

Country Report

Economic Research Department

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Economy

ECONOMIC STRUCTURE

Brazil, together with Russia, India and China, is part of the BRIC group, a term coined in recent years with reference to the developing economies which would potentially be among the largest economies in the world in 2050. Even if the inclusion of Brazil raised some doubts for some time, the most recent evolution of the country seems to have strengthened the opinion that Brazil is definitely part of this group.

The Brazilian GDP per capita in 2007 reached almost USD 7.000, over three times the average income per capita of the other BRICs and 7% over the average of other Latin American countries. The GDP in Brazil amounts to USD 1.314 billions, accounting for 41% of the Latin American GDP. Its population represents 40% of the total population of the region and its territory, 44% of the territory of Latin America. Compared to the BRICs, the Brazilian GDP accounts for 24% of the aggregate GDP of Russia, India and China together, 7% of the total population and practically 30% of the territory. Compared to Mexico, the Brazilian GDP is slightly higher. However, the Brazilian GDP per capita is 18% lower than the Mexican.

From an institutional point of view, the Human Development Indicators (HDI) and the democracy indicators place this country at levels comparable to those of Mexico and the average levels of Latin America, and well above the other BRICs.

Brazil Compared to the BRICs and Latin American Countries

	GDP per capita (USD)	GDP (USD billion)	Population (million)	Size (million km ²)	HDI (0 to 1)	Democracy Index (0 to 10)
Brazil	6,952	1,314	189	8,459	0.80	7.4
Russia	9,085	1,290	142	16,381	0.80	5.0
India	973	1,099	1,130	2,973	0.62	7.7
China	2,463	3,251	1,320	9,326	0.78	3.0
Mexico	8,505	893	105	1,909	0.83	6.7
BRIC *	2,176	5,640	2,592	28,681	0.73	5.2
LATAM *	6,507	1,926	296	10,599	0.80	6.5

Source: IMF, World Bank, UN and The Economist

* It does not include Brazil. For the Democracy Index and the HDI, the statistics presented are simple averages. LATAM includes Argentina, Bolivia, Chile, Colombia, Ecuador, Mexico, Paraguay, Peru, Uruguay and Venezuela. For the HDI and the Democracy Index, the higher the indicators, the more developed the country.

Economic Growth Driving Forces

In the 1930-1980 period, the Brazilian economy was one of the most dynamic economies at a global level. In this period, the Brazilian GDP per capita grew at a rate of 6.4% yearly. The increase in workforce and total productivity of factors (TFP) had a positive influence, but the main factor explaining this evolution was the accumulation of fixed capital, which could be compared to the current growth of China and India.

However, in the 1970s a growing inflation phenomenon started, first at two digits and then at 3 digits, causing serious unbalances, which were more clearly evidenced from 1981, when a period of stagnation and high inflation started (the lost decade). This only changed with the launch in 1994 of the economic stabilisation plan, known as the "Plano Real". This plan established the grounds for a higher economic stability and a recovery of higher growth rates, even if much lower than those of the times of the so-called "Brazilian miracle".

Since 1994 up to nowadays, the TFP has become again a main component of the country's growth, which enabled the Brazilian economy to grow at an average rate of 3.1% between 1994 and 2000, and 3.3 % between 2001 and 2007. Current growth stayed at 5.4% in 2007.

Breakdown of GDP Growth

Period	GDP Growth (1)+(2)+(3)	Breakdown of GDP Growth		
		Capital (1)	Labour (2)	TFP (3)
1931-50	5.1	1.6 to 2.7	0.9 to 1.3	1.6 to 2.3
1951-63	6.9	2.6 to 4.3	1.4 to 2.0	1.1 to 2.3
1964-80	7.8	2.7 to 4.5	1.6 to 2.3	1.7 to 2.8
1981-93	1.6	0.8 to 1.3	1.1 to 1.5	-0.7 to 0.65
1994-00	3.1	0.7 to 1.2	-0.25 to -0.2	2.1 to 2.6

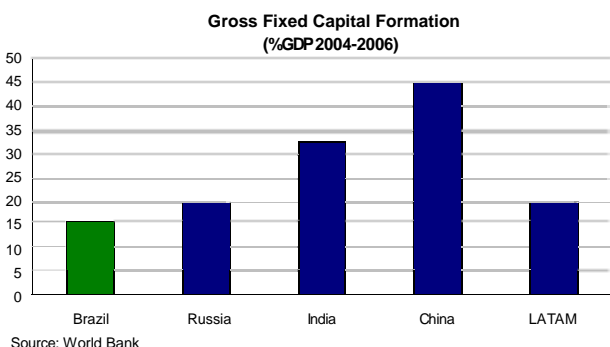
Source: "Lost Agenda" article, organised by Marcos Lisboa in 2002.

The recent good performance of the Brazilian economy is a result of the reliance on orthodox economic policies, mostly focused on a tight monetary and fiscal control. Since 1999, the country has adopted an inflation target system and a flexible exchange rate as foundations of its economic policy.

In general, the potential growth of the Brazilian economy is estimated between 4.5% and 5%, very close to the growth rates of the GDP foreseen for the years to come. Some recent studies indicate that the potential GDP could be over these levels due to recent changes in the Brazilian economy.

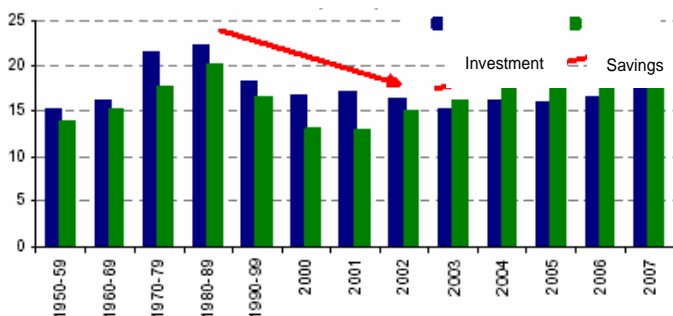
Capital Factor

The investment ratio as a proportion of the GDP in Brazil is at low levels (17.6% in 2007), both from a historical viewpoint (around 22% in the 1970s and 1980s) and as regards other countries (20% in Russia, 33% in India, 44% in China, 22% in Argentina, 22% in Mexico).



A first determining factor of the low investment levels is the low rate of savings and, more precisely, public savings. Total domestic savings in proportion to the GDP observed in 2007 were slightly below 18%. Public savings reached 2.5% of the GDP, in the 1951-63 period; 3.6% between 1964-80; -1.5% between 1964-80 and -5.4% between 1994-00. Recently, public savings showed some improvement: -0.5% in 2006 and 0.5% in 2007, which explains in part the moderate increase in the savings rate and, indirectly, in the investment rate.

Investment and Savings (% GDP)



Source: IPEADATA

Reduced public savings are a result of a high rigidity of current public spending (such as payroll and pensions) and results in a very low public investment rate.

Other elements behind low investment are: i) lack of national planning related to both political factors and weak qualification of the bodies in charge of them; ii) the

lack or weakness of a legal framework capable of offering legal safety to the investment and a taxing system that does not foster investments; iii) macroeconomic instability present in three decades generated distortion in the prices of assets and in the financing conditions such as high capital costs and scarce development of capital markets until recently.

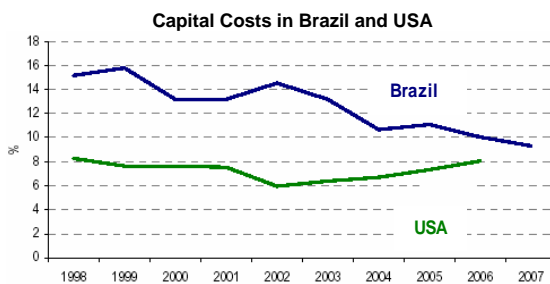
In any case, in recent years, there have been changes in this scenario, which has been fostering investment in new projects. These changes are related to each one of the factors mentioned above. First, deficit and public debt are decreasing and creating more opportunities for expenses in investments (see section on fiscal situation below).

Even if it is not foreseeable that the government may have a main role in the increase of investment through public projects, it is expected to contribute by offering the grounds for the legal framework to be more favourable for private investment through infrastructure concessions. The federal government is organising and coordinating investment efforts through the PAC "Programa de Aceleração do Crescimento" (see chart on this issue).

With regard to the legal framework, throughout the last decade, the federal government has been generating a new legal framework to foster private investment even if there are still many areas offering a dissatisfactory regulatory environment. Telecommunications and electrical energy sectors seem to be the most benefited by the regulatory advances made, with certain stability and less uncertainty. On the other hand, the weakness of the legal framework is evident in the sanitation and transportation sectors.

Finally, but probably more importantly, macroeconomic stability is creating a more favourable environment

for investments. Until recently, risks related to macroeconomic instability and high interest rates inhibited investments. More recently, macroeconomic stability, the reduction in the capital cost and the growing interest of foreign investors should encourage the financing role of the capital markets (see section on financial market below).



Source: "O Investimento em Infra-Estrutura no Brasil: historico recente e perspectivas," Claudio Frischtak.

The Programa de Aceleracao do Crescimento

The *Programa de Aceleracao do Crescimento* (Growth Acceleration Program), known as PAC, is a program that was approved in early 2007, whose main purpose is to maintain growth levels in the Brazilian economy at an average of 5% for the 2007-2010 period. The program includes a set of investments amounting to USD 240 billions, focused on the infrastructure area. Over half of resources are destined to investments in the energy sector (in projects such as the development of new oil fields and new refineries and gas pipelines). About 34% is allotted to social infrastructure projects (such as that of universalisation of electrical energy and sanitation). Finally, about 11% of total investments are destined to the transportation sector (in projects like renovation of the main national roads and the development of the urban underground system in four state capitals).

