large number of the neediest families. On the other hand, despite good targeting, a large share of BPC beneficiaries is not among the poorest because of the much higher level of the value of the transfer.

Some caveats are needed. Despite good targeting, many poor families are not *Bolsa Família* beneficiaries: about 45 percent of

the poorest 20 percent in 2006. Moreover, *Bolsa Família* is not a counter-cyclical instrument and its targeting mechanism is not necessarily appropriate to identify those hit by a shock, in particular the new poor. Another issue is that, when facing a transitory shock, the policy should be transitory as well. However, the political economy of increasing benefits temporarily is challenging [BET](#)

1. Ferreira, F.H.G., A. Fruttero, P. Leite, and L. Lucchetti (2010) "The welfare impact of the 2008 Food Price Shock in Brazil", work in progress, World Bank.

2. Ivanic, M. and W. Martin (2008), *Implications of Higher Global Food Prices for Poverty in Low-Income Countries*, World Bank Policy Research Working Paper 4594

3. FAO (<http://www.fao.org/newsroom/en/news/2008/1000923/>), MDG Report 2008

4. It does not account for income effects of price changes. We are currently working on estimating these effects.

5. The value of the basic benefit of *Bolsa Família* increased by 8 percent (R\$4), the value of the benefit per child by 13 percent (R\$2) while BPC benefits increased by almost 9.2 percent (R\$35). To cost of each of these two measures is very similar because of the much higher number of beneficiaries of *Bolsa Família* compared to BPC.

6. *Bolsa Família* benefits are directed families with young children and are meant to complement family income. BPC benefits on the other hand are directed to elderly or disabled and hence are meant to guarantee a minimum level of income to meet basic needs.

***“Benefit increases in *Bolsa Família* and BPC may have mitigated the welfare losses among the extremely poor, but did not have had much protective impact among the moderate poor”***

## BOLSA FAMÍLIA AND ENTREPRENEURSHIP

By Guilherme Lichand

Conditional cash-transfer programs (CCTs) have had a significant effect on poverty and inequality reduction in developing countries over the last decades. In particular, Brazil's CCT program *Bolsa Família*, along with other Governmental transfers, is credited for as much as 50 percent of the recent fall in inequality in Brazil (the Gini index decreased from 0.5957 in 2001 to 0.5431 in 2009, according to CPS/FGV). Government support of income-generating activities among poor individuals is seen as such an important policy area that IPEA researcher Ricardo Paes de Barros calls it the next generation of social protection policies in Brazil. However, potential effects of the program on entrepreneurship have not yet been assessed.

Whether the program incentives poor individuals to start their own businesses is particularly relevant in light of the claim – common to all CCTs – that *Bolsa Família* deals with short-term poverty

relief but does not provide the means for breaking away from poverty. These concerns would be reduced if the program has a positive effect on entrepreneurship.

*Bolsa Família* provides governmental transfers to households up to a certain income threshold and with children or pregnant women, as long as they meet some requirements related to investments in children's education and/or health. Created in 2003, the program is designed to reach the poorest families in the country, and has displayed targeting and coverage performance above any national program and in line with best international practices.

A large literature documents how CCTs affect individual decisions. *Bolsa Família* has been shown to improve school attendance and decrease child labor but to have no impact either on the parents' labor supply or on fertility decisions. On entrepreneurship, it has already been shown that Mexico's *Oportunidades* increases the income-generating potential of

poor families. Results from other programs, such as *Pro-campo*, also in Mexico, and a microfinance experiment in India, also point towards a positive effect of the transfers on potentially wealth-constrained families starting a business.

Along similar lines, we assess whether *Bolsa Família* increases the probability of starting a new venture in Brazil, decomposing its potential effects into three channels: (i) alleviation of wealth constraints, (ii) insurance against bad outcomes of risky activities, and (iii) reduction in child labor (through the effect of the conditionality).

If startup costs are substantial, and if poor individuals have limited access to credit, channel (i) is expected to increase entrepreneurship, since wealth-constrained individuals could use the cash transfer to start a new venture or to increase the scale of their pre-existing firm. Channel (ii) is also expected to increase entrepreneurship if household heads are risk-averse: since they



Photo by Liana Maria

**“Whether the program incentives the poor to start their own businesses is relevant in light of the claim that *Bolsa Família* does not provide the means for breaking away from poverty”**

Table 1—Main occupation (urban sub-sample)

	Wealth constraint alleviation (IV)			Insurance (OLS)		
	(1)	(2)	(3)	(1)	(2)	(3)
	Entrepreneur	Employer	Self-employed	Entrepreneur	Employer	Self-employed
<b>Bolsa Família</b>	0.00435 (0.0055)	-0.00532*** (0.0017)	0.00967* (0.0054)	0.00689 (0.0055)	-0.00517*** (0.0017)	0.0121** (0.0054)
<b>Other Transfers</b>	-0.00719 (0.0058)	-0.00433** (0.0018)	-0.00286 (0.0057)	-0.00526 (0.0058)	-0.00421** (0.0018)	-0.00105 (0.0057)
<b>Individual controls</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Year fixed-effects</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>UF fixed-effects</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Observations</b>	49,588	49,588	49,588	49,588	49,588	49,588
<b>R-squared</b>	0.06	0.024	0.056	0.06	0.024	0.057

Tables 1 & 2: standard errors in parentheses —\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 2 – All sources of income (urban sub-sample)

	Wealth constraint alleviation (IV)			Insurance (OLS)		
	(1)	(2)	(3)	(1)	(2)	(3)
	Entrepreneur	Employer	Self-employed	Entrepreneur	Employer	Self-employed
<b>Bolsa Família</b>	0.00319** (0.0013)	-0.000158 (0.0003)	0.00334*** (0.0012)	0/00307** (0.0013)	-0.00017 (0.0003)	0.00324*** (0.0012)
<b>Other Transfers</b>	0.00400*** (0.0013)	-0.000098 (0.0003)	0.00410*** (0.0013)	0.00391*** (0.0013)	-0.000107 (0.0003)	0.00402*** (0.0013)
<b>Individual controls</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Year fixed-effects</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>UF fixed-effects</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Observations</b>	49,588	49,588	49,588	49,588	49,588	49,588
<b>R-squared</b>	0.006	0.004	0.005	0.006	0.004	0.005

are guaranteed to receive the transfer irrespective of what happens with their business<sup>1</sup> (from success to bankruptcy), individuals could be more willing to engage in risky activities. Assuming that children always work with their parents (in their parents' firm whenever they are business owners), channel (iii) could decrease entrepreneurship if the conditionality decreases children's labor supply and if children were more productive 'inside' the firm – by making entrepreneurship more attractive to household heads as opposed to supplying labor along with their children. It is important to note that this would not be a negative result, per se.

We draw upon Brazil's National Household Sample Surveys (PNADs) of 2004 and 2006, which are the only years for which transfer beneficiaries were identified. The empirical strategy used to separate the effects of interest is comparing individuals based upon their wealth *prior to the transfer* for the first channel; upon their wealth *after the transfer* for the second channel, and upon the gender of their chil-

dren for the third channel, since it has been documented that the conditionality is only binding for boys regarding labor supply<sup>2,3</sup>. Therefore, if the effect of *Bolsa Família* on entrepreneurship is conditional on a child's gender, then the conditionality has a level effect.

