

# A guide to the Brazilian economy

Economics • Brazil

## Contributors

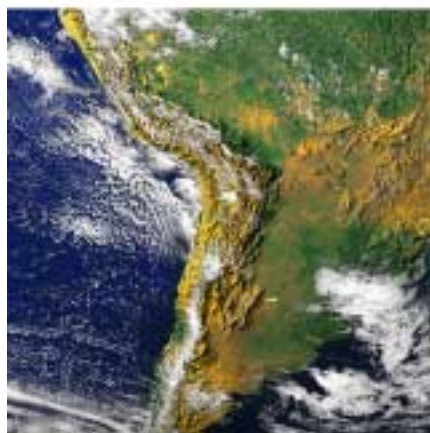
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This guide aims to present an overview of Brazil and improve the understanding of its current economy and its development in recent years. The report, divided into nine chapters, is likely to interest even readers already having an in-depth knowledge of the country.

We include a wide range of reference data and statistics. There is detailed information on the country's geography, climate, population, educational system, political subdivisions, and business climate, with special emphasis on political and economic issues. We have also included information on Brazil's infrastructure, farming, industry, services, and position in relation to the rest of the world on many fronts.

This publication consolidates our favorable outlook on Brazil for the coming years and reinforces our view that the country could be on the verge of once again meriting its previously held moniker as the "country of the future."

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# 1. Summary



In recent decades, the Brazilian economy has oscillated between periods of strong economic growth (late 1960s and early 1970s) and periods of low growth with high inflation (1980s). Despite the introduction of several economic plans since the second half of the 1980s, inflation was not effectively reined in until 1994, when the Real Plan was implemented.

In step with recurrent balance-of-payment crises in emerging countries, imbalances in Brazil's external accounts persisted, and average GDP growth was relatively sluggish until the mid-2000s. As the global outlook improved and Brazil maintained responsible macroeconomic policies, the economy's average growth gained speed in 2004, resulting in the longest cycle of growth and investment since the 1970s.

This growth cycle was interrupted by the global crisis of 2008, but the Brazilian economy has proved much more resilient to crises than in the past. The evolution of its economic fundamentals suggests that, after several decades, the country is likely to experience higher and – even more importantly – less volatile economic growth than in the past. But after fulfilling many of the necessary prerequisites, we believe there are still challenges to be overcome for Brazil to reach a higher level of development in the next decades. For instance, it will have to consolidate the process of making elementary and secondary education universally available, not only by expanding its network of schools, but also by improving the quality of education provided.

Brazil is a federal republic composed of 26 states and a Federal District, which comprise 5,565 municipalities. It is the world's fifth largest country both in terms of population and land area and has the eighth-largest Gross Domestic Product (GDP). The Brazilian population has grown 1.5% annually on average over the past few decades to 189 million inhabitants in 2008, most of whom reside in cities.

From 1964 to 2008, GDP grew 4.5% per year on average. In the late 1960s and early 1970s (period referred to as the "Brazilian miracle"), GDP grew by more than 11% yearly in a scenario of heavy investment. At that time, Brazil was known as the "country of the future," a title that has not been revisited in subsequent decades.

In the 1980s, referred to as "the lost decade," Brazil's economy was marked by high inflation and low GDP growth. During that period, an oil shock destabilized the global economy, and consequently several developing economies, including Brazil, were unable to roll over their large foreign debt and were forced into default. The balance-of-payments crisis was associated with high interest rates, a sharp depreciation in currency, and high inflation. In the second half of the 1980s and the first half of the 1990s, Brazil implemented several stabilization plans to thwart skyrocketing inflation. Some of these plans included price controls, a freeze on bank deposits, and some unorthodox inflation-reduction measures.

After several unsuccessful attempts, the government implemented the "Real plan" in 1994, which established the Real as its new currency and rapidly reduced monthly inflation from around 50% to less than 1%. Even after lowering inflation, the country experienced several balance-of-payments crises in the late 1990s and early 2000s, some originating in emerging economies and others homegrown. Brazil faced some onerous constraints for financing its foreign debt on several occasions. In order to keep inflation low, the government kept real interest rates very high for several years, which in turn led the economy into a sequence of stop-and-go business cycles. Fragile fiscal accounts and risk of insolvency revealed the weaknesses in the economic adjustment during this period and produced a steep devaluation in Brazil's currency and a return of inflationary pressure. Despite lower inflation, economic growth remained weak during these years.

In 1999, the government adopted economic policy based on three main points: an inflation target regime, a floating exchange rate policy and adoption of fiscal responsibility law. After decades of huge economic uncertainty, observance of these policies for ten years has helped increase the predictability of the Brazilian economy.

Combined with a favorable global scenario in recent years, characterized by strong economic growth and high liquidity in financial markets, these policies contributed to a significant improvement in Brazil's macroeconomic fundamentals. From 2003 to 2008, the government maintained relatively low inflation, bought back all sovereign debt originated from the 90s' debt renegotiation, improved the risk profile of its government securities, maintained primary surpluses, and substantially increased the level of international reserves, contributing to Brazil becoming the fourth-largest holder of U.S. treasury bonds. The global crisis that began in 2008 has proven that the macroeconomic policies adopted in recent years have been effective; despite its magnitude, the impact on the mid-term fundamentals of Brazil's economy have been rather moderate. One of the main differences versus other countries has been the absence of any balance of payments crises within Brazil. This greater freedom in relation to external accounts has allowed the government to implement a set of countercyclical fiscal and monetary policies to reduce the negative impact of the 2008-2009 crises on economic activity. The primary surplus has fallen, raising net debt to GDP in 2009. In upcoming years, we expect the net debt to GDP ratio to retract, unlike the forecast for many countries hit hard by the crisis. For the first time since the 1970s, the Brazilian economy has proved more resilient than most developed and developing countries, in our view.

Brazil's potential output growth has increased substantially in recent years. Despite the retraction in 2009 brought on by the international crisis, we believe average GDP growth in the next few years will likely reach 4% or 5%, much higher than the average pace of 3%



during the first half of the decade. This higher growth should be associated with a return to investments, which grew consistently from 2004 to 2008, forming the longest investment cycle since the 1970s. Over the past few years, investments have been spread out over various economic sectors, especially infrastructure and commodities. But despite this long growth cycle, the country's infrastructure is still quite deficient. Heavy investments in infrastructure are needed to foster higher growth in areas ranging from transportation to expansion of the power grid.

Sectors with clear competitive advantages in the last few years are primarily those associated with commodities. Brazil is the largest producer of many soft commodities, such as sugar, coffee, and oranges, the second largest producer of soybean and ethanol, and the number one exporter of all these products. The country is also the second largest producer of beef and ranks third for chicken and fourth for pork. Brazil exports more beef and poultry than any other country. The cost of production in the Brazilian agricultural sector is currently lower than for most producer countries. The agricultural sector is likely to see sustained growth in upcoming years and reap benefits from existing competitive advantages, even if the elimination of non-tariff barriers and improvement within the logistics infrastructure are gradual.

Brazil has huge mineral reserves – especially iron ore, aluminum, copper, chromium, gold, tin, nickel, manganese, zinc, and potassium – and clear advantages in sectors associated with these commodities. Notwithstanding the halt in heavy investment in these sectors on account of the 2008-2009 global crisis, investments will likely remain high in the next few years to meet the growing demand, especially from emerging markets. At the same time, the huge discoveries of oil reserves in the pre-salt layer in recent years should make Brazil a major player in the world market and a net exporter of fuel in the next decade. In principle, much of the massive investments in this sector will be financed by government institutions, but the participation of private corporations, especially from abroad, will tend to attract rugged investment in years to come.

The capital ratio of local banks has been well above the Basel requirement for many years, resulting in a lightly leveraged financial system. This has prevented the international financial crisis from contaminating local banks. The government's economic policy reaction has brought relatively low fiscal costs and has managed to contain the negative effects of the contrition in external credit. The economic policy response has shown that the banks are able to efficiently intermediate private savings and contribute to sustained high growth in credit, which reached nearly 45% of the GDP in mid-2009. Credit expansion in the next few years will probably have a different profile from the most recent cycle. The new phase will be marked by the lowest basic interest rate in 30 years, which will require a different set of financial instruments available to depositors. At the same time, financial institutions will change their focus, offering longer-term credit and reaching out to more corporate and real estate borrowers.

Greater stability in the local economy should continue to encourage a shift from short- to longer-term investments in addition to increased participation by foreign investors. The need for heavy investments in Brazil within the next few years will require increased risk capital, both from here and abroad, to finance activities. This favorable scenario is expected to stimulate growth in equity markets. Although investments in Brazil have historically been financed largely by public-sector institutions, corporations have been able to raise funds lately in capital markets to finance their investment plans. The private sector will account for a growing percentage of long-term investments in the next several years, either through bank loans or direct financing through equity offerings. High-risk investments will account for a large portion of these funds, and primary and secondary equity offerings are projected to increase significantly in the next few years.

The effects of the 2008-2009 global crisis were less drastic than expected at the outset, which signifies to us that Brazil's growth pattern is less susceptible to changes in course as a result of the external outlook. However, this does not mean that the Brazilian economy is

immune to the global crisis. On the contrary, the crisis has caused Brazil's GDP to backtrack from an average expansion of 1.6% quarter on quarter from 1Q2008 to 3Q2008 to a peak-to-trough fall of 4.4% in 4Q2008 and 1Q2009. But the return to economic expansion has already taken hold in 2Q2009, demonstrating that Brazil's solid fundamentals have enabled rapid adjustment to the change in global outlook.

This greater resilience to the external crisis has favorable consequences for the middle- and long-term outlook for the Brazilian economy. Uncertainty regarding the resilience of the country's economic fundamentals dissipated fairly significantly as the crisis unraveled. Overall country risk and real interest rates should decline even further in the next few years, since severe macroeconomic crises in Brazil do not seem as likely as in the past, leading to higher investments and, therefore, higher potential output growth. Thus, the path of Brazil economic fundamentals suggests that, after several decades, potential GDP growth should be higher than in the past and, even more importantly, less volatile. We, therefore, think this dynamic should allow Brazil to regain its reputation as the "country of the future."

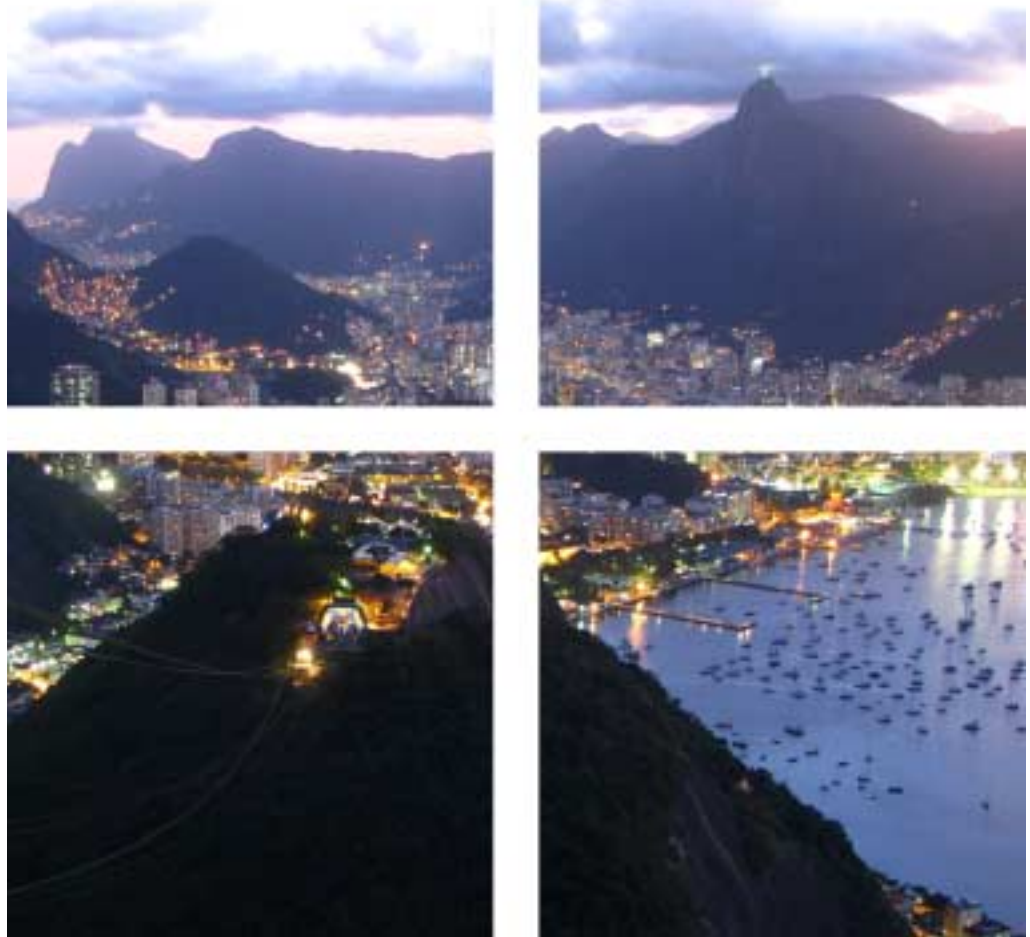
There are still several challenges to be overcome. First, the country needs to consolidate the process of making elementary and secondary education universally available, not only by expanding its network of schools but by improving the quality of education. Second, Brazil needs to address certain structural constraints, such as its highly complex tax system, imbalances in social security and very rigid labor legislation. It will also be up to future administrations to reopen debate concerning the state's role in the economy, particularly with regard to its efforts to stimulate manufacturing and strengthen the regulatory framework. These reforms will require serious discussion, because congressional approval tends to lag in light of the complexity of the issues. For example, although there is a consensus in society that the country's tax structure is complex and tax burdens too high, approval of tax reform is uncertain, because it requires debate regarding which specific fiscal expenditures need to be reduced.

During the preparation of this publication, its target audience focused on those readers with a basic understanding of Brazil, wanting to learn more about the country's fundamentals and economic outlook. For this group, this guide can hopefully serve as a starting point. Nonetheless, we believe the in-depth scope of this report will also interest readers with a more comprehensive knowledge of the country. We note that this publication is not meant to provide a *complete* guide to Brazil; it is not intended to offer extensive coverage of the individual topics included. This guide contains a sizable number of graphs and tables, which together provide a relatively general review of information we believe will be relevant for our readers, offering a broad reference base, with information and statistics supporting our overall view that Brazil meets many of the prerequisites needed to take it to the next level of economic development.