90% of planned investments in the PAC were already included in the state companies' investment plans at the time the PAC was announced. The remaining 10% are investments for additional projects to be developed by the public sector with the participation of the private sector. The participation of private companies is encouraged through fiscal incentives and through the association of private and public capital. This association is known as *Programa de Parcerias Publico – Privado*, PPP, and is characterised by a concession contract of public services to the private sector through which the public sector contributes with funds to the private company.

Since it includes basically already existing projects and since it does not deal with the main issues limiting investments in the country (lack of public resources due to high expenditure of the government on areas such as social security and wages, as well as lack of incentives to private investment), the PAC is considered as insufficient to raise the growth of the Brazilian economy in sustained ways.

Within investment needs, infrastructure is probably the most critical one. In Brazil, this kind of investment has shown a growing trend in recent years but is still slightly above 2% of the GDP, a level considered as insufficient to maintain the existing capital stock. It is estimated that the infrastructure investment/GDP ratio should increase up to just 3% so as to maintain existing capital and up to 5% in sustained ways for 20 years to match developed economies.

Investment in Infrastructure (%GDP)

	2003	2004	2005	2006	2007-2010*
Infrastructure Investment	1.60	1.85	2.05	2.05	2.18
Public	0.72	0.75	0.89	1.04	-
Private	0.88	1.10	1.16	1.01	-
Electricity	0.58	0.52	0.59	0.70	0.82
Communications	0.47	0.69	0.66	0.53	0.55
Road Transportation	0.21	0.26	0.29	0.36	0.31
Railway Transportation	0.07	0.10	0.15	0.11	0.10
Airports	0.03	0.03	0.03	0.04	0.03
Ports	0.01	0.02	0.02	0.02	0.02
Water ways	0.003	0.004	0.002	0.001	0.007
Sanitation	0.22	0.23	0.30	0.29	0.35

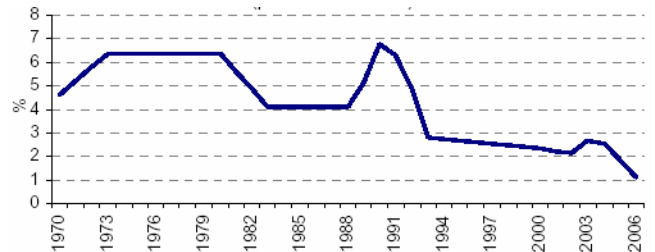
Source: "O Investimento em Infra-Estrutura no Brasil: historico recente e perspectivas," Claudio Frischtak (2007).

* Forecasts

Labour Factor

The economically active population in Brazil stopped growing at high rates. Currently, its growth rate is around 1% yearly, vis-à-vis higher rates of 6% in the 1970s.

Growth Rate of Economically Active Population (3 years average)



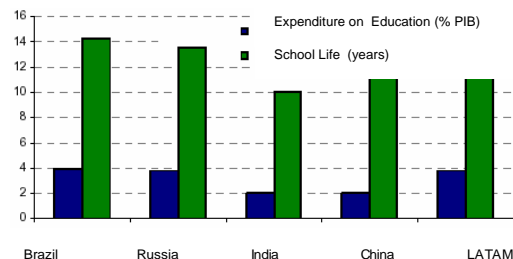
Source: IPEADATA

The country has overcome the stage when economic growth was mainly based on the supply of cheap labour and the urbanisation of society. Since then, the participation of the labour factor in the GDP growth has had to be based on the accumulation of human capital.

The expenditure on education in the country amounts to 4% of the GDP, almost the double of the other BRICs and above the average of LATAM (even if still below Mexico, 5.5% and Colombia, 4.7%). Expenditure on education in Brazil is focused on the (inefficient) college education. This contrasts with the successful experience of other countries that relied on basic education to develop the educational system (such as Asian countries, especially South Korea).

The educational expectation of a child starting his/her formal educational process in Brazil (school life expectation) is 14.2 years, again over that of other BRICs and the average in Latin America¹.

Compared Educational Indicators (2006)

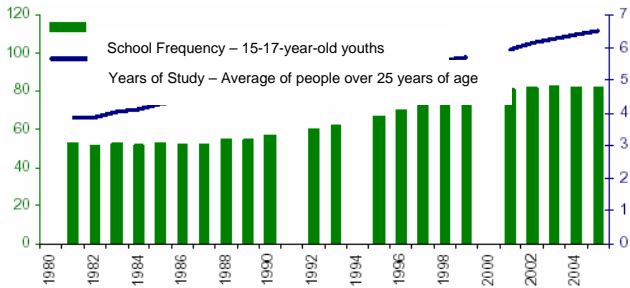


Source: World Bank

¹ From the point of view of the worker, any additional year of school increases the salary by 9%. From a macro perspective, evidences indicate that any additional year of school increases the national income by 6% (considering, as in the case of Brazil, that the share of salaries in the national income is 2/3).

The schooling level in Brazil, measured by the share of school-goers among youth of 15 to 17 years old and by the average of years of study for people over 25 years old, is progressing remarkably. The first one moved from 52.4% in 1981 to 81.7% in 2005 and the second one increased from 3.8 years to 6.5 years in the same period.

Indicators of Education Evolution



Source: IPEADATA

Nevertheless, according to other indicators, the valuation of advances in educational terms is less favourable, as it is indicated by the analysis presented in the section on Labour Market.

One of the unsolved issues of the country is the promotion of a set of laws and institutions that will make the labour market more dynamic and competitive. Particularly, a labour reform should reduce the unit cost of labour, increase labour mobility, discourage informality and decrease frictional unemployment.

Total Factors Productivity

According to the World Bank, Brazil occupies a middle position in the indicators related to the TFP and the business environment.

	Brazil	Russia	India	China	Argentina	Chile	Mexico
Government Efficiency (percentile)	52	38	54	55	49	88	61
Regulatory Quality (percentile)	54	34	48	46	23	92	63
Role of Law (percentile)	41	19	57	45	36	88	40
Control of Corruption (percentile)	47	24	53	38	41	90	47

Source: World Bank

Brazil is 72nd in a ranking measuring Global Competitiveness in 131 countries. The country is well-positioned, for example, in issues related to the sophistication of the financial market, innovation capacity, level of local competition and anti-trust policies. On the other hand, the country is in clear disadvantage in issues related to proceedings to open a business, non-financial labour costs, tax system regulation and efficiency, among others.

In any case, the country must envisage reforms in order to correct structural problems. Among the main reforms are the tax reform, the reform of the labour market, the social security reform and the judicial reform.

**Compared Indicators – Distribution Percentile (2006)
Selected Indicators**

Ranking of a sample of 131 countries – 2006

	Ranking
Global competitiveness index	72
Financial market sophistication	31
Innovation capacity	36
Domestic availability of specialised workforce	45
Fierceness of local competition	45
Protection of interests of minority shareholders	46
Efficiency of anti-trust policies	47
Protection of property rights	70
Employment rigidity	73
Venture capital availability	103
Legal environment efficiency	105
Non-salary work costs	119
Number of documents needed to open a business	121
Time needed to open a business	123
Costs of government regulations	128
Scope and effects of taxes	131

Source: World Bank

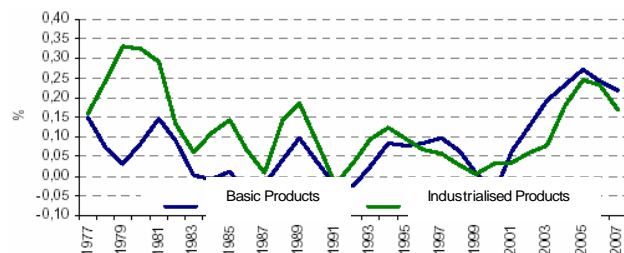
Regarding the judicial system, the need to create a new environment to guarantee the compliance with the contracts and the law is perceived. Besides, a judicial reform should de-politicise courts and reduce the procedural time of lawsuits.

ECONOMIC TRANSFORMATION

The productive structure of the Brazilian economy has changed sharply in the latest decades. In 1947, the share of the agricultural sector in the GDP was 21.4%. Thirty years later, this share turned to 13.7% and it is currently at 5.5%. This transformation is the result of industrialisation and urban development projects that the Brazilian society has undergone in the latest decades.

The transformation of the productive base had an impact on the exporting grid.

Growth Rate of Exports: Basic and Industrialised Products
(3 years average)



Source: IPEADATA

In 1974, basic products accounted for 59% of total exports. In 1996, this share was 25%, and it started to recover as from 1997, due to the increase in prices. Currently basic products reach 33% of total.

Regarding industrialised products, exports of capital assets went from 5% of total exports in 1977 to 12% in 2007. The shares of durable and non-durable products remained at 4.5% and 17-18% respectively in the last 30 years. Exports of fuel, practically inexistent in 1977, amounted to 13% in 2007.

As regards oil, the country reduced its reliance on imports practically to zero after years of investments in the sector. The recent findings of oil may turn the country into a major exporter of crude oil (see section on Energy for more details on bio-fuels and oil).