Tables 1 and 2 present our main results. Entrepreneurship (defined as owning a business as an employer or self-employed) is indeed stimulated by the program, but only in urban areas, through the insurance and wealth constraint alleviation effects. However, new ventures are typically secondary sources of income. Conditionalities do not impact the level of entrepreneurship. When referenced by home ownership, the program is documented to have a smaller impact among those household heads who own their homes – reinforcing the interpretation of alleviation of wealth constraint –; however, this effect is not statistically significant, probably because the survey's question is not really about tenure.

Recipient household heads

use the cash transfer to diversify their income portfolio; this can also be regarded as positive effect of the program, potentially enhancing the ability of the poor to protect against adverse economic shocks. Also of interest is the fact that *Bolsa Família* is different from other transfers in terms of providing insurance, given that the cash transfer represents, in some cases, a large share of household income<sup>4</sup>.

Alternative explanations for these effects, such as the fact that enrolled individuals might also have higher social capital, or a higher unobserved propensity to entrepreneurship, seem to be dismissed by a composition effect: the increased propensity to start a venture comes entirely from self-employment, while there seems to be some transitioning from employers to self-employment. Whether this points to the effect of the binding conditionality – through parents relieving their children from working in the family firm in order to attend school –, or to misreporting of parents – afraid of losing benefits on account of

*“Entrepreneurship is indeed stimulated by the program, but only in urban areas. Social conditionalities do not impact the level of entrepreneurship”*

## BOLSA FAMÍLIA AND ENTREPRENEURSHIP...

keeping their children in the business – is not relevant for our analysis: what matters is that higher social capital or a higher unobserved propensity to start a venture cannot account for this effect.

The previous findings allow us to conclude that *Bolsa Família* stimulates self-employment. If this is regarded as a higher-productivity activity, then we could conclude that the program might have positive long-term effects on growth in addition to short-term poverty relief and better protection against shocks, on account of enhanced diversification of the household income portfolio. The program's effects on individual's occupational choices are concentrated in urban areas, precisely where *Bolsa Família* is assumed to have weaker potential to support individuals out of poverty through 'first-order' effects, that is, by allowing increased access to basic services and goods<sup>5</sup>. When we investigate the activity composition for self-employed individuals in sec-

ondary sources of income, we see that they are mainly involved in small scale commerce and service ventures, activities that are better suited to urban markets and, hence, might involve lower startup costs when compared to those in rural environments.

It is also worth remarking that, within the subset of enterprising parents analyzed, we do not find any negative effect of the program on entrepreneurship due to the conditionality (be it because children's productivity is not indeed higher 'inside' the firm or because children actually do not stop working in their parents' venture) –; had we found a negative effect, it might have had implications for CCT bundle's redesign if Government decided that this kind of occupational choice should be more strongly discouraged by the program. It turns out that this short-term vs. long-term productivity trade-off (since enrolled children are more likely to end as more educated grownups, hence with

a higher propensity towards entrepreneurial activities) does not exist in context of the program's conditionality [BET](#)

*“Bolsa Família stimulates self-employment and might have positive long-term effects on growth in addition to short-term poverty relief and better protection against shocks”*

1. Unless firm's profits were so high as to eliminate household eligibility to the program, a situation that we rule out without great loss of generality.

2. Cardoso, Eliana and SOUZA, André P. (2004) "The impact of cash transfers on child labor and school attendance in Brazil" documents this effect for *Bolsa-Escola*.

3. Ex-post wealth differs from ex-ante wealth by revenues from interest, financial applications and other sources of income (this is the best PNAD allow us to do).

4. Calculations indicate that *Bolsa Família* represents about 10 percent of recipient's average household income, and up to 50 percent of the average income of lowest decile recipient households.

5. How to get children out of jobs and into school", *The Economist*, July, 29<sup>th</sup>, 2010

## SAVINGS, POVERTY AND LIFECYCLE IN BRAZIL

By Romero Rocha

The Brazilian Institute of Geography and Statistics (IBGE) released last June its household expenditure survey (POF) 2008, which shows how the Brazilian society evolved in the previous five years. While household expenditures on education fell from 4.1 percent in 2002 to 3.0 percent in 2008, health expenditures increased

from 6.5 percent to 7.2 percent in the same period. An interesting of the survey is that families are saving more (or dissaving less) in 2008 compared to 2002. In 2008, 41 percent of Brazilian households had negative savings, 8 percentage points above 2002. This article investigates what lies behind this change in Brazilian household saving patterns and analyzes

changes in consumption/saving life cycle.

Figure 1 (saving rates by income percentile for 2002 and 2008) shows that poor families have saved more in 2008 than in 2002. Moreover, while in 2002 positive household savings started at the 74<sup>th</sup> percentile, in 2008 it started at the 61<sup>th</sup> percentile.

To better understand the determinants of this change in saving patterns, we draw a similar graph, but using income in absolute terms to compare saving rates. Thus, in Figure 2 we plot the saving rate for every household with per capita income below USD 1,000.00, Purchasing Power Parity (PPP) – covering 80 percent of the population. The main insight from this figure is that a large part of the increase in savings for low percentile is the result of an increase in income of the poor. The main driver of the increase in household saving rates is the decrease in the inequality of Brazilian income distribution which occurred between 2002 and 2008. We also see an increase in savings for a given income per capita (the line for 2008 is still above the line for 2002 in Figure 2). While further research is necessary to explain this fact, one of the possible explanations is that the more stable economy may induce people to plan for

Figure 2—Savings by Income per Capita

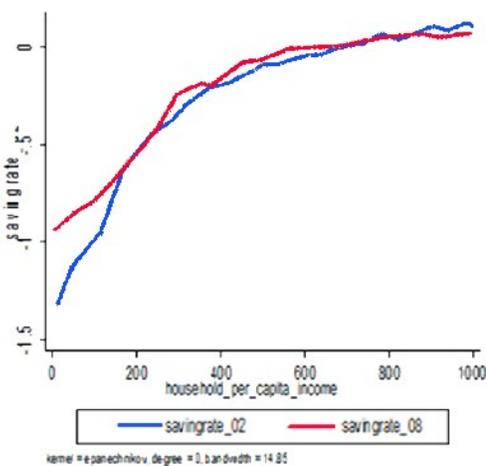


Figure 1—Saving Rates, by Income Percentile, 2002 and 2008



the future, and thus to save more.

Another interesting point that the survey allows us to analyze is whether labor income and cash transfers affect the saving rate in the same way. In order to shed some light on this important question we ran a regression of saving rates on labor income and income from transfers, using household expenditure surveys of 2002 and 2008. As presented on Table 1, our main result is that a labor income increase fosters a larger increase in household saving rates than

an equal increase in cash transfer income. This is an interesting finding with potential policy implications. However, before jumping to conclusions, further research is war-

ranted. Indeed, it would be important to ascertain whether the differential effect of transfers and labor income on saving reflects behavioral differences or just the fact that cash transfer programs benefit the poorest, who have a smaller marginal propensity to save than those who are better off

Table 1—Regression of Saving Rates on Labor Income and Transfers

Log labor income	0.272***
	(0.011)
Log transfers	0.198***
	(0.008)
Observations	33,393
R-squared	0.13

Robust standard errors in parenthesis.