The guide is divided into nine chapters, including this introduction. The second section provides a panorama of the country's geography, climate, mineral resources, biomass, and water resources. The third addresses topics related to population, age ranges, life expectation, labor market, and income distribution. Chapter four contains a brief history of economic policy since the mid-1960s and details policies implemented in the past decade, especially inflation targeting, the floating of the foreign exchange rate, and fiscal responsibility. This chapter also highlights the organization of the country's political institutions. Chapter five describes the primary characteristics of Brazil's infrastructure – especially modes of transportation and power generation, transmission and distribution. Chapter six enumerates the primary industrial sectors, such as oil, petrochemicals, steel, automobiles, mining, and construction. In chapter seven, we present the most important issues in relation to farming, listing the main crops and herds, and describing how they are distributed throughout regions. Chapter eight addresses services, with an emphasis on financial services. In chapter nine, we discuss current business trends in Brazil and certain aspects of the local tax structure. Finally, the appendix provides useful reference material, acronyms, and Web sites to access for additional information.



## 2. Overview



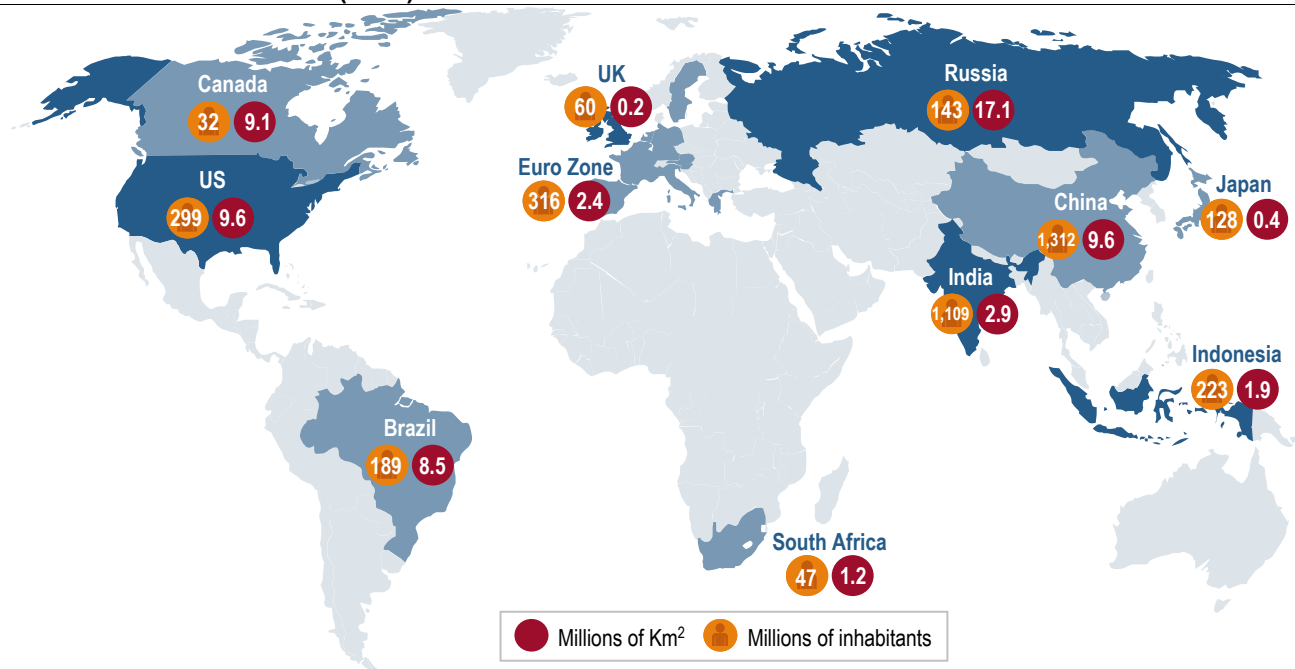
This chapter discusses the main geographic characteristics of Brazil:

- Brazil is a Federative Republic divided into 26 states and a Federal District, which comprise 5,565 municipalities. It is the fifth largest country in the world in geographical terms, covering an area larger than Europe (excluding Russia), and accounts for nearly half of the entire South American sub-continent.
- The country is almost entirely located in the intertropical zone and has low altitudes, which explains the predominance of high average temperatures (above 20°C) during the entire year.
- It has extensive water resources: the water flow volume of rivers corresponds to 12% of total river flow volume in the world, a share that increases to 18% when including the flow from rivers of neighboring countries.
- Brazil has one of the largest mineral reserves in the world, which includes iron ore, aluminum, copper, chrome, gold, tin, nickel, manganese, zinc and potassium.

## 2.1. Geographical aspects

Brazil is the world's fifth largest country in terms of both land area, with 8.5mn Km<sup>2</sup>, behind Russia, Canada, China and the U.S., and population, with 189mn inhabitants, behind China, India, the U.S. and Indonesia (Exhibit 1).

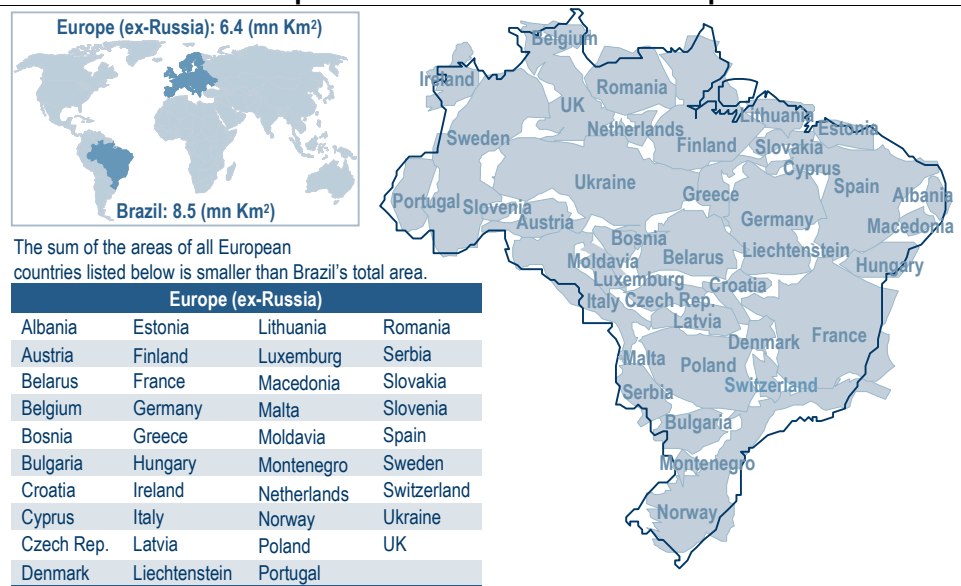
**Exhibit 1: Brazil in the world (2008)**



Source: World Bank, Credit Suisse

Its area comprises 47% of South America and borders all countries of the sub-continent, except for Chile and Ecuador. Its land area is larger than Europe's (excluding Russia) (Exhibit 2).

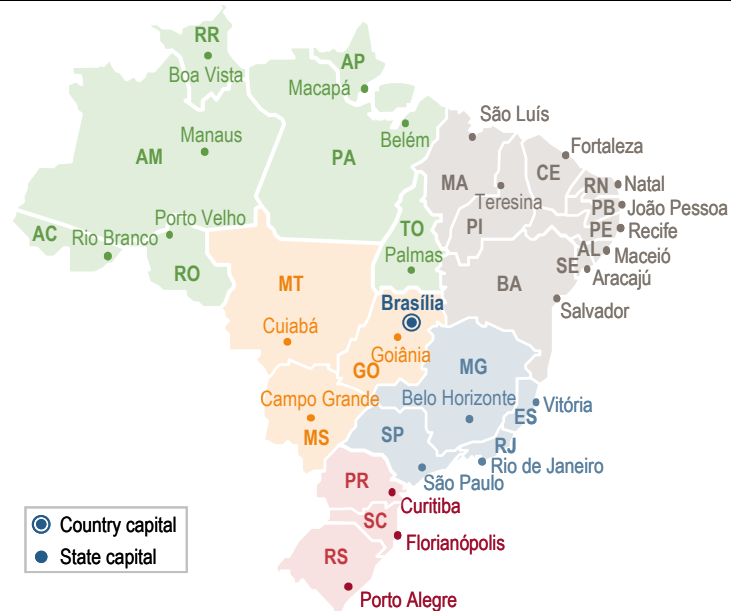
**Exhibit 2: Land area comparison between Brazil and Europe**



Source: Credit Suisse

Brazil is divided into 26 states and a Federal District (Brasília), which comprise 5,565 municipalities spread throughout five regions: North, Northeast, Midwest, Southeast and South. The North region is the largest in terms of land area and the Southeast region has the largest population and GDP. The official language is Portuguese (Exhibit 3).

### Exhibit 3: Regions, states and state capitals



States	Area		Population (2007)		GDP (2007)	
	'000 km <sup>2</sup>	% of total	mn	% of total	US\$ bn	% of total
<b>North</b>	<b>3,855</b>	<b>45.3</b>	<b>15.1</b>	<b>8.1</b>	<b>67.2</b>	<b>5.1</b>
PA - Pará	1,248	14.6	7.3	3.9	25.2	1.9
AM - Amazonas	1,564	18.4	3.3	1.8	19.9	1.5
RO - Rondônia	243	2.9	1.4	0.8	8.2	0.6
TO - Tocantins	277	3.3	1.3	0.7	5.9	0.4
AC - Acre	153	1.8	0.7	0.4	3.0	0.2
AP - Amapá	140	1.6	0.6	0.3	2.9	0.2
RR - Roraima	230	2.7	0.4	0.2	2.1	0.2
<b>Northeast</b>	<b>1,546</b>	<b>18.2</b>	<b>53.1</b>	<b>27.9</b>	<b>175.7</b>	<b>13.3</b>
BA - Bahia	561	6.6	14.5	7.6	55.9	4.2
PE - Pernambuco	98	1.2	8.7	4.6	30.7	2.3
CE - Ceará	148	1.6	8.4	4.5	25.9	2.0
MA - Maranhão	329	3.9	6.3	3.3	16.3	1.2
RN - Rio Grande do Norte	53	0.6	3.1	1.6	11.3	0.9
PB - Paraíba	56	0.7	3.7	2.0	10.8	0.8
AL - Alagoas	28	0.3	3.2	1.6	9.1	0.7
SE - Sergipe	22	0.3	1.9	1.1	8.6	0.7
PI - Piauí	251	3.0	3.2	1.6	7.1	0.5
<b>Midwest</b>	<b>1,603</b>	<b>18.9</b>	<b>13.7</b>	<b>7.2</b>	<b>119.9</b>	<b>9.1</b>
DF - Distrito Federal	6	0.1	2.6	1.3	50.9	3.9
GO - Goiás	365	4.3	5.8	3.1	31.9	2.4
MT - Mato Grosso	881	10.4	2.9	1.6	23.9	1.8
MS - Mato Grosso do Sul	351	4.1	2.4	1.2	13.2	1.0
<b>Southeast</b>	<b>925</b>	<b>10.8</b>	<b>80.2</b>	<b>42.3</b>	<b>733.1</b>	<b>55.7</b>
SP - São Paulo	248	2.9	41.1	21.6	437.5	33.2
RJ - Rio de Janeiro	44	0.5	15.9	8.4	149.0	11.3
MG - Minas Gerais	587	6.9	19.8	10.5	119.6	9.1
ES - Espírito Santo	46	0.5	3.4	1.8	27.0	2.1
<b>South</b>	<b>578</b>	<b>6.8</b>	<b>27.5</b>	<b>14.5</b>	<b>221.1</b>	<b>16.8</b>
RS - Rio Grande do Sul	282	3.3	10.9	5.7	88.6	6.7
PR - Paraná	200	2.4	10.6	5.6	79.2	6.0
SC - Santa Catarina	96	1.1	6.0	3.2	53.3	4.0
<b>BRAZIL</b>	<b>8,507</b>	<b>100</b>	<b>189.2</b>	<b>100</b>	<b>1,317</b>	<b>100</b>