MONETARY, FISCAL AND EXCHANGE POLICIES

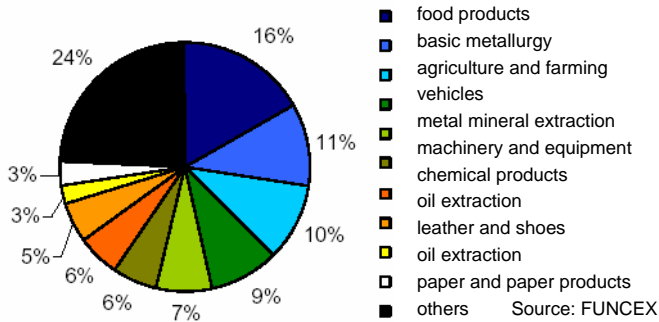
Monetary Policy

The increase in prices registered in the country as from 2007 is related to the rise in international prices of raw materials and to the pressures from strong domestic demand. The inflation forecast for late 2008 has increased up to 6%. Since the upper limit of the target set by the Central Bank is 6.5%, the Central Bank has raised rates (that had fallen steadily since May 2005) from 11.25% to 12.25%. This cycle of monetary restriction is expected to continue for the rest of 2008; therefore, the SELIC rate could reach 14.25 towards the end of the year. Besides the commitment of the Central Bank, President Lula has remarked in several occasions that stability of prices is a basic achievement of the Brazilian society and that its maintenance is the main objective of the Brazilian economic policy.

Exchange and Foreign Sector

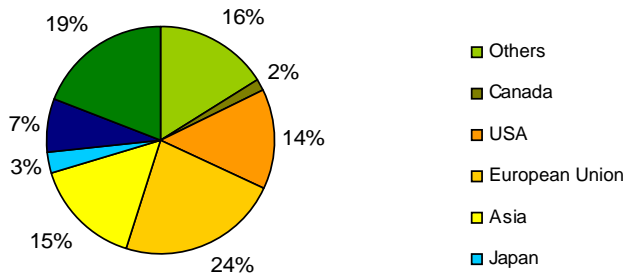
Besides the tight price control, the other pillar of the Brazilian economic policy has been the flexibility of the exchange rate, established in 1999 to replace the controlled exchange rate in which the currency movements were limited by a range defined by the government (at that time the Real was artificially maintained appreciated as a way to control inflation).

Exports – Products – April 2008



The main Brazilian exports, per sector, are food products and beverages (17% of the total), basic metal products (11%), agriculture and farming (10%), automotive vehicles (9%), metal mineral extraction (7%) and machinery and equipment (6%), chemical products (6%) and oil extraction (5%).

Exports – Destination – 2007

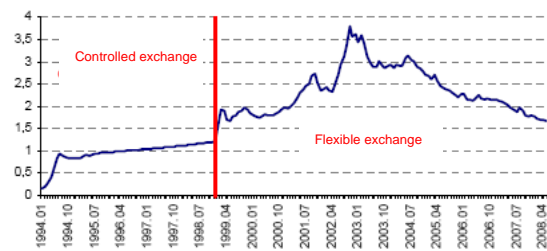


As per existing studies, Brazil's competitive advantages are related to the abundance of capital, land and non-qualified workforce.

The country has competitive advantages in the production of many agricultural products and, therefore, may gain an advantage from the current increase in prices of raw materials. Besides, Brazil still has a great amount of available lands which are not utilised (or sub-utilised).

The country has a very important competitive advantage in the production of ethanol from the sugar cane. Brazil is the second world manufacturer (after USA) and the largest exporter.

Nominal Exchange Real x Dollar

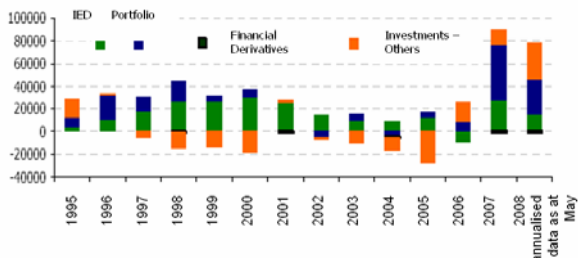


Source: IPEADATA

The average nominal exchange rate in May was 1.66 Real per Dollar, the lowest level since the beginning of exchange flexibility in January 1999. According to forecasts by some analysts, the current exchange rate would be over-valued by about 10% with regard to its balance level. In actual terms, the exchange presents values that are only comparable to those before its flexibilisation in 1999.

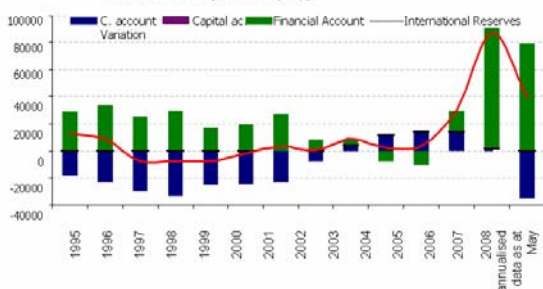
Regarding the foreign accounts, between 2003 and 2006 there were positive results in the current account, thanks to the important growth of exports. As from 2006, and above all in 2007, the arrival of the IED has allowed for a very important increase in the financial account.

Composition of the financial account (M\$)



Source: IPEADATA

Balance of Payments (M\$)



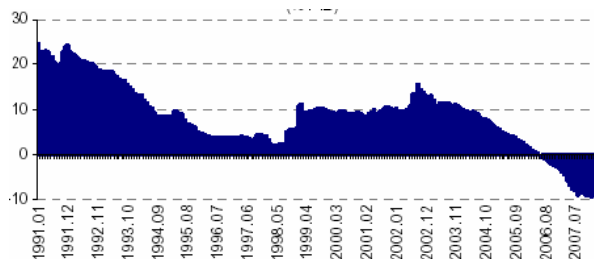
Source: IPEADATA

The perspectives for the years to come indicate that the appreciation of the exchange rate and the recent deceleration of global growth foresee a current account deficit for 2008 and 2009 (of 1.2% and 1.8% of the GDP respectively). In any case, the deficit funding should not be a problem, since until May 2008 foreign investments have remained at high levels, allowing for a joint balance in capital and financial accounts of USD 33 billions, well above the current account deficit accumulated in the period (USD 15 billions).

The optimism existing as regards the Brazilian economy reduces the risks associated to the financing of the current account deficit in a scenario in which the foreign crisis worsens.

The Brazilian foreign debt has evolved very positively in recent years. After the strong accumulation of international reserves, the net foreign debt has been annulled.

Net Foreign Debt – Public Sector (% GDP)



Source: IPEADATA

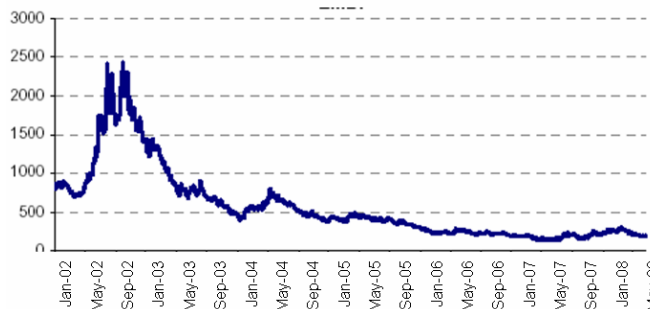
International Reserves (million USD)



Source: IPEADATA

In addition to the new economic scenario in the country, it is noteworthy that the risk measured by the EMBI index has fallen significantly and in a sustained manner since 2002.

EMBI



Source: Datastream

The optimistic climate regarding the Brazilian economy and its effects over the financing of recent current account deficits will be fostered by the achievement of Investment-Grade status given to Brazil on April 30th and May 29th by Standard & Poor's and Fitch respectively. According to Standard & Poor's, Brazil's improvement is due to the "maturity of Brazilian institutions and its policies as it can be observed through improvements in fiscal and foreign deficits and higher growth perspectives."

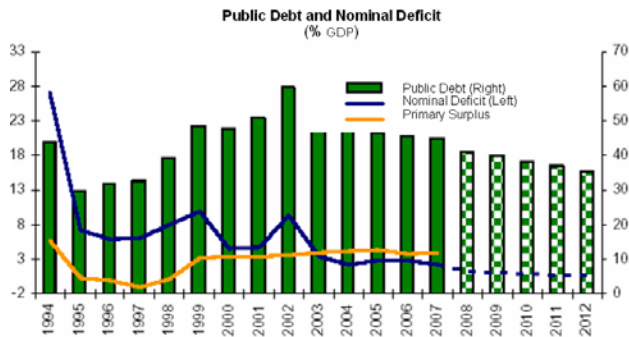
The debt re-classification is not just an acknowledgement of the country's recent efforts and a support to its economic policies (and the political actors responsible for them), it can also serve as a support for current policies, since a change of direction of economic policies leading to the loss of the investment grade would imply very high costs.

Fiscal Policy

The Brazilian economy has suffered an important fiscal adjustment since the start of the *Plan Real* in 1994. Throughout these years, both the fiscal deficit and the public debt have been reduced markedly.

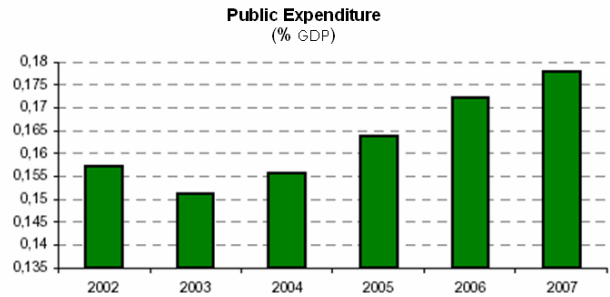
In 1995, one year after the start of the *Plan Real*, Brazil showed a nominal deficit of 7.3% of the GDP. In 2008, the nominal deficit is at 2.2%, and it is expected to continue to slow down until a zero balance towards 2012.