\* significant at 10 percent;  
 \*\* significant at 5 percent;  
 \*\*\* significant at 1 percent

*“The main driver of the increase in household saving rates is the decrease in the inequality of Brazilian income distribution which occurred between 2002 and 2008”*



*“By 2035, Brazil’s oil production could be equal to half of today’s agriculture GDP, one fifth of manufacturing GDP, or twice the size of the Brazilian car industry”*

## THE BRAZILIAN ECONOMY AND THE ADVENT OF PRE-SAL

By Marcio Gold Firmo

Despite the abundance of its natural resources and in contrast with several countries of Latin America, Brazil has managed to build a diversified economy since its industrialization back in the 1940’s. However, the recent discovery of huge oil reserves off the Brazilian coast, in ultra-deep waters below a thick salt layer, has been object of intense debate. On the one hand, this indubitably opens a new horizon for the country’s development, but, on the other, it raises concerns about costs and benefits of becoming a large oil exporter. A new regulatory framework is being debated by the Brazilian Congress to deal with the new wealth.

The Pre-Sal reserves will significantly change Brazil’s international profile in the petroleum sector. Confirmed recoverable volume of oil stands at between 15 and 21 billion of barrels of oil equivalent (bboe), in five different fields along the southeastern coast. An additional field could hold between 7 and 10 bboe, which, if confirmed, could be the largest discovery in the last 30 years. Pre-Sal

oil reserves, including fields whose volume is yet to be assessed, are expected to range from 35 to 85 bboe, boosting the country’s total reserves by 280 percent to 670 percent, to between 50 and 100 bboe. As a result, Brazil would jump from 16th to 8th largest proven oil and natural reserves.

As large as the Pre-Sal discoveries might be, they would not imply significant changes in the world oil market, as current proven oil reserves add up to 1,300 bboe. Furthermore, the broader concept of “possible reserves” points out to much larger figures. While not capable of influencing international prices, the Pre-Sal discovery will most probably have a profound impact in the Brazilian economy, its future dynamics, and the policy challenges it will face in the next decades.

A glimpse of this can be had through rough estimates of the value of future oil production. Currently, the Brazilian annual oil production is around 2.5 million boe per day, which accounts for US\$ 73 billion or 4.5 percent of Brazil’s GDP at current oil prices (US\$ 80/barrel). Petrobras’

oil production forecasts for 2020 and the U.S. Energy Information Administration (EIA) oil production and oil prices forecasts for 2020 and 2035 are summarized in Table 1, which shows an upward trend in the value of oil production. Depending on the assumptions made for future oil prices and production, this value could reach between US\$ 130 billion and US\$ 201 billion per year in 2020, according to Petrobras’ production forecasts, the equivalent to 5.2 to 8.1 percent of 2020 GDP. According to EIA’s projections (which are more conservative than Petrobras’ for the year 2020, as one can see in the table), the value of projected oil production could reach up to US\$ 150 billion by 2020 and US\$ 282 billion by 2035, accounting for up to about 6 percent of Brazilian GDP.

These numbers mean that oil production would be equal to half of today’s agriculture GDP, one fifth of manufacturing GDP, or twice the size of the Brazilian car industry. Although impressive, by 2020 and under the most conservative assumptions for oil prices and production, the share of oil in GDP would

Table 1—Oil Production Value in Terms of GDP

Year	Petrobras Forecasts		EIA Production Forecasts				
	2020		2020		2035		
Oil production (million boe/d)	5.1	5.1	3.8	3.8	5.8	5.8	5.9
Oil price (US\$/barrel)	70	108	70	108	70	108	133
Production value (million US\$)	130,305	201,042	97,090	149,796	148,190	228,636	281,561
Value over GDP	5.2%	8.1%	3.9%	6.0%	3.1%	4.8%	5.9%

Source: Own elaboration, Petrobras, EIA—A 4.5% annual GDP growth is projected.

still be considerably below that of countries like Russia, Venezuela, and even Mexico, Canada and Colombia. However, the share of oil in Brazil's exports could become similar to those of Mexico and Colombia, and be higher than Canada's.

Because the Pre-Sal oil fields lie in ultra-deep waters, Pre-Sal extraction drilling investment costs estimates are around US\$ 45/barrel, five times higher than in traditional oil fields. Even so, it seems unlikely that oil prices in the next decades decline enough to threaten profitability. Actually, the large amount of investment needed may have positive reflections on the Brazilian economy: in its 2010-2014 Business Plan, Petrobras plans to invest US\$ 212 billion in the country over the next five years, US\$ 33 billion of which in Pre-Sal development and exploration. Between 2014 and 2020, the company expects to invest US\$ 70 billion in Pre-Sal. Total investment in the economy related to Pre-Sal could be considerably higher: market expectations range from US\$ 480 billion to US\$ 1 trillion up to 2027. With a GDP of around US\$ 1.6 trillion, investment-to-GDP expansion led by oil extraction could reach between 1.5 percent and 3 percent over the next 20 years. This would significantly add to Brazil's struggle to increase investment rates, currently around 19 percent of the GDP.

Pre-Sal exploration should

also have a major impact on Brazilian foreign accounts. In the first phase of exploration, the investment needed will have to be financed abroad, raising Brazil's current account deficit. But, as production takes off and exports rise significantly, this deficit is expected to narrow and eventually turn into a surplus. Therefore, if internal savings rates remain constant, a high investment-high deficit scenario could develop in the following years.

The rise in production could push tax collection up. However, it is probably premature to forecast future oil revenues, as Congress is still discussing the new regulatory framework and how to distribute royalties and fees among Federal, State and Municipal governments. In particular, the Federal Government has announced its intention to have tighter controls over oil production and exports and to raise its share on oil profits. A draft bill was sent to Congress regulating a new exploration model in Pre-Sal fields and strategic areas, in which the company awarded the right to explore an oil field ultimately produces as agreed with the Government, using a part of its output to recover capital and operational expenditures; the remainder (minus paid royalties), the so-called "profit oil", is then split between the Government and the company, typically at a 80 percent-20 percent rate.

According to the project, Petrobras is the mandated

operator for new Pre-Sal exploration consortiums, with at least 30 percent of the capital – a requirement that significantly raises Petrobras' capital needs. Hence, another draft bill has been proposed, regulating the capitalization of Petrobras in an operation called "costly cession": the Federal Government will in practice exchange the property rights of up to five billion boe for a number of Petrobras' shares. The price Petrobras will pay for these five billion boe will be defined by an independent appraisal conducted by international firms, and further revised after better knowledge of the exploration costs is obtained, so that neither Petrobras nor the Government profit from the "costly cession".

Finally, it is yet uncertain how Congress will settle the dispute among states and municipalities over future Pre-Sal oil revenues. Following the current rules, 60 percent of revenues of royalties and special participation fees are distributed among subnational entities, but there is a high degree of concentration of these revenues going to the producing states and municipalities and their neighbors. For instance, Rio de Janeiro state and municipalities hold 75 percent of these royalties and fees. The proposed changes discussed in Congress could substantially alter this framework, although the outcome of the discussions is still highly uncertain [BET](#)

*“Pre-Sal exploration should have a major impact on Brazilian foreign accounts, But, as production takes off and exports rise significantly, this deficit is expected to narrow and eventually turn into a surplus”*

*“The large amount of investment needed to develop Pre-Sal may have positive reflections on the Brazilian economy”*

## A GREENFIELD MOMENT FOR INVESTMENT IN BRAZIL

By Denise Marinho,  
Jivago Ximenes and  
Marcio Firmo

As the head of the Economic Research Department of the Brazilian National Development Bank BNDES, the economist Fernando Pimentel Puga manages the team responsible for mapping, researching and analyzing investment prospects in the Brazilian economy.