Source: IBGE, Credit Suisse

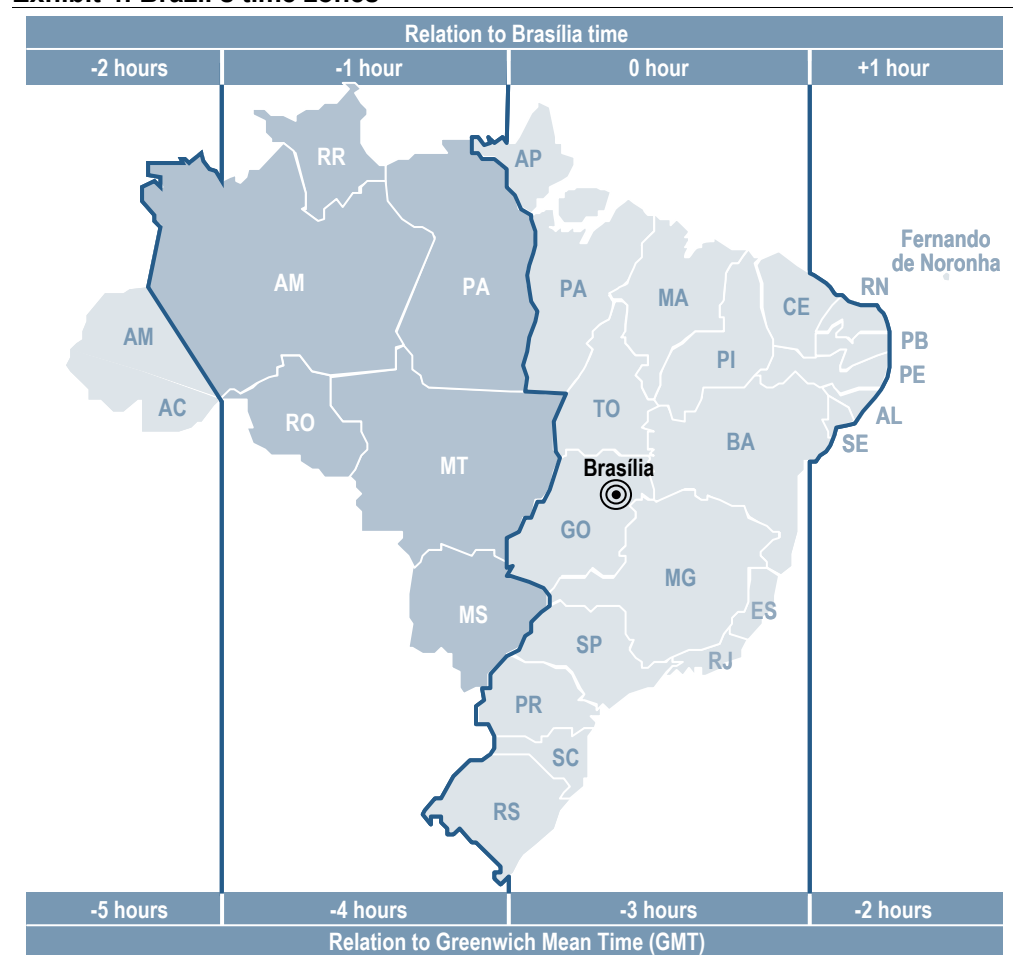
## 2.2. Climate and natural resources

### 2.2.1. Time zone

There are four time zones in Brazil. At 30° west of the Greenwich Meridian, the region of the Atlantic Islands (Fernando de Noronha, Trindade, Martin Vaz, Atol das Rocas, Penedos de São Pedro and São Paulo) are two hours behind GMT. At 45° west of the Greenwich Meridian, the states of Goiás, Minas Gerais, Tocantins, all coastal states and the Federal District are three hours behind GMT. The states of Mato Grosso, Mato Grosso do Sul, Rondônia, Roraima, and part of the states of Pará and Amazonas are at 60° west of the Greenwich Meridian and four hours behind GMT. The state of Acre and part of the state of Amazonas are at 75° west of the Greenwich Meridian and five hours behind GMT (Exhibit 4).

The official time for the entire Brazilian territory is Brasília time, which is three hours behind GMT. During daylight savings time, from October to February, clocks are set forward one hour in most regions to reduce energy consumption.

**Exhibit 4: Brazil's time zones**

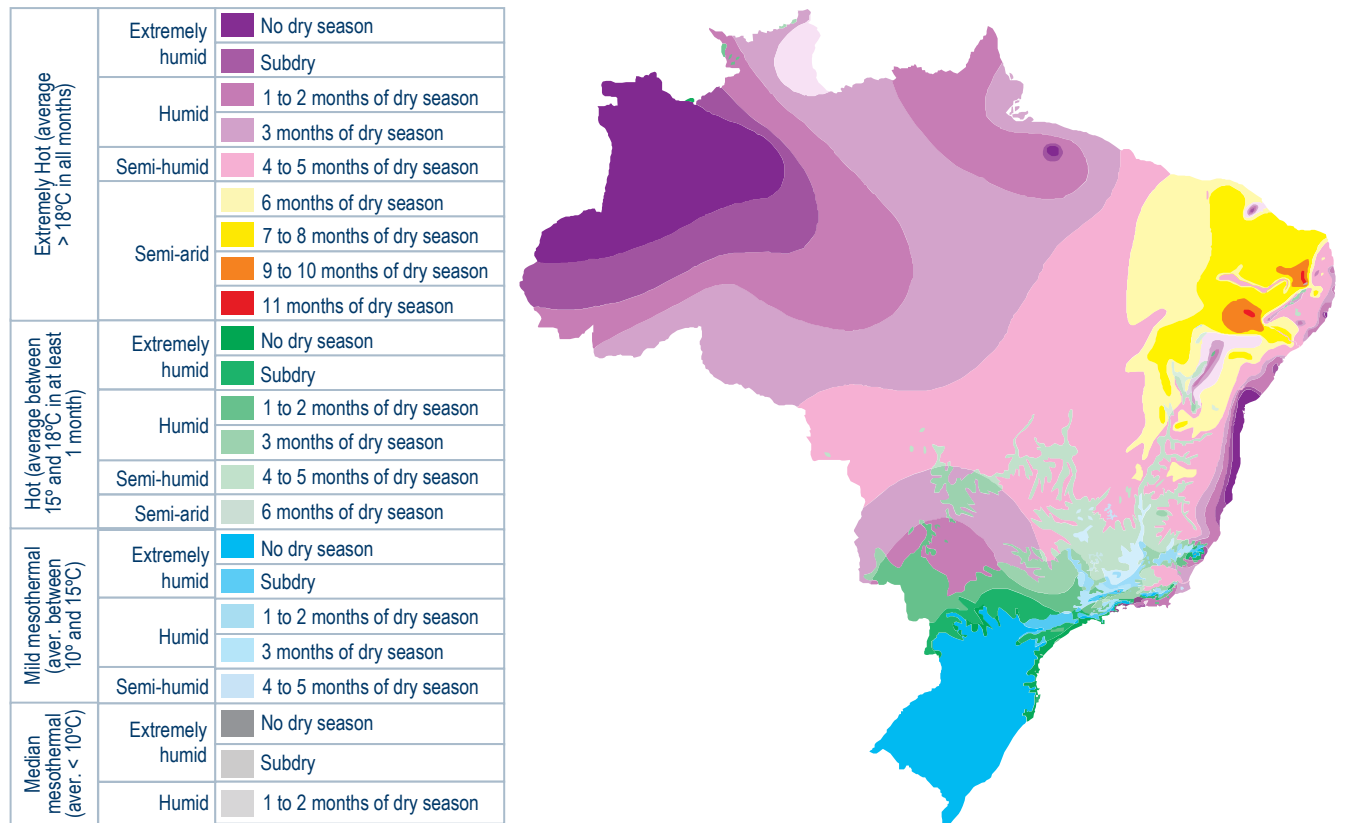


Source: IBGE, Credit Suisse

### 2.2.2. Climate

Low altitudes in most of Brazil and the fact that 92% of the territory is located in the intertropical zone explain the predominance of hot weather, with average temperatures above 20°C (Exhibit 5).

**Exhibit 5: Brazil's climate map**



Source: IBGE, Credit Suisse

The main climates include:

- **Equatorial:** a hot and humid climate, predominant in the Amazon region. It is characterized by a low temperature range, and abundant and regular rainfall (over 2,500mm/year).
- **Tropical:** covers vast areas of the Midwest, Southeast and Northeast regions. Precipitation ranges from 1,000mm to 1,500mm/year on average, and rainfall is more usual in the summer. Winter is the dry season. Average temperatures vary between 20°C and 28°C, with an annual temperature range of up to 7°C. The tropical climate differs in mountain and coastal areas of the Southeast region, where it is referred to as humid high-altitude tropical climate and tropical wet-dry climate, respectively.
- **Semi-arid:** covers the central area of the Northeast region. It is a type of tropical climate, but characterized by the lowest rainfall among all regions in the country (below 1,000mm/year) and higher temperatures, similar to the arid climate (dry). Rainfall is concentrated within a short time span, usually three months of the year, resulting in long drought periods.
- **Subtropical:** spans part of the states of São Paulo, Paraná, Mato Grosso do Sul, Santa Catarina and Rio Grande do Sul. Annual average rainfall exceeds 1,500mm, with rains well distributed during the year. The annual temperature range is the highest in Brazil. Summers are hot and winters have low temperatures, with occasional storms.

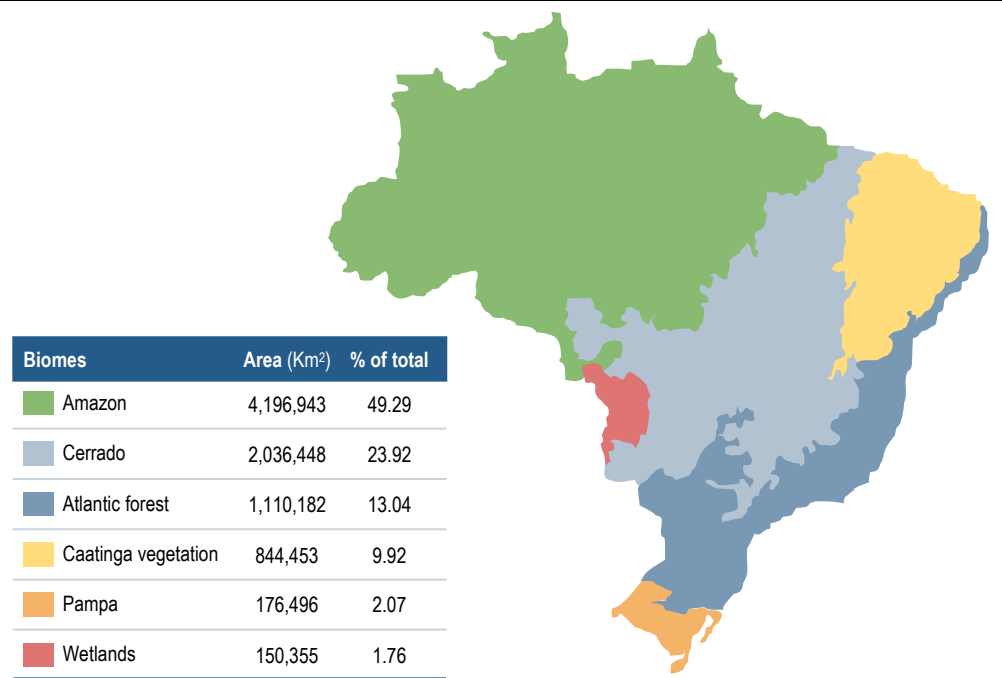


### 2.2.3. Biomes

The main types of vegetation living under similar climatic conditions and with biological diversity include (Exhibit 6):

- **Amazon:** the largest reserve of biological diversity in the world, the Amazon is also the largest biome in Brazil, occupying 49.3% of the territory. Its area spans 4.2mn Km<sup>2</sup>, home to the largest hydrographic basin in the planet, from which around 20% of all fresh water volume in the world flows. It covers five entire states (Acre, Amapá, Amazonas, Pará and Roraima), 99% of Rondônia, 54% of Mato Grosso, 34% of Maranhão and 9% of Tocantins.
- **Savannah:** occupies most of the Midwest region and the state of Minas Gerais. It is the second largest biome in Brazil, and has been increasingly used for agricultural expansion and urbanization.
- **Atlantic forest:** located in the coastal area of Brazil, from the Northeast to the South regions, advancing towards the inner part of the Southeast region, mainly in the state of São Paulo. It covers the areas with the greatest population densities in Brazil.
- **Caatinga vegetation:** occupies a large portion of the Northeast region, mainly the areas with semi-arid climate, and its vegetation has few leaves.
- **Pampas:** covers only the state of Rio Grande do Sul, occupying 63% of its territory. It is considered suitable for cattle raising, due to the predominance of grass and few trees.
- **Wetlands:** occupies 25% of the state of Mato Grosso do Sul and 7% of the state of Mato Grosso. It is located in a low-altitude area, with high biodiversity. Some areas are flooded during the rainy season due to the rise in the level of rivers.

**Exhibit 6: Brazilian biomes**

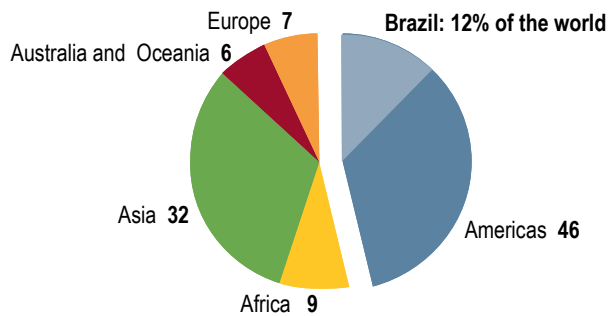


Source: IBGE, Credit Suisse

### 2.2.4. Water resources

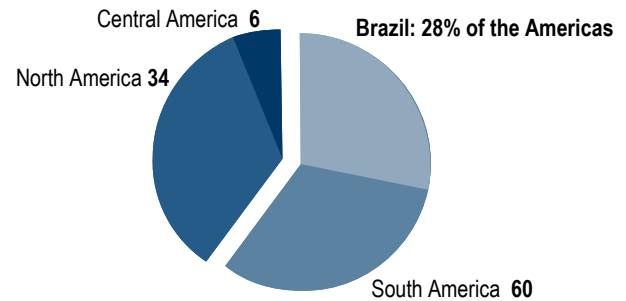
Brazil has extensive water resources. The average annual flow of the rivers is approximately 180,000 m<sup>3</sup>/s, which corresponds to 12% of the globally available water resources of 1.5mn m<sup>3</sup>/s (Exhibits 7 and 8). Considering water flow from foreign territories into Brazil (e.g., Amazon – 86,321 m<sup>3</sup>/s), total average flow increases to 267,000 m<sup>3</sup>/s (18% of global water availability).

**Exhibit 7: Surface fresh water in the world**



Source: UNESCO, ANA, Credit Suisse

**Exhibit 8: Surface fresh water in the Americas**



Source: UNESCO, ANA, Credit Suisse

Brazil has high water availability per capita (around 33,000 m<sup>3</sup> per capita per year), with significant flow differences according to regions and within periods. For instance, the Amazon Hydrographic Region has 74% of surface water resources, but is home to less than 5% of the population. The lowest average flow per inhabitant is found in the Northeast region and in some basins of this region, water availability is lower than 500 m<sup>3</sup> per capita per year. In the semi-arid portion of these regions, where droughts are a recurring phenomenon, water availability is a critical factor for local populations.