Primary deficit (excluding interest payments) has also presented a positive trend in recent years, going from almost zero levels in 1995-1998 to approximately a surplus of 4% at present. For 2008, the government's goal of primary surplus is 3.8% of the GDP. This level could increase to 4.3% if the creation of a fund with additional resources is confirmed, intended to reduce domestic demand and current pressures on prices.



Now, the correction of the public deficit is explained almost completely by the reduction of interest payments and the increase in taxes. However, interest payments remain high (about 6% of the GDP), which explains the co-existence of a nominal deficit and a primary surplus. In turn, revenues have been favoured by a scenario of growth in an economy with the highest tax burden in Latin America (about 40% of the GDP).

Public expenditure is characterised by an upward trend. In 2002, primary expenses accounted for 15.7% of the GDP, vis-à-vis a 16.8% in 2007. A breakdown of expenses shows public officials' salaries as the element taking the most out of the public treasury, accounting for about 5.1% of the GDP.



Source: IFEA, DATA

The reduction of the public expenditure is one of the biggest challenges faced by the Brazilian economy.

Despite the high expenditure, fiscal results accumulated by the public sector have fostered a remarkable decrease of the State debt. Since 2002, the public debt has shown a downward trend: it has moved from 60% of the GDP in 2002 to 45% in 2007. And, as per current forecasts, it will fall to 35% in 2012.

Public Expenditure and Tax Reform

The main taxing problem in Brazil is the size of the tax burden, currently estimated at 40% of the GDP. This tax pressure is necessary due to the high expenditure of the government. Therefore, a lower tax burden requires a reduction of expenditure. This situation puts the tax and the social security systems as main focus of any reform.

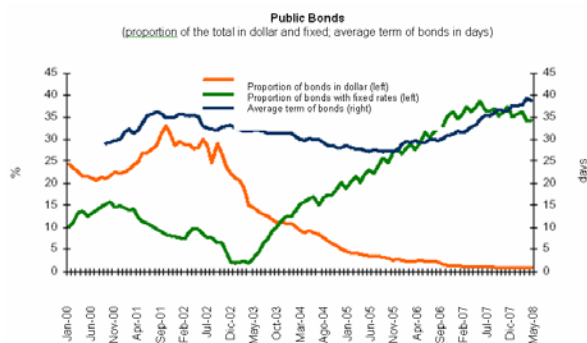
As regards the tax reform, besides reducing the tax burden, it is important to simplify the bureaucratic process and reduce distortions that favour informality and discourage private investments and exports.

Recently, the government has created certain incentives for investments and exports, but these changes must be followed by larger reforms.

Regarding social security, a reform is needed to reduce the social benefits of public and private workers. The deficit of current social security is about 4% of the GDP. To this end, it is necessary to increase retirement age and separate the benefits of social security from the minimum wage. Finally, the reform should foster private contributions to pension plans as a way to encourage private savings.

The public debt profile has also improved as regards the terms and conditions of bonds issued by the government. In 2005, the average term of the public debt was 27 days.

Currently, it is 39 days. Likewise, the proportion of indexed bonds to the dollar has practically vanished, after accounting for 30% in 2001. In parallel, fixed-rate bonds amount to 35% of the total in 2008, compared to levels lower than 10% in 2002.

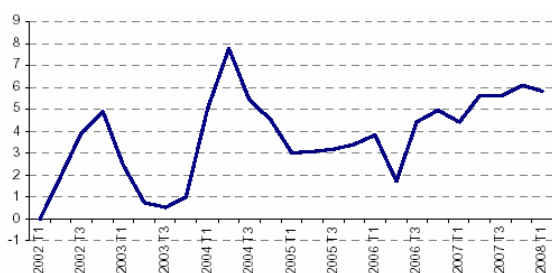


CURRENT GROWTH AND SHORT-TERM PERSPECTIVES

The Brazilian economy has been growing at a pace of over 3% yearly since 2003. In 2007, the actual GDP grew by 5.4% and the growth has continued to be strong in 2008 despite the international crisis.

The current economic expansion is being sustained by domestic demand. Domestic consumption grew by 6.5% in 2007 and over 40% since 2000. On the other hand, as it has been mentioned above, the investment also shows a favourable trend with growth rates of 13.7% vis-à-vis the previous year.

Annual GDP Growth Rate



Source: IPEADATA

Perspectives for 2008 and 2009 aim at a growth of about 4.5%.

These growth forecasts could, however, be downward revised due to three factors. In the foreign arena, the intensification of financial turbulences as well as a correction in the price of raw materials would lead to lower growth rates. In the domestic arena, the upward trend of inflation becomes the main risk for growth. The adoption of a more aggressive monetary policy by the central bank to restrain inflationary pressures could cause a more intense adjustment.

CHALLENGES, RISKS AND OPPORTUNITIES

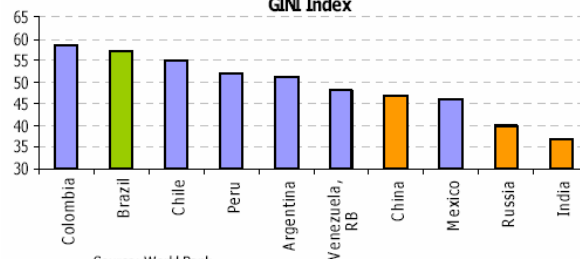
Challenges

Economic Reforms: The main challenge of the Brazilian economy is to conduct structural changes needed to consolidate and deepen the current good perspectives towards economic growth. The reform agenda in Brazil should include the reduction of current public expenditure (especially that related to the salaries of officials and the social security system); a flexibilisation of the labour market, a modernisation of the judicial and tax system and improvements in the regulatory legal framework of the investments of the private sector, as well as a higher quality of education. The application of these reforms could increase the potential GDP of Brazil at levels near 6%.

The main risks to take into account, on the other hand, are associated with the no realization of these reforms.

Reduction of Inequalities: Brazil is a country marked by income inequalities, both at individual and at regional levels. As regards the first, Brazil shows higher indexes of income inequality than other Latin American countries, with the exception of Colombia, and clearly above the ones found in the other BRICs.

GINI Index



Source: World Bank

Even if the Gini Index has improved in recent years, the distribution of income is extremely uneven: The total income of the richest 10% is approximately 20 times higher than the total income of the poorest 40%.

Although the program to fight poverty, the “Bolsa Familia” Program, is fostering the reduction of inequality, Brazil must re-structure its social expenditure. A significant part of these expenses are currently related to expenses on social security. This implies that just a part of the population (and not precisely the most needed part) takes a very important share of the social security budget.

As regards regional inequality, there are very clear differences among the five Brazilian regions (South, South-East, Central-West, North and North-East). The per capita income of the South-East region (including Sao Paulo, Rio de Janeiro, Minas Gerais and Espirito Santo) is practically three times higher than in the North-Eastern region and twice higher than that of the Northern region. The per capita GDP of the state of Sao Paulo is approximately four times higher than that of the poorest states (Alagoas and Maranhao, both in the North East).

As regards the Human Development Index, many metropolitan regions located in the South and South East (Sao Paulo, Florianopolis and Porto Alegre) present levels comparable to countries like Portugal, Chile, Hungary, Argentina and Estonia. On the other hand, many metropolitan regions located in the Northern and North Eastern regions show levels similar to those of African countries. As a result of these geographical unbalances, there is a strong migratory flow of persons from the Northern and North Eastern regions to the South Eastern region.

Opportunities

Market Size: Brazil, like the other BRICs, has one of the

highest growth potential markets due to the size of its population and the number of inhabitants that still do not participate in a market economy. Its effective incorporation will rely on the growth rates of the Brazilian economy.

Use of Natural Resources: The recent increase in prices of raw materials and the perspectives that they will remain at high levels generates very favourable expectations for the country, especially if we consider Brazil's competitiveness in bio-diesel or the possibility to become an oil exporting country (see section on Energy).

Risks

Global Crisis and Foreign Financing: Up to now, the Brazilian economy is reacting well before financial turbulences. Despite the inflationary trend, the Brazilian economy is still growing at a high pace. However, a worsening of the current crisis and a greater reduction of international liquidity would affect the Brazilian economy, especially regarding foreign financing. In effect, the country could have more difficulties to finance its recent (and growing) current account deficit.

Stagnation of Economic Reforms: The stagnation or lack of advancement of the reforms could affect the optimistic climate currently lived in the Brazilian economy. The performance of reforms will push the potential Brazilian GDP to levels near 7%. On the other hand, the lack of performance of the changes mentioned above would limit the sustainable growth of the economy towards levels near 4%.



Banking

Financial System

Brazil has one of the largest and most diversified financial systems of Latin America. This intense development has enabled capital markets to become the main source of financing of Brazilian companies, after years of reliance on the public sector or self-financing.