In this exclusive interview to the Brazil Quarterly Knowledge Report, he says that, during the acute period of the global economic crisis, the Brazilian economy faced the risk of having 780 billion reais [\$ 433 billion] worth of investments halted due to deferred investment decisions.

Puga says that the role of BNDES is to scale up the Brazilian credit market, stimulating the entry of private finance companies in large projects.

Following are the highlights of the interview:

**BET:** Taking into account the expansion of BNDES' portfolio since 2004, what is the role of the Bank today, in an economy that is growing strongly?

**Fernando Puga:** Our effort is to expand the credit market. During the crisis there was a downturn in capital markets, and, in that sense BNDES had to act anti-cyclically. But now the entire effort is to expand the credit market and bring in the financial system.

Brazil is moving towards a 22 percent investment rate in 2014, when we will be hosting the World Cup. In-

vestment is increasing, but its profile is also changing. Until recently, it was focused in modernization, as companies replaced old machinery and equipments.

Now we see larger projects in the economy, greenfield projects in contrast with the previous brownfield investments. This shift was recently captured in a survey by the Getúlio Vargas Foundation, which shows that the type of investment is changing, confirming our assessment.

Those greenfield projects are high-volume investments that demand long-term, detailed assessments. We are talking about large investments in infrastructure and energy, projects with maturity periods over ten years. Those are sectors in which the private financial system still has a reduced role.

We understand that the private financial sector still focuses on short-term operations, on account of its liabilities. It is in our interest to look for ways to engage the private financial system in this kind of longer term operations.

We are also seeing a shift in the scale of investment. After many years, we again have an investment rate above 20 percent, approaching the world's 22 percent. This change depends both on the efforts of BNDES and the market.

**BET:** When did BNDES no-



Puga: BNDES does not crowd out private investment

tice this shift in the profile of investments?

**Puga:** We started to notice this movement in 2006, but at first only in sectors closely linked to intermediate goods.

The investment cycle began taking a new momentum around 2002, at that time very much related to the oil, gas and mining sectors, but also somewhat linked to China's growth.

In 2006 we started to see a more mature process, especially in the intermediate goods sectors, and especially the steel industry.

A few years ago, when talking about the steel sector, always same companies came up. In 2006, major projects started to appear and we also began to see a North-South movement, with businesses shifting production to Brazil, attracted by the country's competitiveness gains. New actors arrived in the steel, paper and cellulose sectors. For example, Petrobras announced a new petrochemical complex in Rio de Janeiro (Comperj), which changes the level of investment in the sector.

*“Investments are increasing and changing profile . We see greenfield projects in contrast with the previous brownfield operations”*

*“The investment cycle began taking a new momentum around 2002, at that time very much related to the oil, gas and mining sectors, but also somewhat linked to China's growth”*

This arrival of new actors, with manufacturing unit investments, is something that we had not seen in a long time.

**BET:** Can the pre-salt oil discoveries offset BNDES's greenfield investments?

**Puga:** It is interesting that this process, which started in the raw materials industry and then shifted to the intermediate goods sectors, has spread along the productive chain.

In 2007, the process reached those sectors of the economy more closely linked to household consumption, on the tip of the productive chain. At the same time, there was a healthy movement of improvement in household income.

Between 2007 and 2008 it had reached the auto sector and construction, through increased consumption. In 2008, there is a widespread growth of investment, contributing to the expansion of the domestic market.

This virtuous growth is more robust and is no longer tied to the oil and gas sector, to the discovery of reserves or related to increased Chinese iron ore imports. After the outbreak of the crisis, there was a downturn in the external-market-oriented sectors.

Now we are seeing some improvement in these sectors. The prices for iron and paper and cellulose are recovering, so investment is not likely to remain focused on oil and gas alone, due to the Pre-Sal. However, the new discoveries will mean that the oil and gas sector will lead investments.

**BET:** During the global crisis,

BNDES offered non-conventional credit lines such as for working capital. How successful has this been?

**Puga:** Unlike what happened in many countries, we noticed that there were no major problems with Brazilian companies, which remained fairly solid. So, there was no need to resort to business relief operations, as was the case in the United States.

Rather, the Brazilian economy was experiencing a strong movement towards project deferment. With the crisis outbreak, business investment decisions were being delayed and there was a risk that this would turn into cancellations.

So, BNDES launched a program to support investments, which improved conditions and set a horizon for improvements, initially the end of 2010 and later extended. The message was that the favorable credit conditions would not last, and businesses should rush investments to take advantage of them.

The total investment outlook in August 2008 for the industrial and infrastructures sector was 780 billion reais and this fell to 688 billion in December 2008. In August 2009, this bounced back to 730 billion reais.

**BET:** How does BNDES face the prospect of competing with the private sector in the long-term credit market? Is there the risk of crowding-out?

**Puga:** During the global crisis, BNDES came in and sustained the market. Pri-

vate banks pulled out, but not because of BNDES. If we compare with other countries, BNDES's intervention enabled Brazil to fare better than average, and it was achieved in a relatively not so costly manner.

As we emerge from the crisis, we trust that the private financial system will resume its support. Therefore, this is not a crowding-out movement, on the contrary. BNDES contributed to sustain a healthy business ambience, so that firms could weather the crisis, increasing investment, and propitiating the return of private banks.

It is important to have the private sector supporting the new investments in this different context. Not any more an economy with meager investments and competition for the weak credit demand, it is quite the opposite.

**BET:** Which reforms does BNDES consider important to leverage Brazil's investment rate?

**Puga:** The expansion of capital markets is important. Brazil's Central Bank is making an effort to create ways to increase credit, for example the earmarked credit operations. In the housing sector, there was the introduction of segregated equity, which reduces the risk in buying real estate. There were several achievements, and we must continue to move forward in regulation. Also, there is an important process to maintain the economic stability: creating incentives to increase savings in the economy **BET**

*“Nowadays Brazil has entered a virtuous growth that is no longer tied to the oil and gas sector, or related to increased Chinese iron ore imports”*

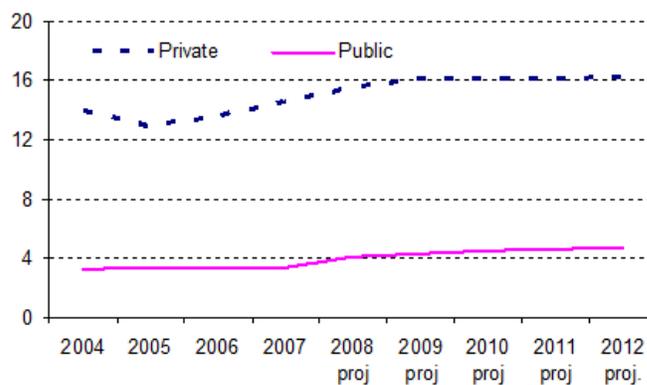
## A PATH TO EFFICIENT PUBLIC INVESTMENT MANAGEMENT

By Tarsila Velloso\*

In the last decades, Brazil has successfully restored aggregate fiscal discipline and improved fiscal transparency. However, the quality of public investment has not kept pace with these improvements in public financial management. Despite dramatic improvements in macro-economic stability, Brazil's real long-run growth has room for expansion when compared to other emerging economies. To do this, the Government has proposed to raise Brazil's total investment ratio to approximately 21 percent of GDP, by undertaking a concerted effort to address infrastructure shortages across all levels of the administration. These efforts have most recently been associated with the Federal Government's Growth Acceleration Program (PAC, in its Portuguese acronym).