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### 3. Population



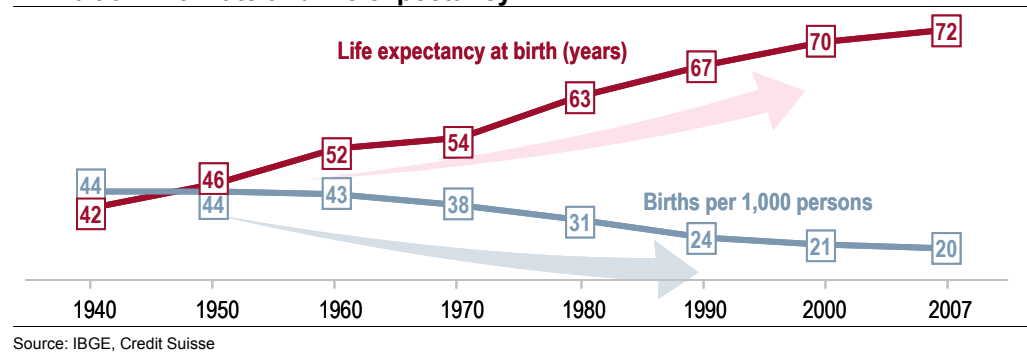
Brazil has 189 million inhabitants in 5,565 municipalities:

- The population is concentrated in urban areas. Only 16% of the population live in rural areas. Around 46% live in cities with less than 100,000 inhabitants and 21% live in the 14 Brazilian cities with over one million inhabitants.
- Lower birth rates and higher life expectancy have kept population growth relatively stable at around 1.5% per year over the past decade, which has changed the population's age profile in the period.
- Brazil has seen strong advances in its social and economic indicators in recent years. Average schooling of the population has improved significantly over the past decade, with a continued decline in illiteracy. Social programs and economic growth have helped reduce income concentration in the past few years.
- The labor force totaled almost 100 million people in 2007. Civil servants and military personnel account for 7.0% of the employed population. Nearly 60% of private sector workers have payroll jobs (i.e., formally registered employment with companies), while the number of informal jobs has declined in the last decade. Formalization of the labor market and the higher education level of the population have helped increase productivity in the economy, thus increasing Brazil's long-term growth potential.

### 3.1. Main characteristics of population

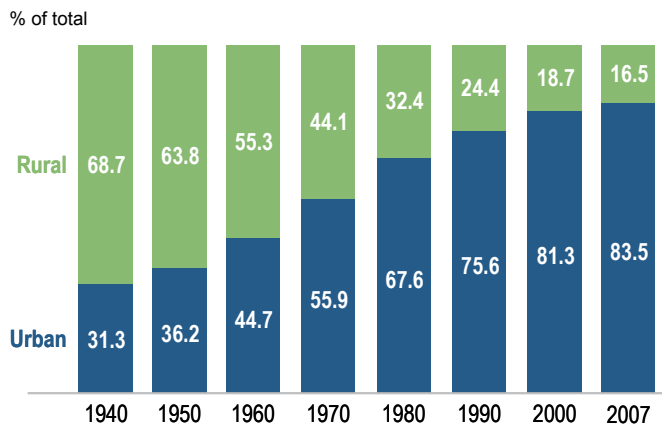
The population's average growth rate from 1998 to 2007 was 1.5% p.a., and has declined continuously since the 1960s. Life expectancy was 72 years in 2007, having risen considerably since the 1970s (Exhibit 9).

**Exhibit 9: Birth rate and life expectancy**

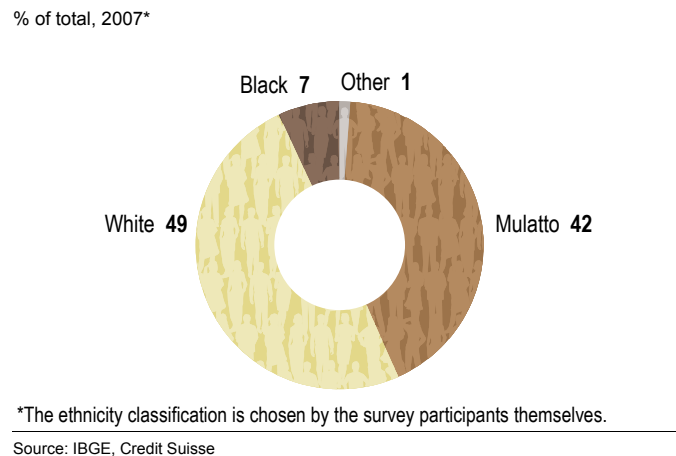


Since the 1960s, the population living in urban areas has almost doubled, from 44.7% of the population to 83.5% (Exhibit 10). In terms of ethnicity, the population is basically white or mulatto, which together account for 92% of the population (Exhibit 11).

**Exhibit 10: Urban and rural population**



**Exhibit 11: Ethnicity of Brazilian population**



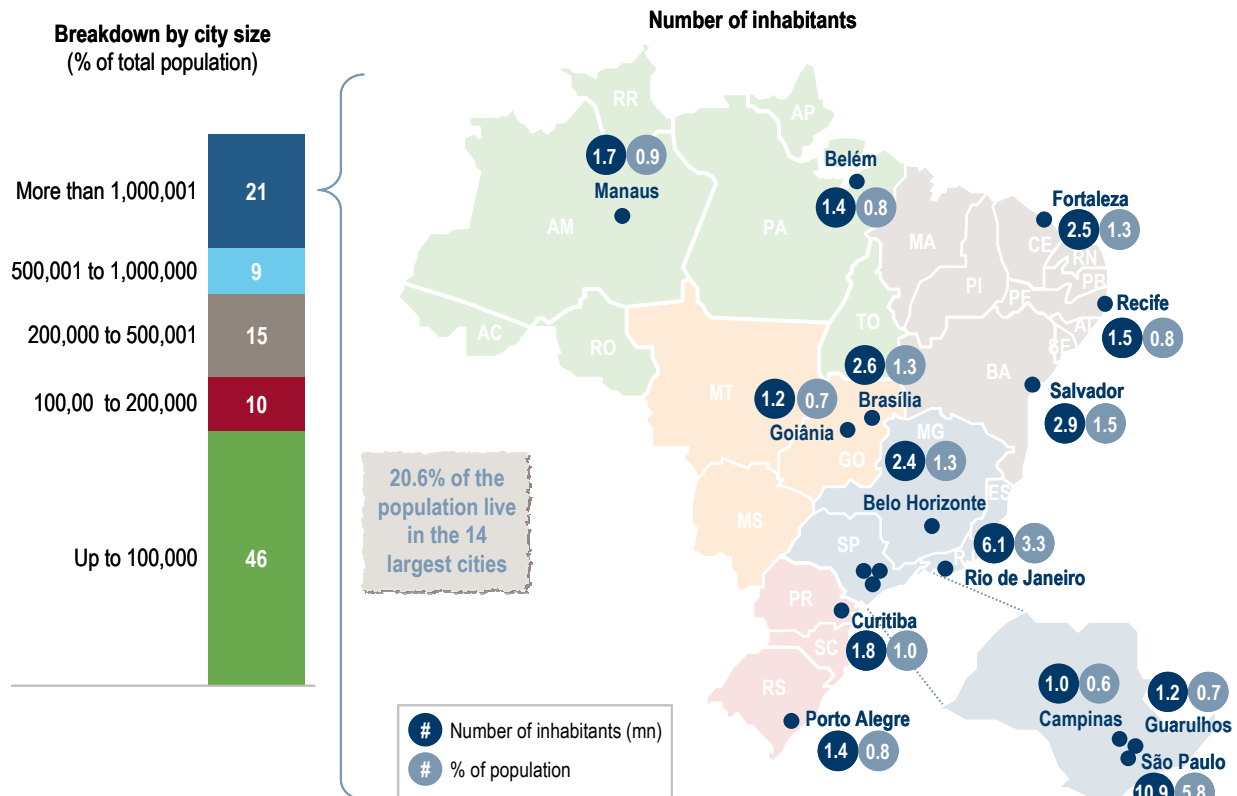
Brazil has 5,565 municipalities: 5,299 with less than 100,000 inhabitants, 137 with between 100,001 and 200,000 inhabitants, 92 with between 200,001 and 500,000 inhabitants, 23 with between 500,001 and 1 million inhabitants and 14 with more than 1 million inhabitants.

Nearly 46% of the total population live in cities with less than 100,000 inhabitants and 20.6% live in cities with a population above 1 million. The most populated city is São Paulo, with 10.9 million inhabitants (Exhibit 12).



**Exhibit 12: Population by city size and cities with more than one million inhabitants**

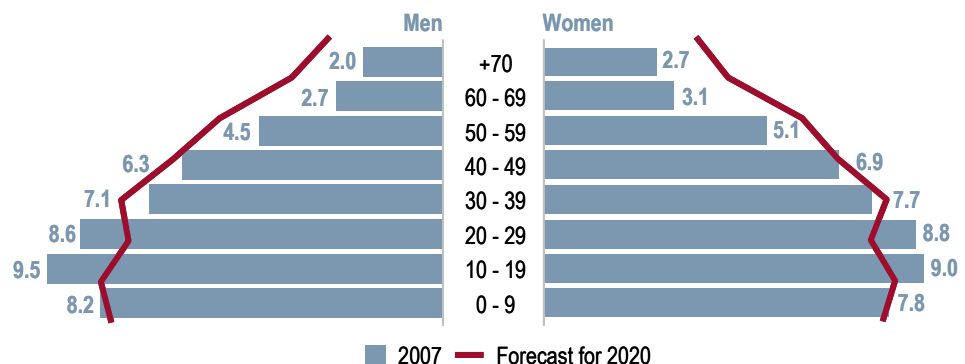
% of total in 2008



Source: IBGE, Credit Suisse

**3.2. Age**

Over the past 50 years, the Brazilian population has aged significantly. In 1950, 52% of the population was under the age of 20, versus 35% in 2007. Also, there has been a significant rise in age groups, notably a rise in the population aged between 30 and 60. The number of elderly people has also risen, with the percentage of people aged 70 years or older increasing from 1.5% in 1950 to 4.7% in 2007. This aging process should intensify in the years to come (Exhibit 13) as a result of lower birth rates and higher life expectancy.

**Exhibit 13: Brazil's age distribution (% of total population)**

Source: IBGE, Credit Suisse

### 3.3. Social aspects

Some of Brazil's social indicators are similar to those of developed countries, while others are similar to those of emerging economies. Indicators such as urban population, population aged between 15 and 64 and life expectancy at birth are already more in line with those of developed economies (Exhibit 14). At the same time, the number of children per women, birth and mortality rates are high, at levels closer to those of developing economies.

**Exhibit 14: Comparative indicators (2007)**

	Brazil	Argentina	India	Mexico	Russia	UK	US
Birth rate (per 1,000 persons)	20	18	24	19	10	12	14
Life expectancy at birth (years)	72	75	64	74	65	79	78
Maternal mortality rate (per 100,000 live births)	110	77	450	60	28	8	11
Infant mortality rate (per 1,000 live births)	20	14	59	30	15	5	7
Population aged 0-14 (% of total)	28	26	33	31	15	18	21
Population aged 15-64 (% of total)	66	63	62	63	71	66	67
Population aged 65 and above (% of total)	6	10	5	6	14	16	12
Population density (persons per sq. km)	22	14	368	53	9	249	32
Population growth (annual %)	1.5	1.0	1.4	1.0	-0.5	0.7	1.0
Population (mn)	189	39	1,095	103	143	60	297
Urban population (% of total)	84	90	29	76	73	90	81

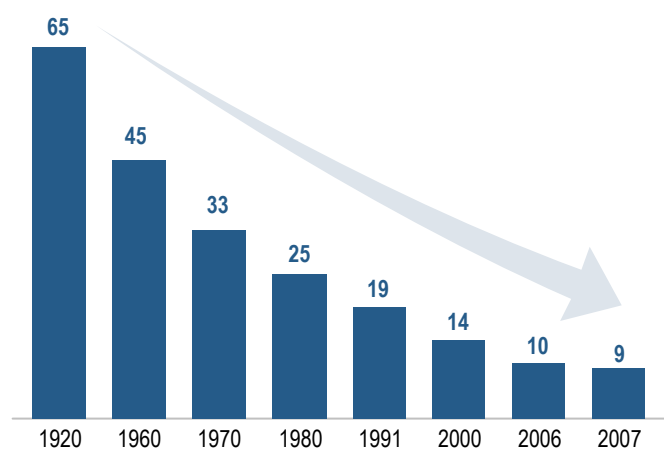
Source: World Bank, Credit Suisse

### 3.4. Education

Illiteracy has declined continuously in recent decades, from 65% in 1920 to 10% in 2007 (Exhibits 15 and 16).

**Exhibit 15: Illiteracy rates in Brazil**

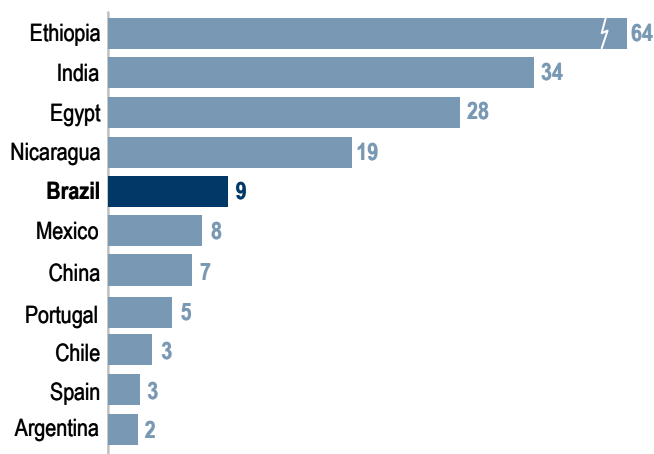
% of people aged +15 years



Source: IBGE, Credit Suisse

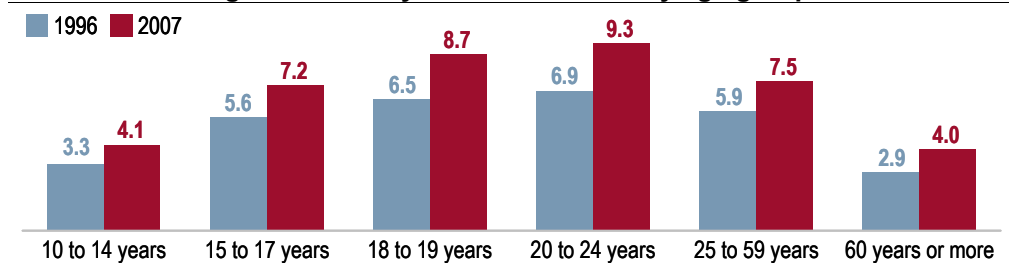
**Exhibit 16: Illiteracy rates**

% of people aged +15 years, 2007



Source: World Bank, Credit Suisse

Mainly as a result of low investments in schooling in the past, older-age groups have low educational levels. The group aged 60 or older has less than four years of education on average. Younger groups have higher educational levels, which are highest in the 20-24 age group – more than nine years of education on average. This is an important change from 1996, when the average number of years of education was 6.9 for the 20-24 age group (Exhibit 17).