Even if the financial system is dominated by banks, the non-banking activity has also grown significantly. For example, the stock of investment funds in terms of GDP has doubled since the late nineties (it currently accounts for over 40% of the GDP). In turn, its stock exchange is among the most important ones, if not the most important one, of the region. The BOVESPA (Sao Paulo Stock Exchange) Index has recorded an accumulated variation of 400% since 2002. There have occurred very significant increases in the volume traded, ranging from 12.3% of the GDP in 2003 to 46.1% in 2007; or in the number of initial public offerings (IPOs), ranging from 4 in 2002 to 59 in 2007. Everything seems to indicate that the Sao Paulo Stock Exchange will continue to be in the future the main Stock Exchange in Latin America, especially after the announcement in May 2008 of the merger between BOVESPA and the “Bolsa de Mercadorias y Futuros” (BM&F), which made it the third largest stock exchange in the world.

Capital Market

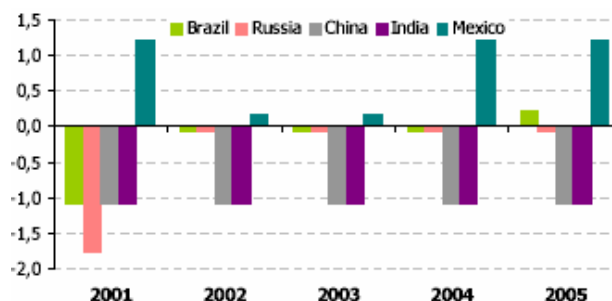
	2002	2003	2004	2005	2006	2007
Total Acquisitions R\$ bi	26.5	12.9	29.3	71.4	125.0	138.5
Primary Offering at CVM*	4	2	7	9	26	59
IBOVESPA/GDP Capitalisation (%)	19.9	29.0	33.0	39.2	50.8	65.8
IBOVESPA / GDP Volume	-	12.3	16.2	19.1	26.7	46.1

Source: "O Investimento em Infra-Estrutura no Brasil: historico recente e perspectivas", Frischtak (2007)

* CVM= Comissão de Valores Mobiliários, IBOVESPA = Sao Paulo Stock Exchange Index

Furthermore, the advances achieved in the last years to reduce the constraints on the free movement of capitals and the improvements in the corporate government guaranteeing the commitment to continue the financial development of the country are remarkable.

Financial Opening*



Source: Chinn and Ito (2007).

The higher levels of the index imply a higher level of opening. The Index is made up of: Multiple exchange rates, restrictions on the current account, capital account and requirements of delivery of proceeds from exports

Banking Sector: Structure

Since the middle of the last decade, the Brazilian financial sector has experienced an intense process of transformation. There are two main changes. On one hand, a consolidation process has reduced the number of banks from 250 in 1996 to 152 in 2007. At present, the five largest banks control about 60% of the total assets of the financial system. The market share of the four main banks is distributed in a relatively even way. The other change, still incipient, has been the loss of importance of public banks. Even so, they maintain a significant weight. In terms of total assets, the two main state-owned banks (Banco do Brasil and Caixa Económica Federal) are first and fourth respectively. But, beyond the percentage of banking assets under their control, the conditions in which some of these public entities operate (government guarantees, subsidies, etc.) have managed to have certain market segments almost exclusively served by these institutions², and limit the capacity of the private initiative to compete in equal conditions.

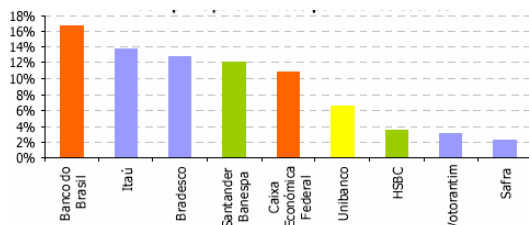
² One of the most evident examples is offered by the mortgage credit, where about 70% of the credits are granted by Caixa Económica Federal (CEF).

The presence and operation of public entities in the Brazilian financial system has adversely affected the efficiency of the sector, due to (among other factors) the fact that the political interference in public banking caused a clear lack of business strategy or higher operating costs. An example of this influence has been the high proportion of directed credit in the system, which reduces available resources for the financing of more profitable transactions and which in the past favoured default rates for public banking well above those of the private banking. Nevertheless, the higher level of professionalism in public banks in recent years has changed this trend, up to the point that today the default rate of public institutions is lower than that of private competitors³.

Banking Sector: The Role of Foreign Banking

On the flip-side of the strong presence of state-owned banks is the low participation of private financial institutions, mainly foreign ones. The re-accommodation of the financial system within the Plan Real of 1994 permitted the entry of foreign capital in a sector marked by a crisis that had left numerous local banks on the brink of collapse. Nevertheless, and despite the higher presence acquired by foreign banks throughout time, its participation is still well below the levels found in most Latin American countries. Today, just two of the ten main banks are foreign (Santander, HSBC).

Brazil main banks per total assets*



* as a % of the assets of the main 50 banks. State-owned banks (red), national private-owned banks (blue), foreign banks (green), national banks with foreign interest (yellow). Source: BCB

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Banking Sector: Recent Evolution

The banking sector in Brazil is typically a profitable system, adequately supplied, though of low efficiency. Regarding profitability, the industry has been favoured by an environment of high interest rates and spreads, mostly as a result of the constant inflationary pressures suffered by the economy, and of a sector-related regulation that made it difficult to acknowledge the rights of creditors.

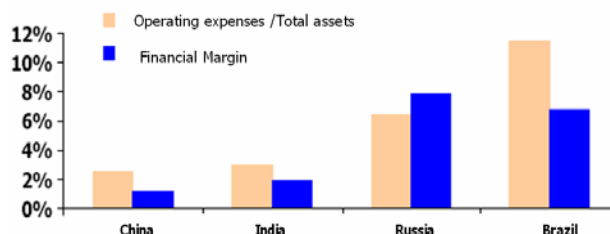
³ By mid-2003, the delinquency rate of public institutions was around 7.5%, against 4.5% of private institutions. By late 2007, rates were 2.5% and 4%, respectively.

These conditions have made it difficult to obtain a deepening of financial markets in the economy. In fact, and despite the growth in recent years, Brazil still shows one of the lowest credit ratios over the GDP in the emerging world and still below the levels reached by the mid-nineties⁴. But, at the same time, the system is one of the most profitable systems, with an average ROA of 2% and ROE of 23%.

The high profitability of the sector has been accompanied by suitable levels of capitalisation. The Brazilian financial system is characterised by being highly provisioned, with a capital ratio adjusted for risk of about 19%. A level higher than 11% required by local authorities and widely above 8% recommended by the BIS.

In the evaluation of the banking industry, the main unsolved issue is efficiency. Brazil shows financial margins and ratios of expenditure over assets that are among the highest among the main emerging markets.

BRICs: Banking Sector Efficiency



Source: IMF

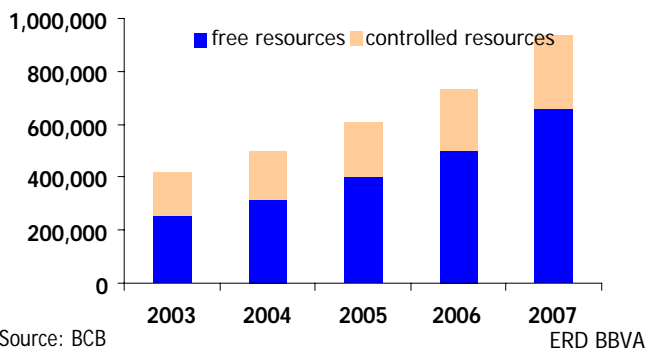
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One of the most noticeable aspects of its evolution has been the growth of credit. Since 2004, a positive macroeconomic environment has been the catalyser for an intense expansion of credit in Brazil. The drastic cut in inflation, whose year-to-year rate went from 17% in May 2003 to 3% in March 2007, allowed for the interest rates to continue this downward trend, from mid-2005, that has continued without interruptions until September 2007⁵. Considering growth, the highest economic movement of recent years has been accompanied by an increase in employment, the improvement of its quality and the decrease of poverty. All these events allowed credit to grow up to yearly rates of 24% since 2005.

⁴ By late 2007, this ratio was at 33% of the GDP.

⁵ During this period, the monetary policy rate of the Central Bank (SELIC) went from 19.75% to 11.25%.

Credit Volume (Billions - Real)



Source: BCB

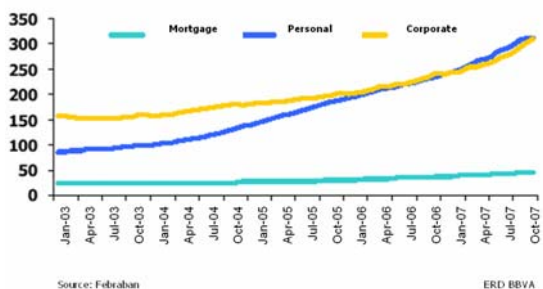
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Several factors define the characteristics of the current expansion. Firstly, it is noteworthy the importance of credit that is independent from controlled credit policies. This kind of operations has suffered a strong acceleration since mid-2007, with a yearly variation of 25%. This raises the proportion of free resource credits up to 71% of the total credit in April 2008, against 55% in 2000.

The recent development of credit in Brazil has turned toward consumption and corporate credit. Consumption credit has shown high growth rates, favoured by new regulations to offer higher guarantees in credit operations. One is the *folha de pagamento*, a type of consumption credit that automatically discounts the loan instalments from the list. These higher guarantees also foster a higher inter-bank competition to serve this market, which occurs with visible lower interest rates compared to similar operations without this type of coverage.

The mortgage credit still has a marginal role, because even if it has grown at very high rates, it does so from a very low basis. Brazil has one of the lowest mortgage credit/GDP ratios in Latin America, of about 2%, while Chile or Mexico surpass the 10%.