PAC and other associated large scale initiatives are important steps to improve the performance of Brazil's public investment portfolio. These programs seek to improve budget execution of selected projects by channeling resources, avoiding funding freezes, and using central agencies to closely monitor execution. However, a lack of funding is no longer the primary constraint to efficient investment: "The lack of institutional capacity for appraisal, implementation and evaluation of public investment projects continues to be a major obstacle

Figure 1—Investment Ratio (Percent of GDP)



for the enhancement of the efficiency in those public infrastructure projects.”<sup>1</sup> While PAC reflects a renewed emphasis on growth-enhancing public investment, its performance has met implementation challenges. As a result, a persistent and significant question for Brazil is how can investment expenditures be better channeled and implemented?

A recent World Bank report<sup>2</sup> has identified that several key process issues usually combine to undermine intended outcomes of public investments, including: poor project selection process; delays in design and completion of projects; slow and litigious procurement practices; cost overruns; and failure to operate and maintain public assets.

At the request of the Government of Brazil, the World Bank recently reviewed public investment management (PIM) practices in the country. The analysis was based on the eight basic features of a public investment process

identified in a recent paper by Rajaram et al.<sup>3</sup> These basic features revolve around the following stages in the PIM process: (i) strategic guidance and preliminary screening, (ii) formal project appraisal, (iii) independent review of appraisal, (iv) project selection and budgeting, (v) project implementation, (vi) project adjustment, (vii) facility operation, (viii) project evaluation.

The review acknowledges that Brazil has accomplished much in terms of the coordination and execution of investment projects. However, challenges remain, especially in the selection, approval and execution stages of public investment projects.

Figure 2 shows a comparison of Brazil's performance on PIM against that of other countries. Brazil is somewhat behind some middle income and developed countries, but well ahead other important middle income and lower income countries.

The analysis concludes

*“Several key process issues usually combine to undermine the outcomes of public investments, including poor project selection and delays in their design”*

that, while there is a strong and clear link between the authorities' planning documents and processes, there is room to strengthen the degree of strategic guidance for public investments. For many projects, there is no formal appraisal and independent review. Projects also lack total cost control, although the budgetary impact is present for the year.

In implementation, PAC has been able to introduce important reforms; but deficient project elaboration, dispersed management information and judicial issues many times leads to slow budget execution. Adjustments to projects also do not appear to follow well-defined

criteria, including cost benefit analyses. On the other hand, the quality of asset registers is improving. Finally, the implementation of an ex post project evaluation system, to compare expected benefits and costs with actual benefits and costs, could be of great value to future project.

With increased growth, Brazil faces a legacy of infrastructure shortages. Addressing this will clearly result in important economic and social benefits. Improved public investment management could significantly increase the outcomes and efficiency of investments in the infrastructure area. Some aspects of improving PIM in

Brazil can be addressed quickly, such as strengthening oversight and strategic planning, many reforms will take more time to yield results, as they depend on bolstering the ability of executing agencies to plan, design, elaborate and execute high quality projects [BET](#)

*\* This article is based on the "Assessment of the Efficiency of Public Investment Management" report (2009) prepared by Jim Brumby and Juliana Wenceslau.*

1. World Bank, Brazil, *Improving Fiscal Circumstances for Growth*, 2007.

2. See Rajaram, A; Le Minh, T; Biletska, N. and Brumby, J. (2008) *A Diagnostic Framework for Reviewing Public Investment Efficiency*. World Bank.

3. *Idem*.

*“Improved public investment management could significantly increase the outcomes and efficiency of investments in the infrastructure area”*

Figure 2—Cross Country Comparison Against PIM Steps

Institutional features	Chile	Ireland	Korea	Brazil	Belarus	China	Vietnam	Nigeria
Investment guidance & preliminary screening	Green	Green	Green	Orange	Orange with diagonal lines	Orange	Orange	Red
Formal project approval	Green	Green	Green	Orange	Orange	Orange	Orange	Red
Independent review of appraisal	Green	Green	Green	Orange with diagonal lines	Green with diagonal lines	Orange	Red	Red
Project selection and budgeting	Green	Green	Green	Orange with diagonal lines	Orange	Red	Red	Red
Implementation	Green	Green with diagonal lines	Green	Green	Orange	Orange with diagonal lines	Orange with diagonal lines	Red
Adjustment for changes	Green	Green	Green	Red	Orange	Orange	Orange	Red
Facility operation	Green	Green	Green	Green with diagonal lines	Red	Red	Orange with diagonal lines	Orange with diagonal lines
Evaluation	Green with diagonal lines	Orange	Green with diagonal lines	Red	Red	Red	Red	Red

Source: J. Brumby and N. Biletska. Based on internal World Bank documents. Green means significant compliance with assessment framework; red means significant non-compliance. Orange is between green and red.



*“The CONSAD conferences have become an important instrument of strengthening the Brazilian network of public managers and the exchange of knowledge”*

## BUILDING A PUBLIC MANAGEMENT POLICY COMMUNITY

By Evelyn Levy

Over the past 20 years, public management reforms in Brazil have achieved some important landmarks: the 1988 Constitution, which stressed merit based recruitment and decentralization of service provision to states and municipalities; the 1995 White Paper of State Reform, which introduced a managerial approach to the governmental structure and human resources management; the Fiscal Responsibility Law (2000), which tied public expenditure to fiscal and financial capacity.

Although institutions matter, actual practices which allow greater professionalism, efficiency, transparency and citizen participation in public policy formulation and implementation were progressing at a slower path than society would like. One of the main reasons was the lack of capacity of public organizations (Lopes and Theisohn, 2003) and the absence of *policy entrepreneurs* (Abrúcio and Gaetani, 2006). Public management reform is possible when people who share values, information on good practices and the capacity to adapt these good practices locally are available (Andrews, 2009).

In its effort to improve public sector management, the Council of State Public Management Secretaries (CONSAD) has organized three annual conferences\*, the latest one in March 2010, which have unveiled evidence that a “silent revolution” is happening. The conferences gathered over 5,000 participants from all

states of Brazil as well as several municipal governments. During the conferences, about 500 papers were presented by public officials, academics and specialists of multilateral organizations and consultant firms, highlighting innovative approaches developed in different places.

Among the topics addressed were best practices in human resource management, procurement, e-government, strategic and results based management, inter-governmental arrangements, external and internal control, monitoring and evaluation, citizen participation and public expenditures. Managerial aspects developed in sectors such as health, education, prison administration, law enforcement, culture and environment were also discussed. From these discussions, several state secretariats started replicating similar experiences at the regional level, thus attracting large numbers of public officials working at the municipal level.