**Exhibit 17: Average number of years of education by age group**

Source: IBGE, Credit Suisse

Despite having evolved significantly over the past few decades, the outlook for education in Brazil remains less favorable than for countries with the same level of per-capita income. In Brazil, those 15 years of age or older have, on average, five years of schooling, while the expected average for countries with a similar level of development is six years. The scenario is the same in comparison with the population's level of education: only 30% of the population 25-64 years of age have completed secondary education versus 50% in Chile, 77% in South Korea and 88% in Russia (Exhibit 18). On a more positive note, the large difference between the percentage of undergraduates aged 25-34 and those aged 55-64 shows that education in Brazil has evolved in recent decades.

**Exhibit 18: Population with a secondary education diploma**

% of total, 2008

Countries	Age					Change (25-34) -(55-64)
	25-64	25-34	35-44	45-54	55-64	
Brazil	30	38	32	27	11	27
Germany	83	84	85	83	79	5
Chile	50	64	52	44	32	32
South Korea	77	97	90	62	37	60
US	88	87	88	89	87	0
France	67	82	72	61	52	30
Mexico	32	39	36	28	17	22
Portugal	28	44	28	20	12	32
UK	69	76	70	67	61	15
Russia	88	91	94	89	71	20

Source: OECD, Credit Suisse

Brazil's negative performance in education rankings seems dissociated with the level of education spending (Exhibit 19), which amounted to 5.1 % of GDP in 2007, exceeding that of several countries, such as Argentina (3.8% of GDP), Chile (3.4% of GDP) and Japan (3.5% of GDP). The poor quality of the public elementary and high schools in Brazil is probably related to the government's option to allocate most of the education funding to public colleges and graduate schools. The cost to educate a student at a public university in Brazil is equivalent to 95% of the country's per capita income. This percentage is 23% in the USA, 33% in France, and 32% in the United Kingdom. We believe the focus on higher education to the detriment of primary education is a key factor attributable for Brazil's relatively low level of education.

**Exhibit 19: Public education spending per student**

%, as a share of income per capita, 2005

Countries	Primary	Secondary	Higher
<b>Brazil*</b>	<b>15.4</b>	<b>11.4</b>	<b>95.0</b>
Argentina	11.3	15.7	11.8
Chile	12.0	13.2	11.6
South Korea	18.8	23.4	9.3
US	20.7	23.1	23.4
India	8.9	16.7	57.8
Japan	22.2	22.4	19.2
Mexico	15.2	16.4	41.8
Portugal	23.2	24.7	27.1
UK	18.9	20.3	32.3

\*2007 data

Source: INEP, Unesco, Credit Suisse

According to Brazil's Ministry of Science and Technology (MCT), spending on research and development (R&D) totaled US\$19.4bn (measured in Purchasing Power Parity - PPP) in 2006, equivalent to US\$104 per capita. This level of spending on R&D is very low compared to developed countries, such as Japan (US\$1,023), the U.S. (US\$1,146) and even Korea (US\$664). Of the countries considered, Brazil's spending on R&D per capita is only higher than other Latin American countries (Exhibit 20).

**Exhibit 20: National spending on research and development (2006)**

Countries	Spending on R&D	
	Current PPP US\$bn	% of GDP
Japan	118.6	3.3
Korea	32.0	3.0
US	343.7	2.6
Germany	66.6	2.5
Singapore	3.1	2.4
Canada	23.1	2.0
Australia	11.8	1.8
China	144.0	1.4
Italy	18.1	1.1
Spain	13.4	1.1
France	42.5	1.1
Russia	18.3	1.1
<b>Brazil</b>	<b>19.4</b>	<b>1.0</b>
Argentina	3.1	0.5
Mexico	5.6	0.5

Source: MCT, Credit Suisse

In addition to low investment in R&D, Brazil has also a low number of engineers and physicians compared to the world's leading countries. While Brazil has around six engineers for every 1,000 economically active inhabitants, Japan, India, Korea, China and the U.S. have over 20 (Exhibit 21). The number of physicians in Brazil is also very low, at one for every 833 inhabitants, while France has one doctor for every 294 inhabitants and the U.S. has one doctor for every 385 inhabitants (Exhibit 22).

**Exhibit 21: Engineers with university degree (2006)**

	Graduated in 2006	Per 1000 inhabitants	% of graduates in 2006
China	300,000	22	38.0
India	200,000	22	21.0
Korea	80,000	25	27.4
US	70,000	25	6.5
Japan	40,000	25	21.3
<b>Brazil</b>	<b>20,000</b>	<b>6</b>	<b>13.2</b>

Source: CNI, Confea, MEC, Credit Suisse

**Exhibit 22: Number of physicians per country**

Countries	Inhabitants per physician	Ranking	Number of Physicians ('000)
Cyprus <sup>(1)</sup>	30	1	28.1
Cuba <sup>(4)</sup>	169	2	66.6
Russia <sup>(1)</sup>	233	8	614.2
Switzerland <sup>(1)</sup>	250	11	28.8
Uruguay <sup>(4)</sup>	270	21	123.8
France <sup>(1)</sup>	294	26	207.3
US <sup>(5)</sup>	385	46	730.8
China <sup>(3)</sup>	714	79	1,862.6
<b>Brazil<sup>(5)</sup></b>	<b>833</b>	<b>89</b>	<b>198.2</b>
India <sup>(2)</sup>	1,667	107	645.8
Indonesia <sup>(3)</sup>	10,000	156	295.0

<sup>(1)</sup>2006 data <sup>(2)</sup>2004 data <sup>(3)</sup>2003 data <sup>(4)</sup>2002 data <sup>(5)</sup>2000 data

Source: WHO, UN, CFM, Credit Suisse

Due to low investment in R&D, Brazil accounts for less than 2% of total research publications in the world, versus 32.3% for the U.S., 8.5% for the UK and 2.6% for Korea (Exhibit 23).

**Exhibit 23: Articles published in scientific journals and patent filings**

% of total in 2007

Countries	Articles published in indexed international scientific journals*		Patent filings in the U.S. from 1980 to 2004 (in '000)
	Total ('000)	% share	
US	283.9	32.3	189.5
UK	74.4	8.5	7.8
Germany	71.2	8.1	19.8
Japan	71.0	8.1	64.8
China	69.4	7.9	1.7
France	50.5	5.8	6.8
Canada	42.8	4.9	8.2
Italy	39.2	4.5	2.9
Spain	30.3	3.5	0.7
Australia	27.0	3.1	3.0
Korea	23.2	2.6	13.6
Russia	20.0	2.3	0.3
<b>Brazil</b>	<b>16.9</b>	<b>1.9</b>	<b>0.3</b>

\*Indexed in the Institute for Scientific Information (ISI)

Source: MCT, Credit Suisse

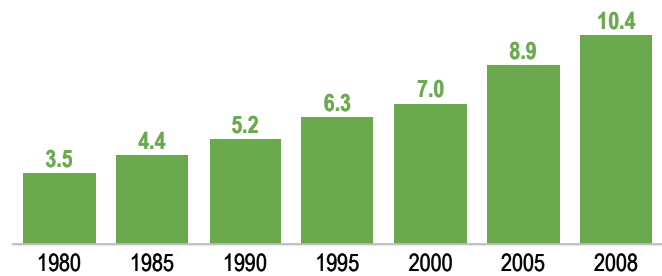


### 3.5. Income distribution

Brazil's per capita income was roughly US\$7,091 in 2007 (US\$9,200 PPP per capita) and has grown considerably since 1980 (Exhibit 24). In international terms, the country's GDP per capita is below some of the other Latin American countries, such as Argentina, Mexico and Chile (Exhibit 25).

**Exhibit 24: Brazilian income per capita (PPP)**

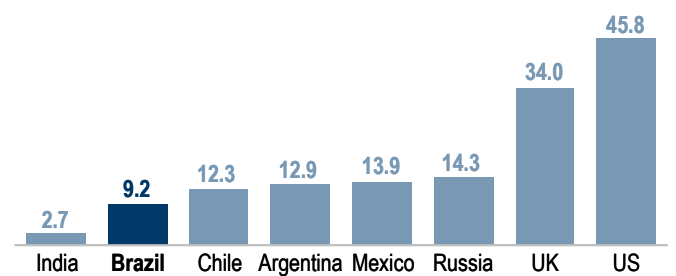
US\$ '000



Source: World Bank, Credit Suisse

**Exhibit 25: Income per capita (PPP – 2007)**

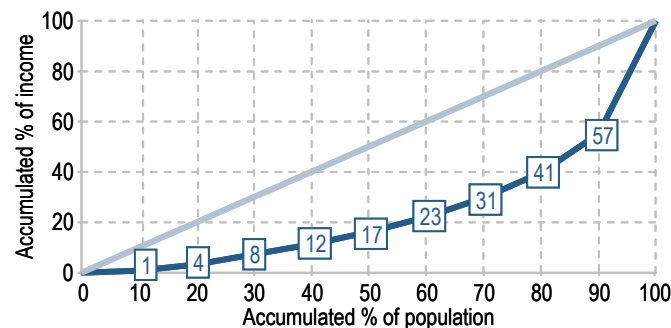
US\$ '000



Source: World Bank, Credit Suisse

Around 50% of the poorest inhabitants account for 17% of total income, and 45% of total income is concentrated in the hands of the wealthiest 10% (Exhibit 26). The percentage of Brazil's population below the poverty line (i.e., living on less than one dollar per day) has declined since 1990, especially since 2003 (Exhibit 27).

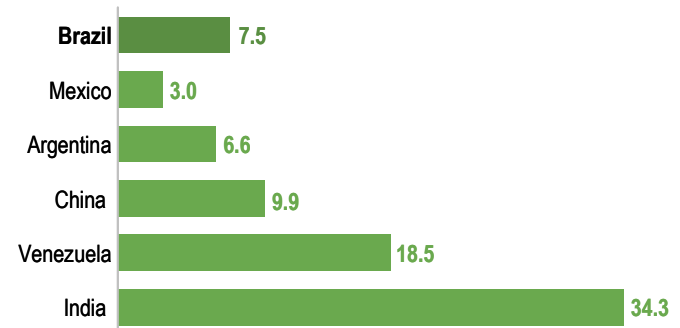
**Exhibit 26: Income distribution 2006**



Source: IBGE, Credit Suisse

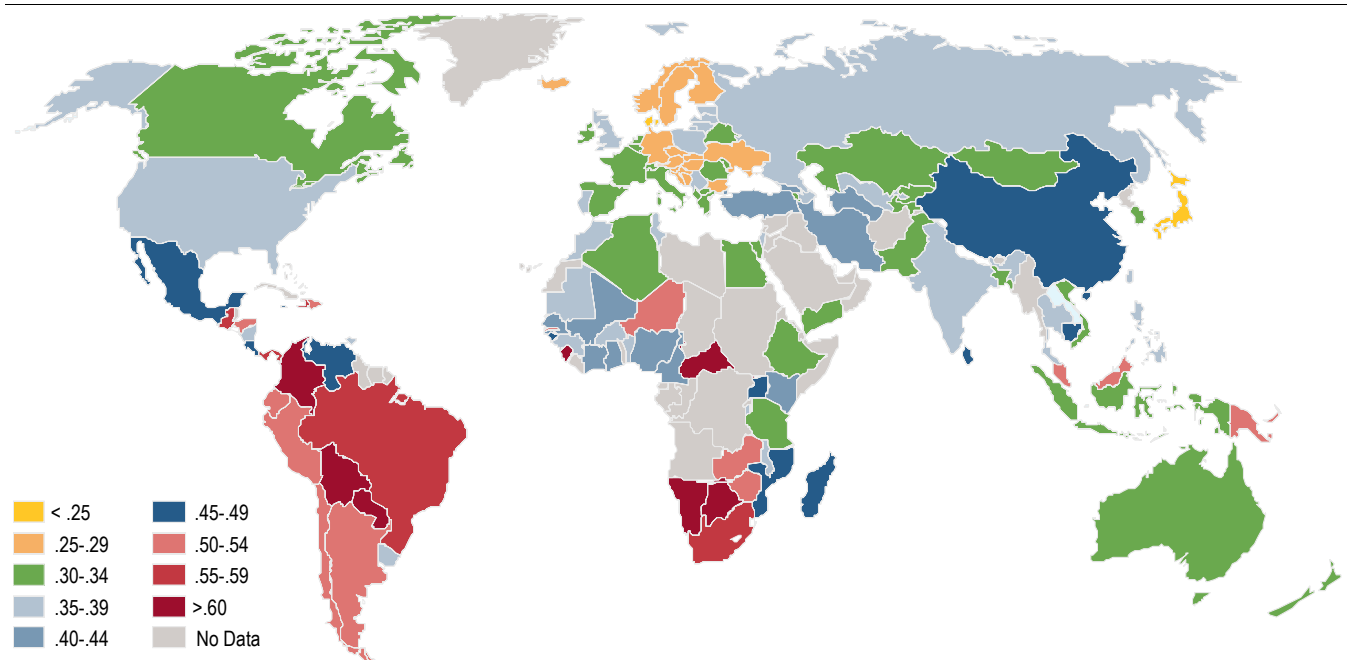
**Exhibit 27: Population living below the poverty line**

% of total population in 2004



Source: WHO, Credit Suisse

Despite the high level of concentration, income distribution has improved significantly since the 1990s. The Gini coefficient, which measures income concentration (the higher the index, the higher the degree of income concentration), fell strongly in this period, mainly from 2000 onwards (Exhibit 28).