Credit Evolution (mM| Real)



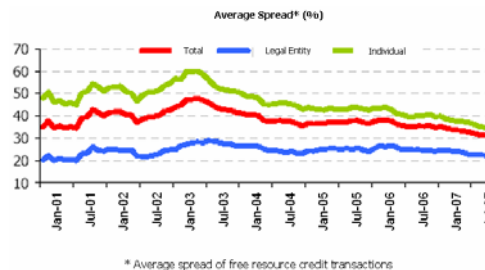
Source: Febraban

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The trends mentioned above take place in a scenario of sovereign spreads that are well above those of international standards. Despite the continuous reduction of the type of intervention of the central bank between 2005 and 2007, average differentials of public debt are about 12% for corporate transactions and at no less than 33% for personal credit.

According to a study by the Central Bank of Brazil, these levels respond mainly to two factors: on the one hand, to a high credit risk, conditioned by an institutional environment that has traditionally hindered the defence of creditors' rights. Recent regulatory changes have facilitated the performance of loan collateral in case of default, but even so, the default interest rate is still at high levels, especially in the consumption credit segment, where it reaches 7%.

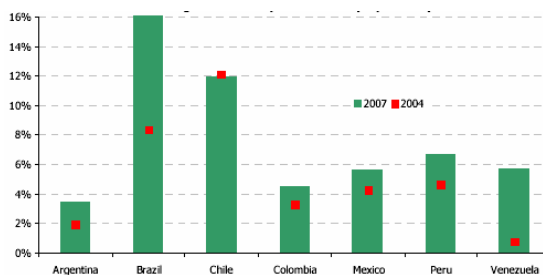
As a second determining factor, there appears the high fiscal pressure borne by the sector, both through direct taxes on its profits and through indirect taxes on financial transactions. Finally, and even if it has not been identified by the previous study, the relative inefficiency of the system is also related to a market where there still are constraints on competition, factors that, indeed, suggest the wide effect that institutional reforms would have on the cut of financial intermediation costs.



* Average spread of free resource credit transactions

One of the most important factors in the current dynamic scenario of credit to families is the evolution of its financial burden. In the case of Brazil, and unlike what has happened in other economies of the region, a significant increase can be observed in recent years despite the decrease in interest rates.

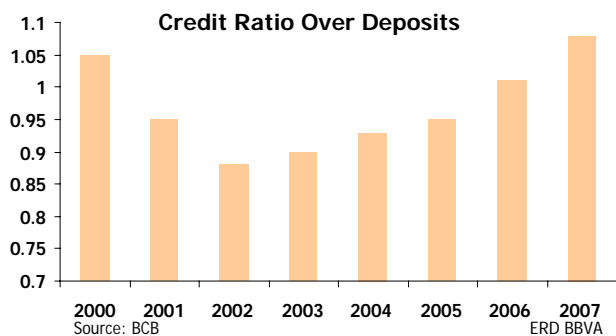
Financial Burden (Consumption and Mortgage Credit)



Research Department

Source: Economic

From the point of view of resources, deposits represent the most important item (42% of the total). However, they lose momentum within the set of system resources, since they are not capable of following the growing pace of credits. Thus, the credit ratio over deposits is currently at the maximum level of the decade.



One of the factors defining the structure of obligations is its feeble support on debt. The Brazilian banking system has one of the highest capital/assets ratios. Lately, the proportion between capital and debt has remained stable, even if there are differences between the kinds of banks. Thus, the largest banks of the system have incurred a larger volume of debt than smaller banks, a symptom of better financial conditions available for the great financial institutions of the country.

Banking Sector: Perspectives

The current process of financial deepening is expected to continue, even if probably at lower rates than in recent years. Even if growth perspectives for the economy continue to be favourable, the return of inflation in Brazil in 2007 has reverted the long period of drops in interest rates. This situation has already started to affect credit, although there are great differences between the different categories. As per the latest data published by the Central Bank, the credit growth in May is still at a solid 32.4% (yearly), mainly fuelled by credit to companies that has been growing at a faster pace in the last six years (40.2%). Consumption credit, in turn, has decelerated for the fourth consecutive month, leaving its year-to-year growth at the lowest level of the last months, despite still being high (21.6%).

In January 2008, reserve requirements for leasing companies' deposits were introduced. The measure, which will be effective in January 2009, will increase from 5% to 25% the requirements for this type of credits.

The perspectives for housing credits are also optimistic, especially if the interest rates retake a downward trend throughout 2009 as increasing interest rates are currently a main obstacle for the development of this segment.

The sector has also been stimulated by the fact that certain regulatory measures⁷ have permitted the reduction of the average foreclosing time of mortgage guarantees. Another factor that would allow for a more sustained development of housing credit is the creation of deposits with longer terms, since at present the average life of the mortgage asset is much longer than most savings instruments.

Apart from the specific analysis of each credit segment, there are recent innovative regulatory innovations that will contribute to the future evolution of the sector. In effect, last December, the National Monetary Council ordered that some basic financial products should be free of charge, ranging from the issuance of debit cards to the submittal of regular information on the clients' accounts. Moreover, besides these constraints on the income not related to the financial margin, the eventual transition of rates to levels similar to those found in other emerging economies, and the continuation of reforms eliminating the institutional bias towards the debtors, we expect the Brazilian financial system to continue moving towards a scenario where efficiency criteria will gain significance.

Summary of Indicators

	2004	2005	2006	2007
Credit to Private Sector / GDP	24.5	28.1	30.8	32.7
Private Sector Resources / GDP	50.6	52.0	56.9	56.4
Herfindahl Index	912	877	900	853
Foreign Banking Share (%)	39.8	41.3	46.2	48.5
Financial Margin	11.5	11.6	14.5	11.4
ROA	1.8	2.1	2.3	2.2
ROE	18.8	22.8	24.5	23.0
Solvency Ratio (Basilea)	20.2	19.1	19.6	19.8
Non-Performing Loans/ Credit Inv.	3.1	3.7	3.7	3.5
Coverage Rate	204.9	173.6	170.1	170.4

Sources BCB, World Bank

Pension System

In Brazil, there are three pension regimes coexisting. On the one hand, there are two types of compulsory public regimes: A special pension regime, for workers of the public sector and a general social security regime for the other workers. They both respond to the traditional design characterized by an income distribution system and defined contribution. Besides, there is a complementary pension regime, that is private and voluntary, that includes an open, complementary social security service type and a closed type or pension funds. This complementary service is at its development stage and it covers about 15% of the workforce.

⁷ Especially, the extension of the "alienação fiduciária" to the real estate market.

The low effective retiring age and the connection between minimum pensions and minimum wages (which increased by 14% in actual terms between 1995 and 2005) outweigh the favourable demographic situation. As a whole, it is estimated that just 13% of the population does not receive any kind of income. Nevertheless, in the short term the possibility of significant reforms in the Brazilian social protection system is small.

Social Security Regimes				
	General Regime	State-owned regimes	Complementary Social Security	
			Open	Closed
Managed by	INSS	Direct or indirect public adm. organs or entities	Limited Liability Companies (profit making)	Private foundations/companies (non-profit making)
Nature of Affiliation	Public	Public	Private	Private
Coverage	Compulsory	Compulsory	Voluntary	Voluntary
	Persons not covered by state-owned regimes	Workers holding effective positions of the Union, Federal District, States and Municipalities (with own regime)	12,657,060 accounts as at December 2007	1,802,931 accounts as at December 2007
	Over 46.5 million quoters, equivalent to about 50% of workforce as at December 2006		Equivalent to about 15% of the workforce as at December 2007	

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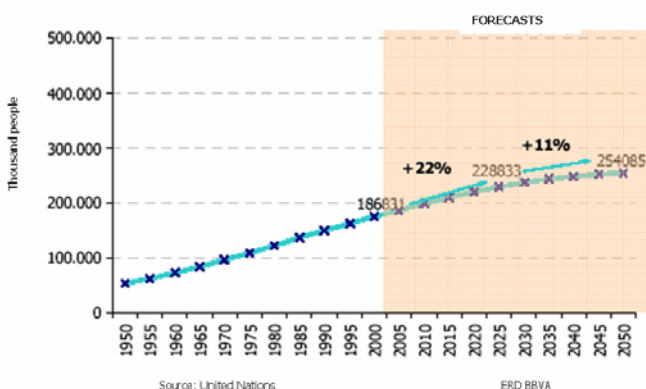


Demography

Population Forecasts

According to the data available in the most recent census, the Brazilian population reached 189.3 million in 2007. According to the United Nations, the population would be over 250 million in 2050.