The CONSAD conferences have become an important instrument of strengthening the Brazilian network of public managers and the exchange of knowledge, as one of the papers, coming from the State of Ceará, found: its authors presented their case about introducing performance related pay during the previous year, and mentioned that before implementing the new strategy they considered the lessons learnt from other experiences presented at the previous CONSAD conference.

The Brazilian media is starting to report on the results of public management improvements at the state level. An editorial published in the country’s top weekly magazine, “Veja”, dated April, 21, 2010, suggests that, to build upon Brazil’s recent economic and social achievements, whoever wins this year’s presidential elections will have to face the challenge of enhancing efficiency, competence and transparency at the federal level, as some states have done.

It is fair to say that by creating the appropriate environment, the CONSAD conferences are helping to lay the ground work for a far more efficient, responsive and effective public sector, specially by building a previously inexistent policy community [BET](#)

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\*The three CONSAD conferences were supported by the World Bank

Abrúcio, F and Gaetani, F(2006) *Agenda, aprendizado e coalizão*, in “Avanços e Perspectivas da Gestão Pública nos Estados”, CONSAD/FUNDAP, São Paulo

Lopes, C. and Theisohn, T(2003) *Ownership, Leadership and Transformation, can we do better for capacity development?*, UNDP, New York

Andrews, M (2009) *Isomorphism and the limits to African Financial Management*, JFK School of Government – Harvard University, mimeo

# GREEN GROWTH IN BRAZIL

By Mauro Azeredo

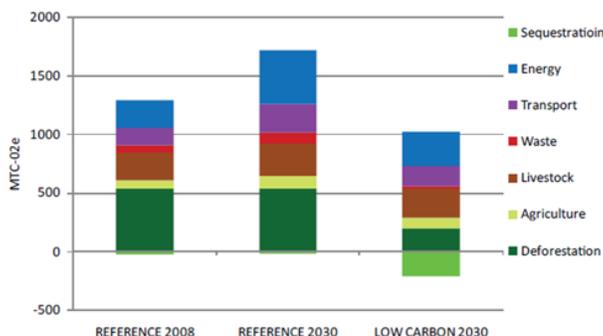
Beyond its economic and development credentials, Brazil is an environmental superpower, home to the Amazon rainforest and its enormous biodiversity. The country has made much progress in addressing many of its development issues, especially a dramatic reduction in deforestation, and in applying innovative solutions that reconcile growth and sustainability.

Still, a new World Bank study says that Brazil could yet reduce its gross greenhouse gas emissions (GHG) by up to 37 percent between 2010 and 2030 – the equivalent of taking all of the world’s cars out of circulation for three years – while at the same time maintaining the development goals set out by the government for that period, and without negatively affecting growth or jobs.

Despite the advances, Brazil remains among the top world sources of greenhouse gases, especially if deforestation and land use are factored in, says the report “Brazil Low Carbon: Country Case Study”. Approximately 40% of Brazil’s gross carbon emissions come from deforestation, even though recent efforts from the Government to protect forests have been very successful. Still, together with agriculture and ranching, 75% of Brazilian emissions derive from changes in land use.

The country is aware of the issue and announced emis-

Figure 1—Sector Emissions in the Different Scenarios



sion reduction goals ahead of the November COP in Copenhagen. But at the same time it reaffirmed its strong position that developed countries have been responsible for most of the climate problem and should contribute proportionately to the solution, not at the expense of the developing nations.

According to Izabella Teixeira, Brazil’s Environment Minister, “Brazil is one of the leading nations at climate negotiations, with one of the world’s cleanest energy matrixes, and is offering creative and constructive solutions both at the global and national levels. This is demonstrated by our voluntary commitment to reduce emissions by between 36.1% and 38.9% by 2020. The Bank’s study joins others proving Brazil’s potential.”

Climate change is central in both Brazil’s internal policy and external voice. Many developing nations hear their own concerns voiced by Brazil, and the country can be said to act as an informal climate and

environmental steward in international forums such as the G20.

The Bank’s Brazil Low Carbon Study significantly substantiates the debate on Brazil’s climate protagonism. According to it, the country has a great opportunity to mitigate and reduce emissions, mainly in land use (like agriculture and deforestation), energy, transportation and waste management. In each of these, the study identifies opportunities that would have no impact on economic development. The efficiency of those activities is measured against a reference scenario, tracing the current path into the future while incorporating different development levels. Reaching the so-called “low carbon scenario” would require additional investments of around US\$ 400 billion over twenty years.

Despite the cost, Nelson Barbosa, Economic Policy Secretary at the Finance Ministry, believes that the study debunks the long-standing myth that achieving a low carbon economy

*“Brazil could reduce its greenhouse gas emissions by up to 37 percent—the equivalent of taking all of the world’s cars out of circulation for three years—without affecting economic growth”*

*“Reaching the so-called ‘low carbon scenario’ would require additional investments of around US\$ 400 billion over twenty years”*

*“In the past two decades, the environmental debate has been increasingly mainstreamed in Brazilian government and society, and grew to be a consensus among policymakers”*

is at odds with economic and social development. For him, Brazil is well placed to lead the world in the area while maintaining a healthy economic growth, but needs to develop public policies and to consider incentives for gradual substitution in sectors that emit the most.

In the past two decades, the environmental debate has been increasingly mainstreamed in Brazilian government and society, and grew to be a consensus among policymakers. For example, in the last five years, Brazil’s Federal Government has requested almost US\$ 2 billion in World Bank loans for environmental issues, most of it linked to climate change.

For these reasons, the Bank’s report drew considerable interest in government, academia and media during the official launching on June 17, in Brasilia. The study was almost three

years in the making, much of which in close interaction with the numerous government agencies involved in all aspects of climate change, its economic and social impacts. The task involved approximately 15 technical events throughout the country and abroad, and a core team composed overwhelmingly by world-class Brazilian researchers.

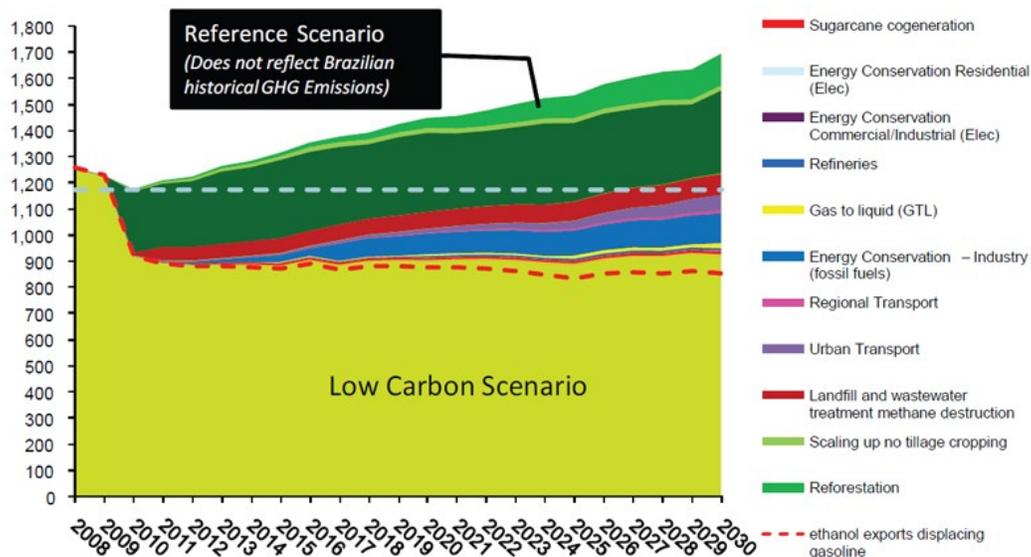
The grassroots technical diplomacy and confidence built with the line agencies, political areas, civil society and academia during the period made it possible for the team to achieve considerable impact. The result was that the over 15 background papers and main report were immediately assimilated by the Government and technical community to inform the debate and internal policy making. The actions suggested in the reports may be especially important to complement the country’s

already substantial efforts to maintain a clean energy matrix.