**Exhibit 28: Gini index in the world**

Source: UN, Credit Suisse

Brazilian consumers can be classified among five income brackets, i.e., from A to E in increasing order. Based on May 2008 data, Neri (2008) classifies class E as households with incomes totaling up to R\$767 (US\$419) per month. Class D is the share of the population that earns between R\$768 (US\$420) and R\$1,063(US\$580). Class C is the middle class, composed of those earning between R\$1,064 (US\$581) and R\$4,590 (US\$2,508) per month. The elite (classes A and B) is comprised of households with income of at least R\$4,591 (US\$2,508) per month (Exhibit 29).

**Exhibit 29: Consumption groups in Brazil (2008)**

Bracket	% population	Household income from all sources			
		Lower limit		Upper limit	
		R\$	US\$	R\$	US\$
A and B	15.5	4,591	2,509	-	-
C	51.9	1,064	581	4,590	2,508
D	14.2	768	420	1,063	580
E	18.4	0	0	767	419

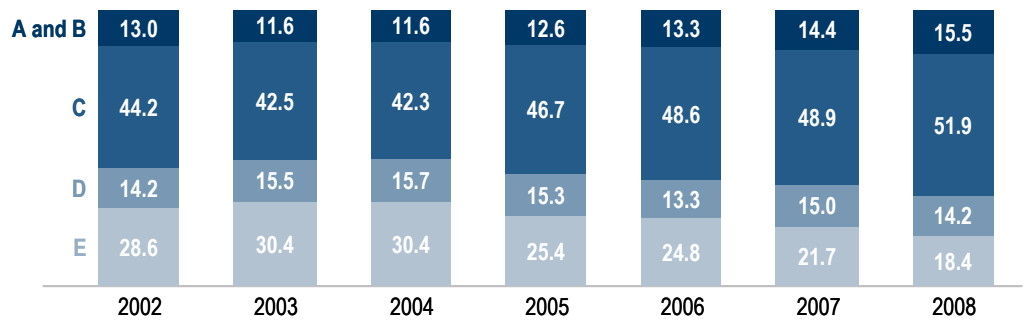
Source: FGV, Credit Suisse

The class C has gained relative importance in the past few years, increasing its share from 42.3% of the total population in 2004 to 51.9% in 2008. The combined share of classes A and B in total population rose from 11.6% to 15.5% in the period. The combined share of classes D and E in total population declined from 46.1% in 2004 to 32.6% in 2008 (Exhibit 30).

According to a survey of Instituto Análise of July 2009, the percentage of the population with some sort of banking credit is 62% for classes A and B, 48% for class C and 42% for classes D and E. It also shows that the savings as a percentage of total income for classes A and B, class C and classes D and E are, respectively, 15%, 14% and 12%.

**Exhibit 30: Evolution of consumption groups**

% of the population



Source: FGV, Credit Suisse

**3.6. Domestic consumer market**

Brazil represents the ninth largest consumer market in the world according to total household consumption in US\$ PPP. Among emerging markets in 2005, Brazil was only behind China and India, and ahead of all other countries in Latin America (Exhibit 31). Consumption in Brazil is equivalent to 9.4% of the U.S. consumption market and 15.9% of the Euro area consumption market. In relation to Latin American countries, the consumption market in Brazil is equivalent to 342% of the consumption market in Argentina, 110% of the consumption market in Mexico and 824% of the consumption market in Chile.

**Exhibit 31: Largest consumption markets (2005)**

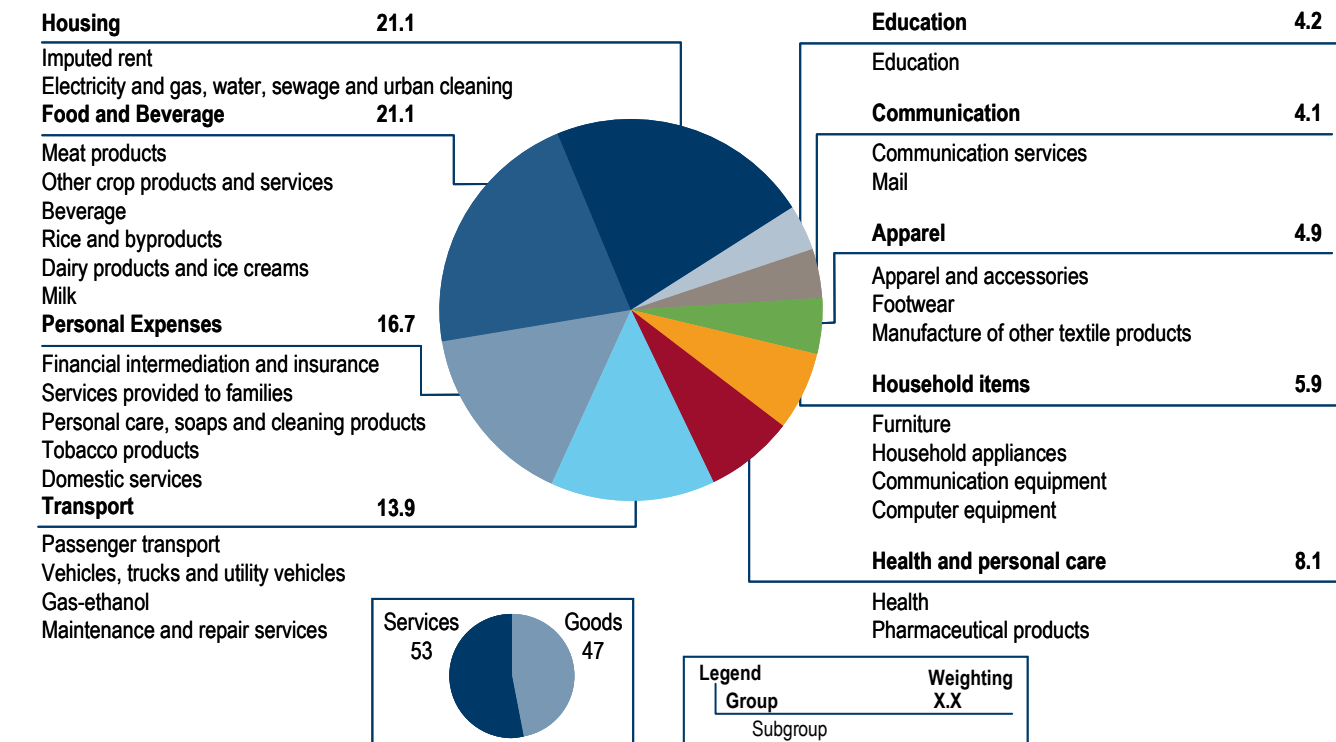
Countries	US\$ bn PPP	US\$ bn current	% of GDP
US	8,742	8,742	70.5
Euro area	5,198	5,781	57.3
Japan	2,005	2,600	57.2
China	1,743	869	38.7
Germany	1,459	1,643	58.9
India	1,323	466	57.9
UK	1,202	1,441	64.6
France	1,042	1,216	56.9
Italy	925	1,044	59.0
Brazil	825	533	60.4
Russia	804	381	49.8
Mexico	746	524	68.2
Spain	652	652	57.9
Canada	604	628	55.4
South Korea	485	417	52.6

Source: World Bank, Credit Suisse

In Brazil, there are 60.1mn households, with an average of 3.2 members per household (2007 data). In 2005, the income of Brazilian households was spent on services (53% of income) and acquisition of goods (47%). The main expense item for Brazilian households is housing and food and beverages, which account for around 21% of households' income. Personal expenses account for around 17% of household income, followed by transportation expenses (14%). The remaining 27% are broken down into education, communication, apparel, health and personal care and household items (Exhibit 32).

**Exhibit 32: Breakdown of household consumption by product groups**

% of total, 2005

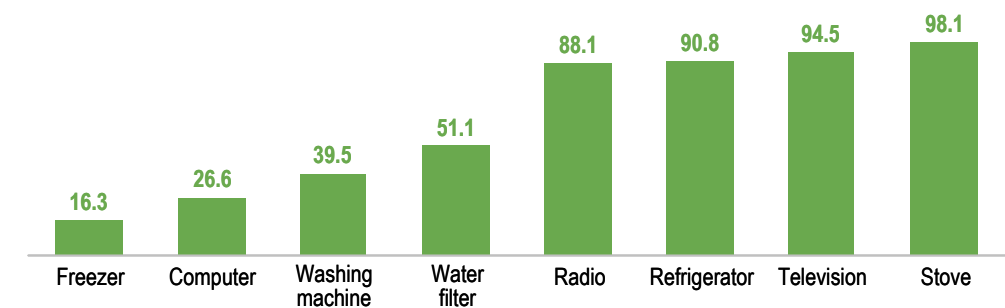


Source: IBGE, Credit Suisse

Access to the main consumer goods is widespread in Brazil (Exhibit 33): 98.1% of households have a stove, television (94.5%), refrigerator (90.8%), radio (88.1%), computer (26.6%) or washing machine (39.5%).

**Exhibit 33: Brazilian households with durable consumer goods**

% of total, 2007



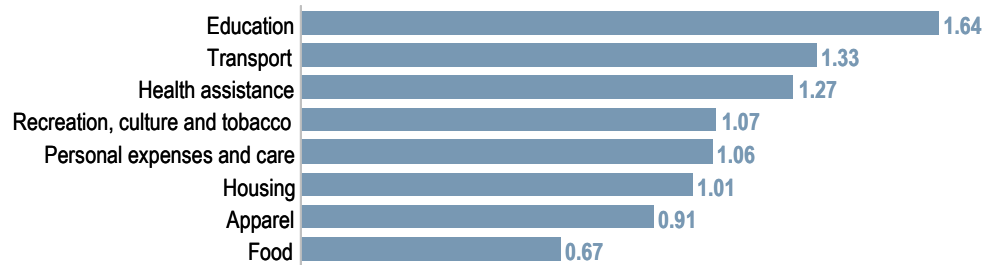
Source: IBGE, Credit Suisse

Consumer habits are shaped by socioeconomic and demographic changes. These developments will likely contribute to a gradual change in consumption patterns for families over the next few years. A rise in income translates into higher growth in spending on education and health care and lower spending on food and apparel<sup>1</sup> (Exhibit 34).

<sup>1</sup> Menezes T., B. Campolina, F. Silveira, L. Servo and S. Piola, 2006. Households' spending on and demand for health: an analysis based on the 2002-2003 POF, chapter 12, volume 1 of Spending and Consumption of Contemporary Brazilian Families.

### Exhibit 34: Sensitivity of household consumption with respect to 1% income change

%, 2006



Source: Menezes et al. (2006), Credit Suisse

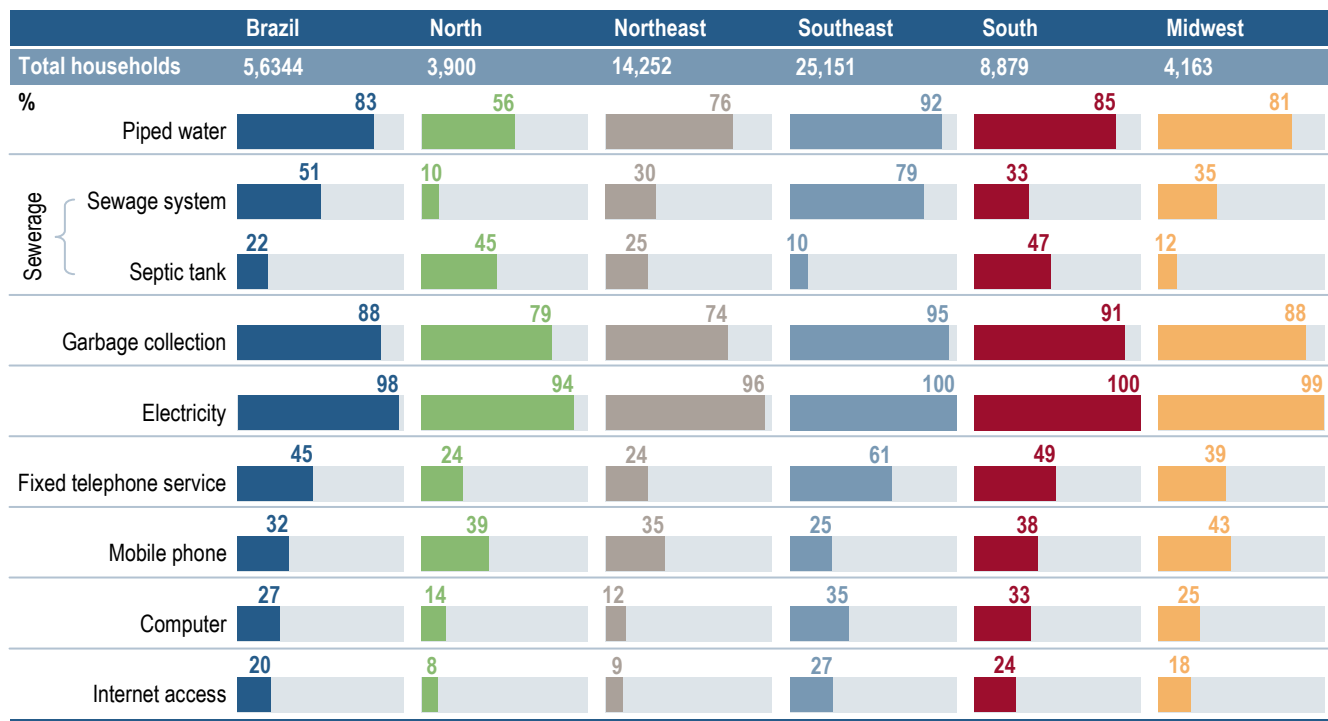
This elasticity differs significantly within each group of items. Examples of items posting higher consumption growth (due to higher income) than their respective groups include: out-of-home meals versus the Food group; health plans versus the Health group; and acquisition of vehicles versus the Transportation group.

### 3.7. Availability of public services

Electricity is the public utility service most available to Brazilian households, reaching 98% of Brazilian homes. Around 83% of Brazilian households have access to piped water and 88% to garbage collection. 45% of Brazilian homes have a fixed telephone service, which percentage jumps to 61% in the Southeast and South regions. In general, the North and Northeast regions have the lowest percentage of homes with access to public utilities, while the Southeast has the highest percentages (Exhibit 35).