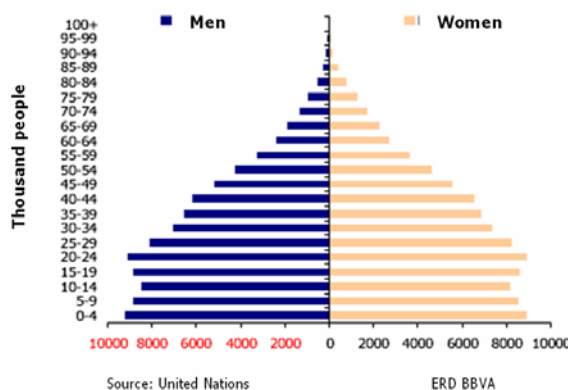
Evolution Forecasts of the Population in Brazil



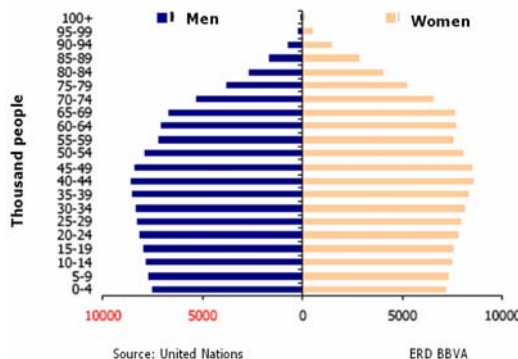
Population by Gender and Age

The Brazilian population is well distributed. About 51.5% of the population are women while 48.5% are men. With regards to the age structure, Brazil is a relatively young country. At present, the population of over 60 years of age represents less than 10% of the total population, though it is expected to be over 25% of the population by 2050. As it can be observed in the population pyramid, the number of people between 0-14 years old is starting to drop as a result of the decrease in birth rates. Over the next decades this trend is expected to continue growing, however the working-age population and the oldest segments will continue to increase.

Population pyramid in Brazil in 2005



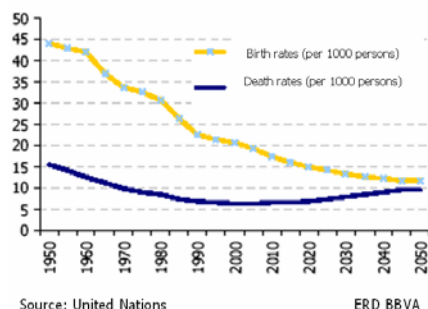
Population pyramid in Brazil in 2050



Demographic Transition

The population is currently growing at a yearly rate of 1.3%. Brazil is at the second stage of the demographic transition. It had its highest growth between the decades of the seventies and nineties, when the population grew at rates of over 3%. By 2050, Brazil is expected to stabilise its population and enter the third stage of the demographic transition.

Birth and Death Rates, 1950-2050





Labor Markets

WORKING-AGE POPULATION

In average, it is estimated that the working-age population (15-64 years old) will continue to grow above 1% yearly in the next 15 years. This evolution is even more positive if a wider definition of the working age population is considered (older than 15 years old, including people that are older than 64).

Brazil Main Labour Indicators

	1996-2000	2001-2005	2006	2007
Population				
Million people	168,825	181,400	188,883	191,341
Active				
Million people	79,361	88,552	92,810	94,207
Employed				
Million people	73,251	78,734	83,529	85,446
Unemployment rate				
%	7.7	11.1	10.0	9.3
Informality				
%Employment	29.0	34.4	---	---
% PIB	39,8	41,9	---	---
Rigidity				
Doing Business Ranking	---	---	116 / 178	119 / 178
Human Capital				
PISA Ranking	---	---	52 / 57	---
Secondary Schooling (%PEA)			17.8	

Source: OIT, WB-Doing Business 2008, OECD-PISA 2006, WB (2006) and Schneider (2007)

UNEMPLOYMENT, ACTIVITY AND EMPLOYMENT

Regarding activity rate, Brazil has matched the levels observed in the other BRICs, thanks to the incorporation of women into the labour market (whose rate has grown by almost 20 percent points since the eighties)⁸.

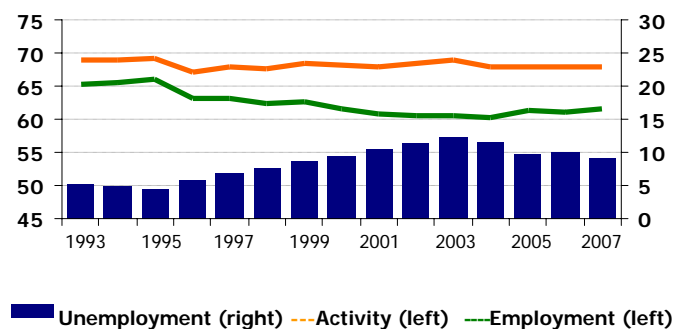
The increase of the unemployment rate (which has doubled from levels close to frictional unemployment by the mid-90s, 4.6% in 1995, up to levels of more than 10% since 2000) explains that the employment rate (employed people / population older

⁸ Consequently, unemployment rates per age segment are similar to the other BRICs. In the total of the population, between 15 and 24 years old, 61.0%, against 56.3%; between 25 and 54 years old, 79.8% against 77.4%, and between 55 and 64 years old, 55.4% against 54.6%.

than 15 years old) has been reduced drastically up to levels of about 60%.

There are no significant constraints in the future over the economic growth derived from the labour factor: the population available for work will continue to grow and there is a wide margin of reduction to cut unemployment.

Activity, stoppage and employment rates



Source: OIT

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Besides, the informal economy, estimated to be well above a third both of the GDP and of the workforce, gives certain additional flexibility to the market. In fact, the size of the informal Brazilian economy is estimated to be higher than that of China or India, though lower than that of Russia.

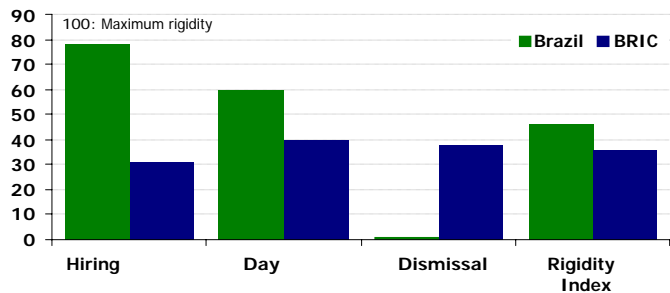
LABOUR FLEXIBILITY

The labour market in Brazil is rigid, due to the regulation of incoming flows and the lack of flexibility regarding the working day, in line with other limitations of the economy as a whole.

As per the labour regulation index by the World Bank (*Employing workers*), the labour market in Brazil is positioned at number 119 in terms of flexibility, between a total of 178 economies. The regulation is especially rigid as compared with the BRICs in the fields of hiring (maximum length and constraints on the duration of temporary contracts) and in the rigidity of the working day.

On the other hand, dismissal is free and associated costs are relatively low.

Rigidity of the Labour Market in Brazil



Source: Doing Business 2008

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Human Capital

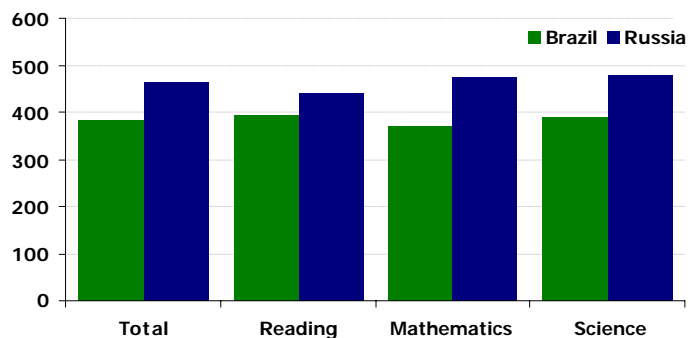
The great challenge for the social-labour field is the increase in the size of human capital of this (still) growing workforce.

The proportion of workers with secondary school studies reaches 17.8%, less than a third of the level reached in Russia and well below that registered in China, as per the estimates of the World Bank.

Additionally, the indicators of the quality of the educational system itself are very modest. According to the *Programme for International Student Assessment* survey (PISA 2006), that assess the formation of students under 16 years old in reading, science and mathematics, the educational system ranks 52 among the 57 analysed (ninth tenth), lacking behind especially in mathematics and being surpassed in all disciplines by Russia.

Nevertheless, according to other indicators, the valuation of advances in educational terms is more favourable, as it is indicated by the analysis presented in the section on Economy.

Quality of the Educational System



Source: OECD PISA2006

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Energy

Natural Resources

After Venezuela, Brazil is the country with the most energy resources in Latin America.

It currently has 1.2% of world reserves of oil, 0.9% of coal reserves and 0.2% of gas natural reserves (Enerdata) and it is estimated that the new findings of oil and gas in Bahía de Santos could lead to re-assessments of current figures up to 50% as from 2010.

On the other hand, Brazil has a high potential of renewable energies. It is the second country in the world regarding hydraulic reserves (260GW) and has a great potential of wind and solar energy. Likewise, the country has vast bio-energetic resources and currently has the most efficient ethanol industry in the world.

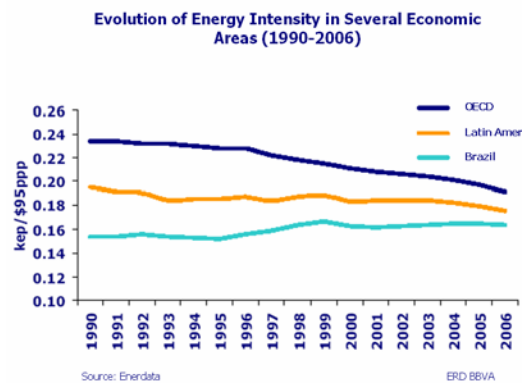
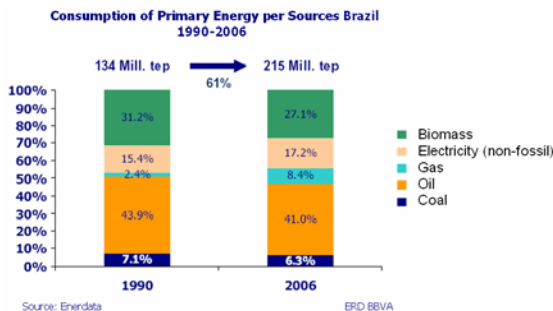
Demand: Current Situation and Perspectives

Brazil is the main consumer of energy in Latin America, with over 40% of the power consumption in the region. As it can be observed in the graph below, the consumption of primary energy has increased by 61% (3% yearly) since 1990, the power grid being dominated by oil, biomass and hydraulic energy. While natural gas is rapidly increasing its presence, coal seems to follow the inverse pattern.