In his opening remarks at the launch, Makhtar Diop, World Bank Country Director for Brazil stressed that the Bank is acutely aware of the importance of the issue to developing nations. “Global climate change negotiations are very complex and have enormous interests at stake. If not handled well, efforts to reduce emissions and stop climate change could have a deep impact on development, and that would be a disaster for Brazil, but even more so to the poorest nations of the world, who would see their prospects for development dwindle even more.”

The main message of the report for Brazil, says Christophe de Gouvello, the World Bank Senior Energy Specialist who coordinated the study is that “avoiding deforestation is by far the

Figure 2—Greenhouse Gas Mitigation Wedges in the Low-Carbon Scenario 2010-2030



best option to reduce GHG emissions in the country. The good news is that the Brazilian Government has been fighting deforestation quite effectively through forest protection policies and programs, but it also has the opportunity to use other instruments – such as increasing the use of pastures and reintegrating degraded areas to the production cycle, avoiding encroachment on new areas.”

According to the study’s estimates, a new land use dynamic in Brazil would reduce deforestation by up to 68% by 2030, compared to the reference scenario estimated for that same year. According to the report, market mechanisms would not be enough to take advantage of all the opportunities Brazil has to mitigate emissions. Public policies and planning are essential, especially with regards to managing land competition and forest protection.

De Gouvello believes that the dialogue and technical work behind the report succeeded in helping Brazil build an even stronger base for environmental and development policies, in partnership with the Government. “The report also strongly upholds the message shared by Brazil and the World Bank: that there cannot be global solution to the climate change challenge if the point of view of developing countries are not taken into account, and that this cannot be done at the expense of development and



Deforestation linked to cattle ranching in the Brazilian Amazon

poverty reduction.”

“Brazil’s role as a leader in environmental solutions to reduce emissions is essential to help steer the global debate,” added Diop, for whom the process that culminated in the launching of the report is best practice on how to engage countries on sensitive policy issues, while still delivering cutting edge knowledge.

In the energy sector, given that emissions in Brazil are already relatively low due to its renewable matrix, opportunities for reduction are lower. As with energy, the Brazilian transportation sector is low-carbon in comparison to other countries, due to the widespread use of ethanol. Nevertheless, public transportation policies in cities could reduce emissions by 26 percent by 2030. Combining these with an increased use of ethanol could possibly double these reductions. The waste management sector accounts for the lowest share of Brazilian emis-

sions, 4.7 percent in 2008, but the implementation of adequate policies could reduce sector emissions by up to 80 percent by 2030, a volume comparable to Paraguay’s entire emissions.

“The sum of all the necessary investments for each sector and the collateral effects on the rest of the economy would counterbalance the potential negative effects and even promote growth and job creation,” added Makhtar Diop. “As an investment, the low carbon scenario generates profits in three ways: economic growth, long term environmental sustainability and global benefits.”

The Brazil Low Carbon Study is part of a series of analytical works on low carbon development scenarios for several countries. The World Bank recently published the Global Development Report on Climate Change and the Latin America and the Caribbean Report on Low Carbon Development [BET](#)

***“A new land use dynamic in Brazil would reduce deforestation by up to 68% by 2030, compared to the reference scenario estimated for that same year”***

## SUMMER (OR WINTER): IT'S TIME TO TRAVEL...

By Jivago Ximenes and  
Tito Cordella

Nowadays, Miami and New York speak Portuguese, and so does Paris, as did South Africa, at least for half of the World Cup. The press is not alone in reporting on this new trend. According to the Central Bank's July 2010 External Sector Report, Brazilian tourists' expenditure abroad exceeded Brazil's revenues from foreign tourists on month by month, semester, and 12-month basis; and the tourism accounts in the balance of payments posted the worst result in recorded history (since 1947).

Disposable income, due to the good performance of the Brazilian economy, partly explains this travel boom, but exchange rate considerations also play a major role. More precisely, if the financial sector is "shortening" the strong *real* by accumulating dollar positions, as recently reported by the Central Bank, families may be "shortening" the currency by travelling. In plain English, Brazilians are taking advantage of the strong *real* (which may last or not) to travel abroad.

This (travel time) piece tries to quantify how the demand for travel reacts to exchange rate fluctuations and GDP growth in a number of Latin American countries, including Brazil, and compare it with the

behavior of imported goods. Doing so, we try to assess which countries are *travelophilic* and which are *importophilic*, depending on their willingness to visit new places or to consume highly taxed imported goods at home.

To start with, we test a very simple (dynamic panel) model to explain quarterly travel expenditures and total imports in Argentina, Brazil, Chile, Colombia, Mexico and Peru as a function of the exchange rate and GDP growth (and other control variables and fixed effects). Our main result is that the effect of (a con-

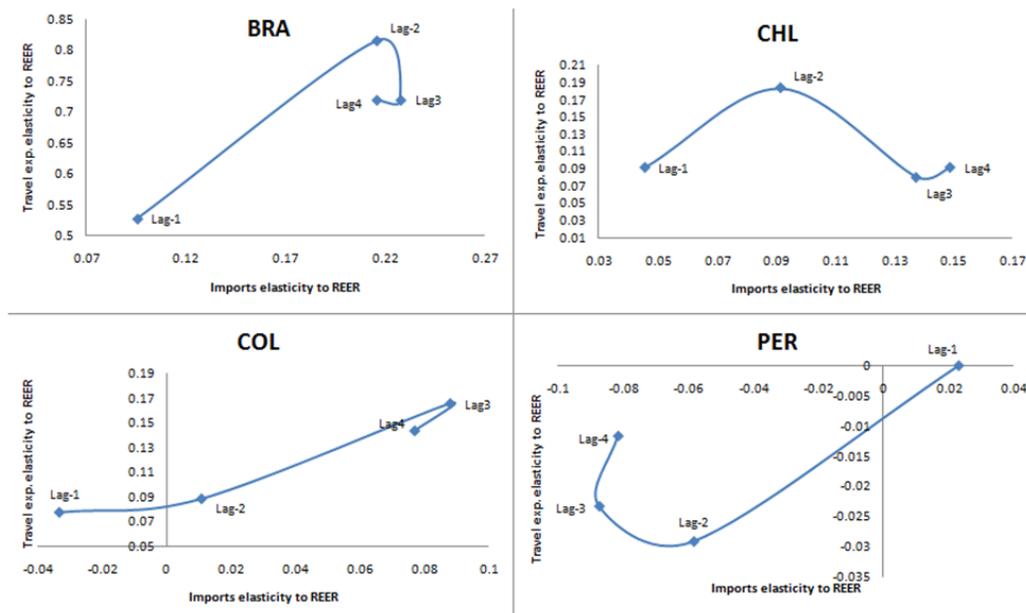
temporaneous) shock on the real effective exchange rate (REER) or GDP growth on travel expenditures is almost twice that on imported goods<sup>1</sup> (see table below). More simply, the analysis suggests that, in Latin America, positive term of trade shocks or growth spurs increase the traffic to airports more than the traffic to shopping malls. This means that, on average, Latin Americans are *travelophilic*. The next question is to look beyond the mean and see which countries like to travel more. Thus, we performed Vector Autoregressive