### Exhibit 35: Homes with access to public utilities

2007, % of total



Source: IBGE, Credit Suisse



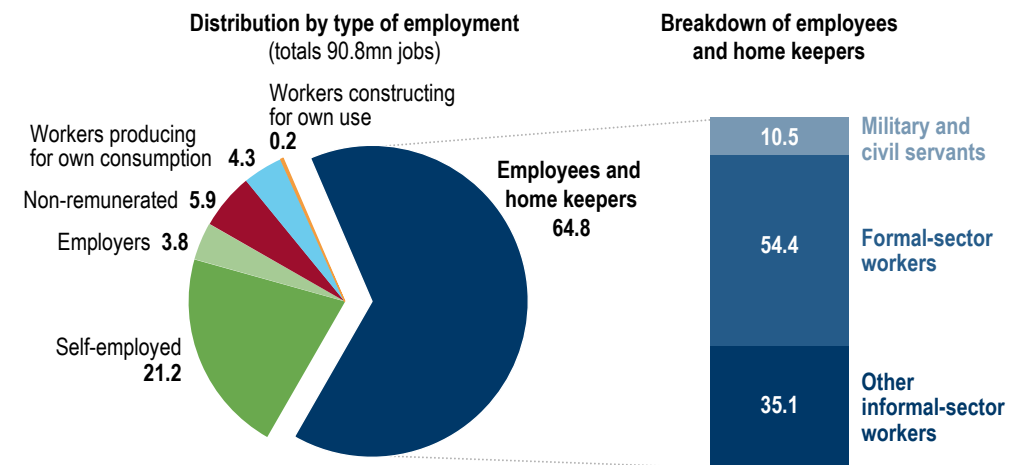
### 3.8. Labor market

There were 98.8mn people in the labor force (economically active population) in 2007, equivalent to 52% of the Brazilian population and 62% of the working-age population (above ten years old). In the same year, Brazil had an employed population of 90.8 million and an unemployment rate of 8.2%.

Of the total employed population, 64.8% are employees (including home workers), 21.2% are self-employed (workers that do not have a formal employment relationship), 3.8% are employers, and the remaining 10% are mostly self-supporting, non-remunerated workers (Exhibit 36). Of the employees and home workers, 54.4% are registered employees (i.e., they have formal labor entitlements under Brazilian law and pay taxes such as income tax and social security contributions), 10.5% are either military or civil servants, and 35.0% are informal employees.

#### Exhibit 36: Distribution of jobs by type of employment

2007, % of total

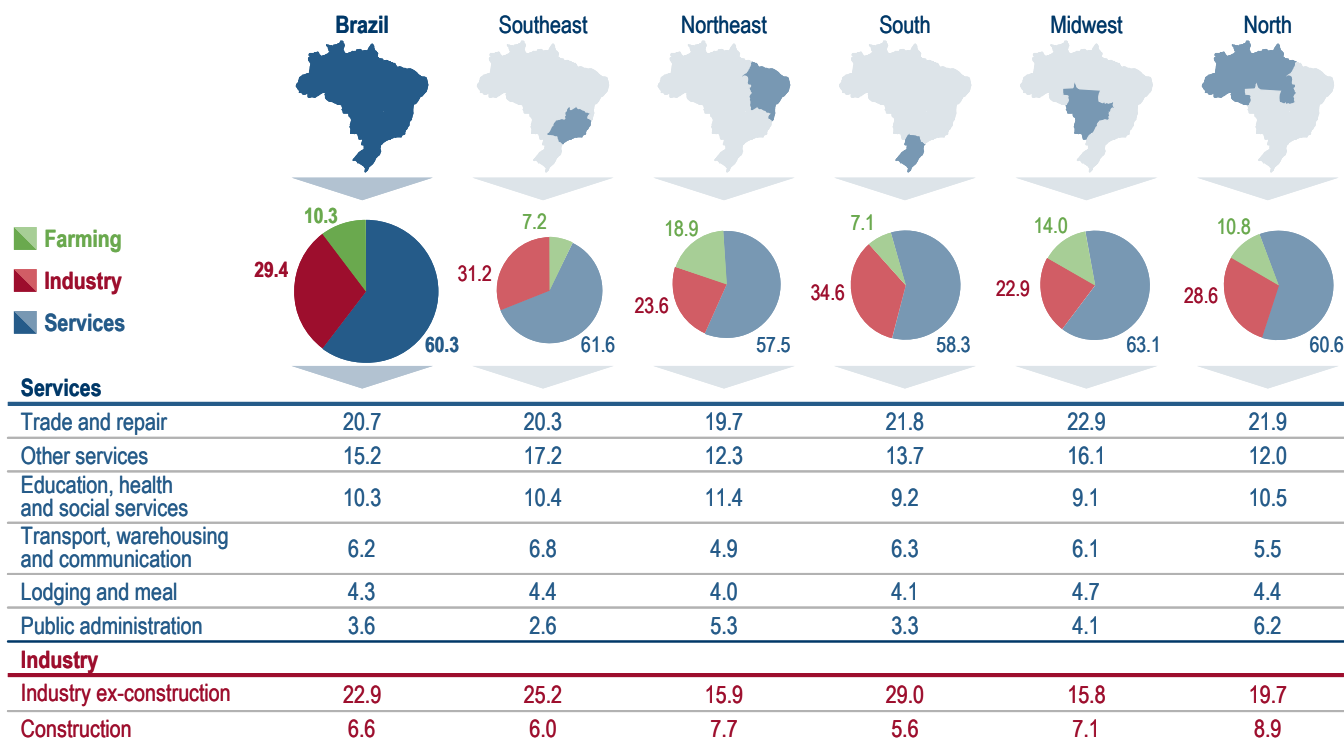


Source: IBGE, Credit Suisse

Of the total employees (excluding military and civil servants), 49% are concentrated in the Southwest and 21% in the Northeast, followed by the South (16% of total jobs), Midwest (7%) and North (6%) regions. In the sectoral breakdown, the most jobs are concentrated in the service sector (60%), while the industrial sector contains around 30%, and farming only 10%. Regionally, jobs in the industrial sectors are more concentrated in the Southeast and South, while the Northeast and North concentrate, proportionally, more jobs in the agricultural sector (Exhibit 37).

**Exhibit 37: Breakdown of jobs by region and economic sector**

% of total, except armed forces and civil servants, 2007

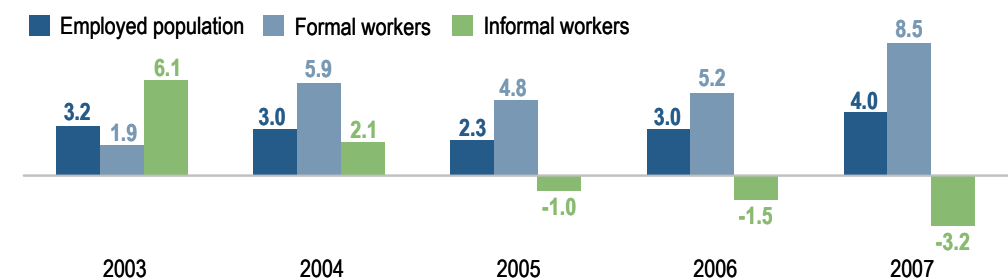


Source: IBGE, Credit Suisse

The formal labor market grew from 31.4 million job positions in 2004 to 37.6 in 2007, helped by payroll job growth outpacing non-payroll job expansion. The so-called 'informal' market (i.e., non-payroll jobs) actually shrunk between 2005 and 2007, while the 'formal' segment (i.e., payroll jobs) grew (Exhibit 38), leading to an increase in tax revenues (e.g., social security contributions and related charges).

**Exhibit 38: Employment growth in the formal and informal sectors**

%, yoy



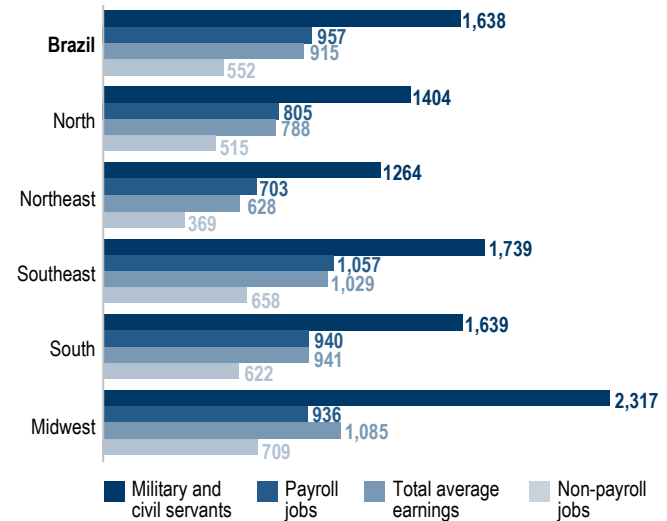
Source: IBGE, Credit Suisse

Higher growth in payroll jobs than in non-payroll jobs has led to an increase in real earnings. In 2007, the average real wage was R\$915, compared to R\$1,638 for military and civil servants, R\$957 for private-sector employees and R\$552 for workers not registered under Brazil's labor laws (Exhibit 39). According to the Monthly Employment Survey of the IBGE, which provides monthly information on the behavior of the labor

market in six metropolitan regions<sup>2</sup> (São Paulo, Rio de Janeiro, Belo Horizonte, Porto Alegre, Recife and Salvador), real wages have grown considerably in recent years (Exhibit 40). This movement was favored by Brazil's stronger economic growth between 2004 and 2008 and by growth in the payroll job sector.

**Exhibit 39: Average wages by job category**

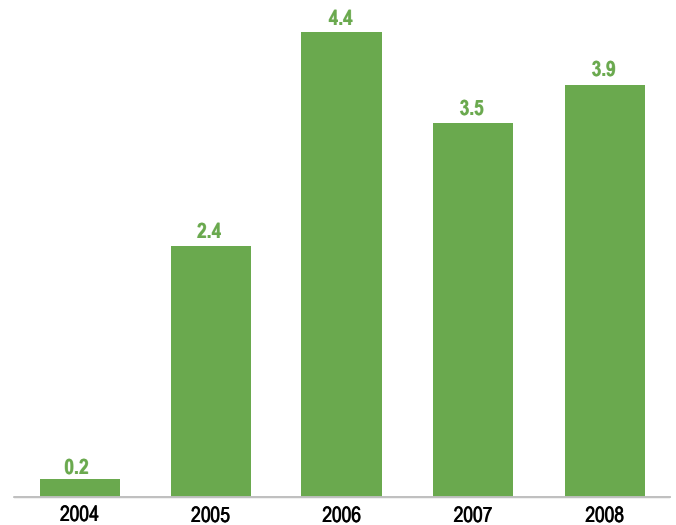
2007, R\$



Source: IBGE, Credit Suisse

**Exhibit 40: Growth in real wages**

%, Monthly employment survey



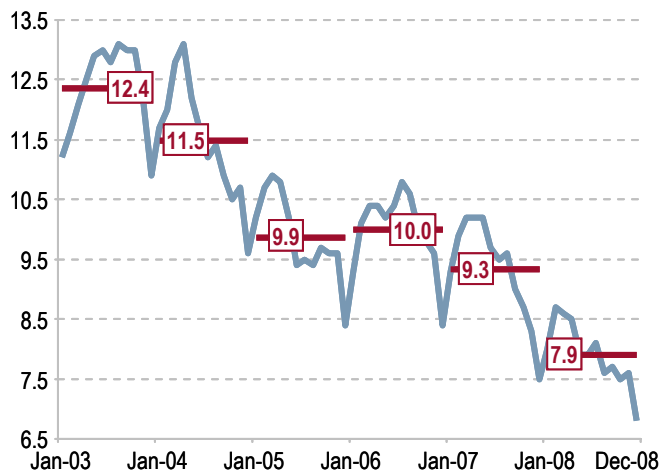
Source: IBGE, Credit Suisse

As a result of the strong economic growth in the 2004-2008 period, Brazil's unemployment rate, as measured by the Monthly Employment Survey, declined significantly in that period (Exhibit 41). The main driver for this movement was higher job creation, rather than slower growth in the labor force. Job creation grew 2.7% p.a. in that period, while the labor force expanded by an average of 1.7% in the same period. The nationwide unemployment rate measured by the National Household Survey (Pnad) was 8.2% in 2007 (last data available). In the last few years, the unemployment rate as measured by the Monthly Employment Survey has been higher than the rate determined by the National Household Survey (Exhibit 42).

<sup>2</sup> Since it is published monthly, the Monthly Employment Survey is the labor market survey tracked by the market, while the only nationwide survey containing statistics on the labor market is the National Household Sample Survey, which is only released once a year by the IBGE with some time lag. The Monthly Employment Survey sample features one quarter of the labor force considered by the National Household Sample Survey.

**Exhibit 41: Unemployment rate (Monthly Employment survey)**

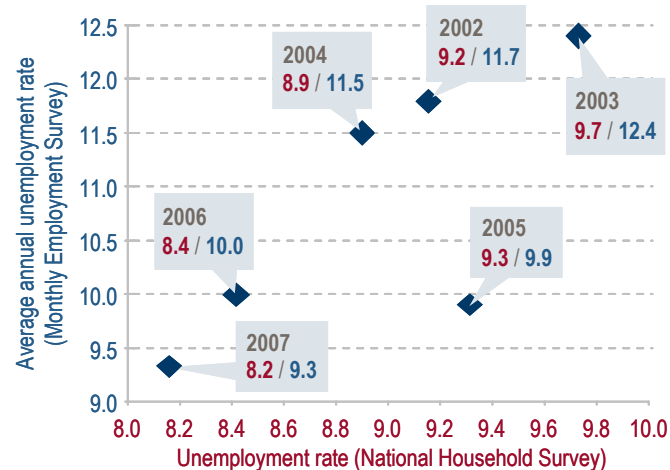
% of labor force



Source: IBGE, Credit Suisse

**Exhibit 42: Unemployment rate (two measures)**

% of labor force



Source: IBGE, Credit Suisse

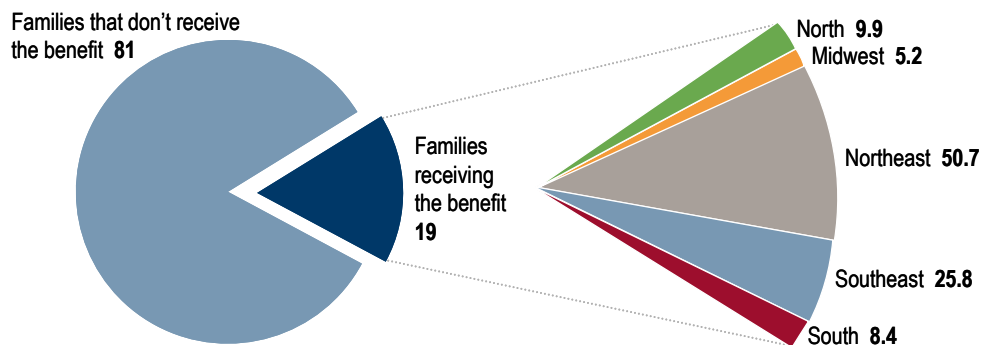
### 3.9. *Bolsa família* (family welfare payment)

The *Bolsa Família* is an important social program of the federal government. In 2008, it benefited around 11.3mn families (approximately 19% of Brazilian households) via a direct money transfer to low-income families. The program was established in 2004 and consolidated/expanded on a set of previously existing social programs (e.g., education allowance and food allowance). The Ministry of Social Development (MDS) is responsible for managing the program and selecting the households eligible to receive the benefit.