80% of electricity in Brazil comes from hydroelectric power plants. Likewise, Brazil is a global reference in the use of biomass with modern technologies. Over 85% of the biomass consumed is allotted to the production of biofuel for transportation (mainly ethanol from sugar cane), vegetal oil for industrial purposes (eucalyptus wood) or for electrical co-generation (sugar cane bagass).

The intensive use of renewable energies and the exploitation of local fossil resources explain the limited energy reliance of Brazil on foreign markets, as well as its low levels of contaminating emissions (without considering the de-forestation of the Amazons).

According to several sources (North American Energy Agency, Enerdata), the energy intensity in Brazil has increased slightly since 1990. However, the International Energy Agency (IEA) comments in its latest report about the Brazil energy sector (2006) that this variable has been falling for several decades and it expects the trend to continue up to 2030 (0.9% yearly decrease). In this sense, the IEA forecasts on the growth of primary energy demand (2.6% yearly up to 2015 and 1.9% between 2015 and 2030) must be considered as somewhat conservative.

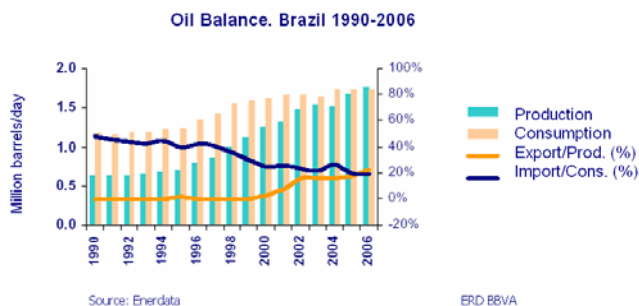


Per sector, over 70% of the final consumption of energy corresponds to the industry (41%) and transportation (30%) while the housing sector is responsible for 12% and services for 5%. The significance of the transportation sector is expected to grow in the future as the size of the car stock in the country increases.

Oil and Natural Gas

Brazil is 13th in the world ranking of oil producers and in the 41st of natural gas. It belongs to the group of producers with the highest production growth rates.

In the 1970s and 1980s, Brazil imported up to 80% of the oil consumed. The strong pressure recorded in the commercial balance fostered the development of exploration so as to use local resources. The findings of Bahías de Campos and Espirito Santo allowed it to multiply proven reserves of oil and gas 9 and 7 times respectively between 1980 and 2006, year when Brazil reached oil self-sufficiency.



overseas. Likewise, a plan for developing its gas production from the current 16 billions cubic meters a day to 40 billions before 2009 is in course. From 2010 it plans to start exploitation of Bahía de Santos, from which it expects to extract 30 billions cubic meters a day. If all these plans are carried out successfully, Brazil could reach an autonomy regarding gas of about 60%.

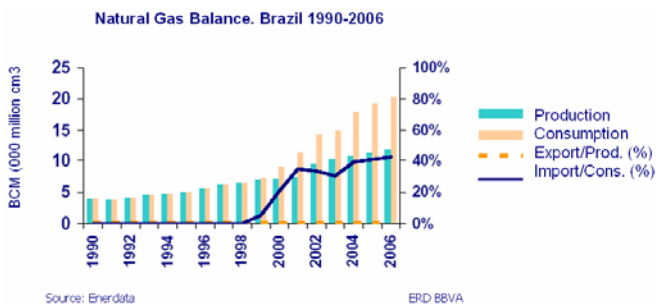
Finally, it will be necessary to expand considerably the national grid of gas pipelines, operated by Petrobras, as well as to expand the international connection with Bolivia.

The main challenges for developing the gas sector adequately are related, on the one hand, to the establishment of a good regulatory framework and, on the other, to the movement of the capital needed, both public and private.

Between 2000 and 2001, the oil and gas sectors were opened for the competition, final prices were released and most subsidies were eliminated. Nevertheless, the state company Petrobras produces most of the oil and gas of the country, but it is expected that its dominant position will lose significance as private companies start to explore the reserves discovered in recent years.

Currently, the demand increases at a more moderate pace than production thanks to, in part, the growing use of ethanol and natural gas for transportation. It is expected that the self-supply situation will continue if the estimated amount of the reserves is confirmed for the new field found in Bahia de Santos (Tupi and Carioca) and the current level of investment in exploration and production continues.

In turn, the gas sector is taking off with some difficulties. Since late 1990s, the demand has surpassed the production capacity and imports (mostly from Bolivia) have increased significantly.



Biofuel

Brazil is a world reference in the field of biofuel. It is the second producer and the first exporter of ethanol in the world and has the most efficient ethanol production industry in the world.

Brazil launched its well-known *Proálcool* program by mid-1970s and by mid-1980s over 90% of vehicles were running completely on ethanol. The pressures suffered between 1990 and the first half of 2000 due to the low oil prices and the high prices of sugar took away some interest in the program but it managed to remain effective due to government support.

At present, all cars in the country run on mixtures of ethanol not below 20%, and 80% of new cars purchased have a flexible engine that works with petrol and ethanol, allowing the user to pick between one and other fuel based on the price. Thus, biofuel supplies about 15% of energy needs of the transportation sector (the largest percentage of penetration of biofuel in the world) and it is expected to increase up to 17%-19% in 2015 and up to 23%-30% in 2030 (IEA). There is also the goal of increasing three times the production of ethanol up to 2030 and increasing the biofuel production, as well as exports to countries of the OECD.

Electrical Sector

The Brazilian electrical sector has two typical features. On the one hand, the large hydraulic energy usually covers over 80% of the electricity demand. This, which in general

After the government of Bolivia decided to re-nationalise gas in 2006, Brazil decided to limit its reliance on this country. To this end, Petrobras is building the necessary infrastructure to import liquefied natural gas (LNG) from

implies an advantage since it permits reductions in carbon emissions and production costs, may become a serious problem in dry years.

On the other hand, the Brazilian electrical sector is one of the largest in the world and the greatest demand centres are located in the regions of the South and South East, far from the main hydroelectric dams. For this reason, it is necessary to transport energy along long distances, which increases energy losses significantly (17% against the 7% mean of the OECD) and the final cost of the supply.

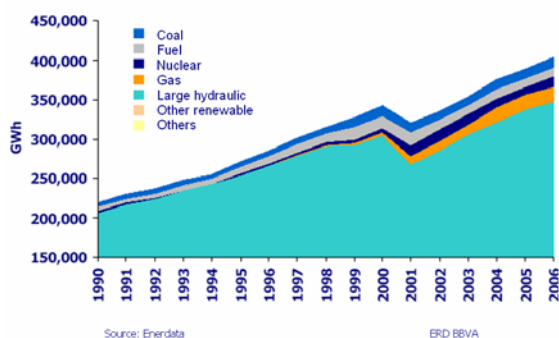
official forecast of demand growth (5.2% up to 2015) indicate that it will be necessary to enhance the generation installed capacity by about 40000MW (71% hydraulic and 21% thermal) and the transportation grid by 60000 km.

Even if most of the new investments will be on hydraulic generation and the transportation grid, a growing dynamism may also be expected by the other renewable technologies and the CCGTs.

Thus, the government attempts to increase the significance of renewable energies (without large hydraulic energy) by up to 10% of the electricity grid by 2020. For this reason, it has established a Development Program of Alternative Electrical Energy Sources (PROINFA), through which Eletrobras is bound to acquire renewable electricity at a regulated price equal to 90%, 70% or 50% of the average fare depending on whether the electricity comes from wind, small hydraulic or biomass.

Likewise, it is estimated (IEA) that natural gas will double its significance in the electrical mix by 2030, but an adequate development of the gas sector aimed at reducing current uncertainties regarding supply and cost of gas will be needed to this end.

Gross Generation of Electricity per Type of Source. Brazil 1990-2006



Both factors expose the need of a greater presence of thermal energy. The natural gas combined cycle power plants (CCGTs) add flexibility due to their lower construction time and the possibility to reduce distances to consumption centres. They would cover part of the demand in dry periods. This fostered a reform of the sector in the 1990s to encourage private investment in thermal generation. An important part of the electrical companies was privatised and the generation market was opened to the competition. However, the investment in CCGTs did not get off the ground completely due to the hydraulic competition. In 2001-2002, a hard dry period, the situation collapsed, causing an extended electricity rationing in the country. The crisis fostered energy efficiency and activated public investment causing an excess of thermal capacity that damaged private investors.

Since 2004, there has been a new model regarding the electrical market. This model distinguishes between a regulated market, for the energy supplied at a fare (75% of total demand), and free market, in rapid expansion, for large clients. This model incorporates measures that mitigate the main risks of thermal generation (such as the sales of electricity in the long term, distribution of risks derived from possible defaults and deviation of the demand, etc.).

The main company in the sector is the state holding Eletrobras. At present, the public sector has 85% of the generation, most of the transportation lines (although 60% of new licences have been built and operated by the private sector) and 20% of the distribution business.

Although current infrastructures are sufficient to guarantee the electrical supply in the short term, the