*"We assess which countries are travelophilic and which are importophilic, depending on their willingness to visit new places or to consume highly taxed imported goods at home."*

	Travels $t$	Imports $t$
Travels $t-4$	0.82 (0.084)***	-
Reer $t$	0.93 (0.339)**	-
Reer $t-1$	-0.464 (0.103)***	-
Reer $t-2$		0.49 (0.128)**
Growth $t$	2.984 (0.905)**	0.329 (0.73)
Growth $t-1$	3.186 (1.120)**	2.652 (1.153)*
World trade $t$		0.766 (0.072)***
Observations	292	304
Number of countries	6	6
R-squared	0.76	0.77

Robust standard errors in parenthesis. \*, \*\*, \*\*\* mean significance at 10 percent, 5 percent and 1 percent respectively

Figure 1—Cumulated elasticity of travel expenditures and imports due to REER positive shock in  $t=0$



Model (VARM) models for six Latin American countries (Argentina, Brazil, Chile, Colombia, Mexico and Peru) and analyzed the impulse responses from a REER positive 1-standard deviation shock onto travel expenditures and imports.

Overall, our Latin American countries show a similar behavior. In Figure 1 above, we plot cumulated travel expenditures and import elasticity, both with respect to REER<sup>2</sup>. With the notable exception of Peru, all the countries in the sample show a higher elasticity in travel expenditures than in im-

ports, in the two quarters following an exchange rate appreciation. That is, a strong currency induces people to travel more than to consume imported goods.

Interestingly, Brazilians have the strongest response on travel expenditures *vis-à-vis* the change on imports than any of the other Latin American countries in the sample. More precisely, in the first two quarters after a positive 1 percent exchange rate shock, Brazilians spend 0.82 percent more in travel, while imports increase only by 0.22 percent.

Summing up, our econometric analysis confirms the anecdotal evidence that within a continent of *travelophiliacs* (with the exception of Peru) Brazilians are the ones that like to travel the most. Maybe this is no big surprise but we all know that economic analysis sometime just states in a formal what laymen already know **BET**

1. In our model, what drives travelers' decision to travel is the contemporaneous exchange rate ( $Reer_t$ ) while for importers we assumed that the lagged exchange rate ( $Reer_{t-2}$ ) is what matters, given supply constraints.

*“Brazilians have the strongest response on travel expenditures vis-à-vis the change on imports than any of the other Latin American countries in the sample”*



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## EDITORIAL

(CONTINUED FROM PAGE 1)

creases. The answer may shed new light on whether CCT benefits can be used as crisis management instruments. Her main finding is that while the increase in *Bolsa Família*'s benefits helped the extremely poor, it did not end up having a significant effect on aggregate measures of poverty and inequality.

Against common claims that the program may disincentive work, Guilherme Lichand provides some convincing evidence that *Bolsa Família* may foster entrepreneurship. The savings channel is another dimension cash transfers may foster long term growth. Romero Rocha sifts through IBGE's data to shed new light on how the recent pro-poor growth trend may have helped increase the country's propensity to save.

The savings-investment nexus will be critical for increasing Brazil's long term growth prospects. Indeed, major infrastructure challenges lie on the road ahead for Brazil. In the space of six years, the country will host both the World Cup and the Olympic Games. This will demand massive investments with substantial development impacts. In an exclusive interview, the head of the Economic Research Department of Brazil's National Development Bank (BNDES), Fernando Pimentel Puga, explains how the country's long term credit market needs to adapt to meet these challenges, and how BNDES helped push Brazil through the crisis.

On the investment side, nothing is as big in Brazil as the challenge of becoming a major oil producer. Marcio Gold Firmo looks into how the huge oil discoveries known as the "Pre-Sal" will impact on the Brazilian economy. Averting the risk of an "oil curse" will be intimately linked to how the windfall is managed. Tarsila Velloso brings us up to speed about an important review of public investment management, which identified possible paths for increased efficiency.

A consensus is rising in Brazil that to be economically sustainable, long term growth should also be environmental sustainable. The landmark "Brazil Low Carbon Country Case Study" reveals that Brazil could reduce its greenhouse gas emissions by up to 37 percent by 2030 while maintaining its development goals and without negatively affecting growth or jobs. The report, coordinated by Christophe de Gouvello, is already helping mold Brazilian policy all the way up to the Finance Ministry.

Finally, in a lighter "travel time piece" Tito Cordella and Jivago Ximenes asked themselves what good is a highly valued currency: shop till you drop or see the world? As many in Brazil wrap up their winter break, the latest Central Bank data hints that they may be doing both, but how much so, and how do Brazilians compare with their neighbors? Enjoy your reading!

Makhtar Diop  
Brazil Country Director

## IN THE LOOP

### Some of the quarter's noteworthy events

#### Events

- **Brazil BBL: "The Effects of CCTs on Entrepreneurship"** with Guilherme Lichand—August 11
- **Judicial Transparency and Accountability Regional Conference** - August 4
- **Brazil BBL: "Violence in the City:"** with Alexandre Marc and Erik Alda—July 22
- **Brazil Low Carbon Seminar** - June 17
- **Brazil BBL: "The Political Economy of Investment in Pre-Primary Education"** with Katrina Kosec—June 14
- **2<sup>nd</sup> Rio Human Development** - June 1-3
- **Sustainable Cities Seminar** - June 8
- **Africa-Brazil Ministers of Agriculture Conference** - May 10-12
- **Local Development and Impact Assessment Seminar** - May 9 - 11
- **IBSA Editors Forum**—April 15-16
- **XII Workshop in International Economics and Finance** - April 8-10

#### Projects Approved

- **Rio de Janeiro Municipality Fiscal Consolidation for Efficiency and Growth DPL**—\$1.045 billion
- **Eletrobrás Distribution Rehabilitation**—\$ 495 million
- **São Paulo Sustainable Rural Development and Access to Markets**—\$ 78 million
- **AIDS-SUS** —\$ 67 million
- **Sustainable Cerrado Initiative: Goiás Sustainable Cerrado & ICMBio Cerrado Biodiversity Protection Project (GEF)**—\$ 6 million
- **Mato Grosso do Sul State Road Transport Project**—\$ 300 million
- **São Paulo Water Recovery Project - REÁGUA**—\$ 64.5 million
- **São Paulo Metro Line 4 (Phase 2)**—\$ 130 million
- **São Paulo Metro Line 5 Project**—\$ 650.4 million