The program's budget for 2009 is US\$6.5bn (0.25% of GDP). Most beneficiaries live in the Northeast and Southeast regions (Exhibit 43). The payments are divided into three types, ranging from R\$20 to R\$182. The average payment is R\$75 per family. The amount varies according to the per capita income of each household and the number of school-age children. Families must fulfill certain requirements (e.g., keeping their children in school) to receive the payments.

**Exhibit 43: Breakdown of the *Bolsa Família* program beneficiaries**

%, 2009 budget



Source: MDS, Credit Suisse

## 4. Economy and politics

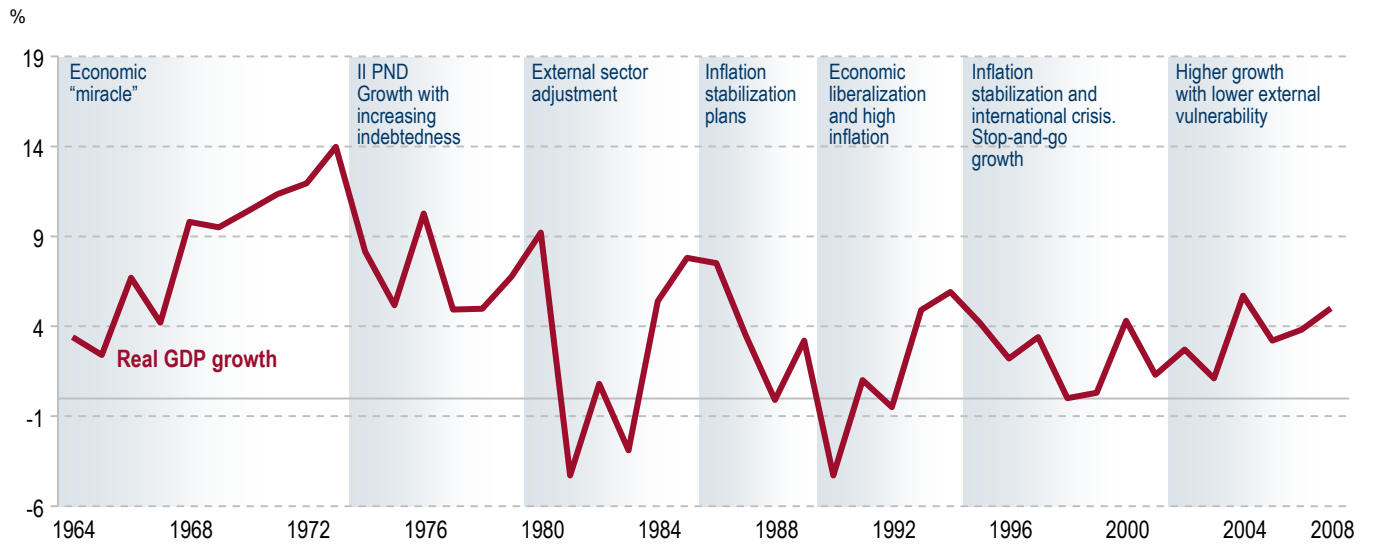


- From 1964 to 1993, the Brazilian economy was marked by a combination of high growth (5.1% p.a.) and high inflation (137% p.a.), with periods of growth above 10% p.a. and long periods of low growth or recession.
- The period known as the “Brazilian miracle” (from 1968 to 1973) was characterized by GDP growth of around 11% p.a. This cycle was aborted mostly because of a strong external account imbalance and a significant rise in inflation. The 1980s and the yearly 1990s were marked by low economic growth (average of 2.1% p.a.) and several economic stabilization plans.
- With inflation under control as of 1994 and significant improvement in external solvency indicators from 2004 onwards, Brazil was able to resume a more accelerated growth. Resulting expansionary cycle was the longest since the 1970s and ended in Q3 2008 with the international financial crisis.
- The favorable outlook for Brazil over the next few years is the result of a set of macroeconomic policies that have been instituted since the mid-1990s (e.g., inflation-targeting regime, fiscal responsibility law and floating exchange rate regime). Macroeconomic stability has increased the predictability horizon of the economy and helped boost credit and investments, thus increasing Brazil's potential growth.

## 4.1. Brief recent history of Brazilian economic growth

From 1964 to 2008, average annual growth in the Brazilian economy was 4.5% p.a.. This growth rate was not uniform over time, however, and underwent rapid growth spurts and prolonged crises, both domestic and international. Inflation and the financing of the balance of payments were constantly on the discussion agenda in this period (Exhibit 44).

**Exhibit 44: GDP growth cycles from 1964 to 2008**



### 1964-1973: Military regime and the Brazilian Economic Miracle

The military government instituted in 1964 launched a set of economic policies and structural reforms known as the Government's Economic Plan of Action (PAEG), which led Brazil to years of high economic growth based on external financing. The government raised tax revenues, strengthened the financial markets and raised the degree of indexation of the economy.

Strong investments in infrastructure, power generation, highways and heavy industry were made by state-owned companies and by the government. The average growth rate of the period was 11.2% per year, with average inflation of 19.0% per year, low for Brazilian standards up to then.

Brazil diversified its export base in the period, with manufactured goods boosting their share in exports from 7% in 1965 to 28% in 1974. Public-sector spending as a percentage of GDP rose significantly, from 9.7% in 1967 to 17.5% in 1975, owing primarily to growth in spending on civil servants and on investments.

This period was known as the "Brazilian Miracle."

### 1974-1979: Growth with debt

The first oil shock in 1973 doubled Brazilian imports in under a year (from 1973 to 1974), resulting in a trade deficit of US\$4.7bn (4% of GDP) in 1974 versus near breakeven in 1973. The government's option was to maintain strong domestic demand, which led to a high trade deficit. The current account deficit was mainly financed via short-term external debts. The government opted to keep investments at a high level, mainly in infrastructure projects. The economy maintained strong growth, at an average of 6.7% p.a., but with external debt rising significantly from US\$12.6bn in 1973 (15.6% of GDP) to US\$49.9bn in 1979 (22.5% of GDP).

The cost of financing government policies increased considerably due to: (i) the rise in interest rates in the international market; and (ii) the second oil shock in 1979, which caused further deterioration in Brazil's trade conditions. This strategy of growth with external debt ended in 1980, with the rise in interest rates, economic recession, import controls, investment cuts and exchange rate devaluation.

#### **1980-1985: Slower economic growth and balance of payment adjustment**

The period of 1980-1985 saw an adjustment in Brazil's external accounts. In this period, the average GDP growth rate was 1.4% p.a. After the economic crisis of 1980, Brazil defaulted on its foreign debt in 1983, shortly after the Mexican debt moratorium.

Brazil experienced a significant recession in 1983 as a result of the debt crisis. There was also an inflation spike as a result of the local currency depreciation in 1979 and 1983. The fiscal deficits and the generalized indexation of the economy intensified the effects of inflationary inertia and as a consequence, inflation rose from 110% in 1980 to 235% in 1985.

#### **1985-1990: Inflation stabilization plans**

The first civilian president since the inception of the military regime in 1964 was chosen through indirect elections. With the death of the elected president, Tancredo Neves, at the start of his term, vice-president José Sarney took office. The second half of the 1980s was characterized by unorthodox plans to reduce inflation, with price controls, high growth volatility and fiscal fragility.

After a brief initial success in the fight against inflation, it spiked rapidly in the ensuing period, with a decline in real wages leading to lower consumption and a recession. Average inflation in the period was 567% p.a., varying between 0.8% and 82.4% per month. Despite the failure of the unorthodox plans in the period, average GDP growth was 4.5% p.a. in the period.

#### **1990-1992: Opening up of the economy, with high inflation**

At the start of his term, the first president elected under the direct vote system since 1964, Fernando Collor, adopted a radical stabilization plan that sought to reduce inflation through extreme control of the economy's liquidity. First, over 80% of the economy's financial assets were frozen, and then the economy was gradually deregulated. The plan included tools for fiscal control, the launch of a privatization program and the opening up of foreign trade.

The failure of the stabilization plan and the impeachment of President Collor raised uncertainty over the economy and caused an average contraction in GDP of 1.3% p.a. from 1990 to 1992.

#### **1992-1994: Implementation of the Real Plan**

Vice-president Itamar Franco was sworn in after Collor was impeached. President Franco implemented another stabilization plan, called the "Real Plan" in 1994. The plan aimed to promote the de-indexation of the economy and to reduce inflationary inertia. At the same time, the plan was successful in reducing inflation from 2,477% in 1993 to 917% in 1994 and 22% in 1995.

The government introduced a currency unit pegged to the dollar at the beginning of 1994 before creating a new currency, the Real, in mid-1994.

#### **1995-1998: The first few years of the Real Plan**

The success of the Real Plan catapulted Fernando Henrique Cardoso – former finance minister of the Itamar Franco administration – into national favor and helped him win the presidential election. The plan also resulted in rapid growth in consumption and a significant deterioration in the trade balance. Short-term capital flows, attracted by high local interest rates, financed the growing current account deficit.



In 1996, the central bank's Monetary Policy Committee (Copom) was created to establish monetary policy guidelines and determine the level of basic interest rates, while pursuing greater transparency in terms of monetary policy handling. The Copom was modeled on the U.S. Federal Open Market Committee (FOMC).

There were severe crises in various emerging markets from 1995 to 1999. Brazil operated a fixed exchange rate regime, which ended up causing major local currency devaluation pressures in the face of the capital flight from Brazil after successive international crises (Asia in 1997 and Russia in 1998). The 1998-1999 crisis in Brazil led the government to sign an agreement with the International Monetary Fund (IMF) to maintain the country's pegged exchange rate regime. Brazil loaned US\$41bn from the IMF, which established as one of the prerequisites a set of primary fiscal surplus targets – for federal and regional governments and for state-run companies.

### **1999-2002: Inflation target, floating exchange rate and primary surplus target**

At the start of 1999, after the inauguration of President Cardoso in his second term, the central bank changed the exchange rate regime to a floating one, after a significant loss of international reserves. This resulted in the depreciation of the local currency from R\$ 1.20/US\$ at the start of January to R\$ 2.16/US\$ in March.

In response to the unfavorable scenario sparked by the local currency depreciation, the government raised the primary surplus target for the consolidated public sector (central government, regional governments and government owned companies) and implemented the inflation-targeting and floating exchange rate regimes. As a result, the local currency appreciated to R\$ 1.80/US\$ at year-end 1999.

Because of the significant depreciation in local currency in the year, IPCA inflation rose from 1.7% in 1998 to 8.9% in 1999. Average IPCA inflation in the period 1999-2002 was 8.7%. At the same time, the current account deficit stopped deteriorating as of 1999. The current account deficit declined from an average 4.1% of GDP in the 1999-2001 period to 1.5% of GDP in 2002, as a consequence of a significant slowdown in economic growth and a strong decline in imports.

Uncertainty about the policies of the front-runner candidate for the 2002 presidential election, Luis Inácio (Lula) da Silva, led to heavy dollar outflows. The local currency depreciated from R\$ 2.27/US\$ in mid-April 2002 to R\$ 3.95/US\$ at the start of October but clawed back to R\$2.54/US\$ by year-end.

### **2003-2008: Higher economic growth with decline in external vulnerability**

President Lula, elected in October 2002 and reelected in 2006, maintained and reinforced the economic policy tripod implemented in the prior government: inflation-targeting regime, floating foreign exchange rate and primary surplus target. This helped reduce uncertainty as to the handling of economic policy and Brazil's ability to perform on its financial obligations. Since year-end 2002, the local currency (Real) has appreciated continuously up to mid-2008.

Average GDP growth was 3.4% p.a. from 2003 to 2007, well above the average growth from 1995 to 2002. Investments and consumption have outgrown GDP since 2005, in an environment of a steady decline in inflation, averaging 6.0% in the period.

Also, this period experienced a sharp reduction in external vulnerability, with a rise in international reserves from US\$49bn in 2003 to over US\$193.8bn in December 2008. The sovereign debt bonds refinanced in the terms of the Brazilian Financing Plan (Brady Plan - 1992) were 100% repurchased, with external debt declining to around 6% of the total in 2008.

## 4.2. Selected economic indicators

In the past few years, Brazil's GDP growth has accelerated as a result of better local fundamentals and a windfall from the global economy. On the demand side, investments and household consumption helped drive this higher growth. Another boon is the country's relatively stable inflation, which has remained within the inflation tolerance range. Last but not least, the local currency has appreciated considerably (Exhibit 45).

**Exhibit 45: Selected economic indicators**

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>Population, national accounts and employment</b>												
Nominal GDP (R\$ bn)	939	979	1,065	1,179	1,302	1,478	1,700	1,941	2,147	2,370	2,598	2,890
Nominal GDP (US\$ bn)	871	843	587	645	554	504	553	663	880	1,087	1,333	1,579
Real GDP growth (%)	3.4	0.0	0.3	4.3	1.3	2.7	1.1	5.7	3.2	4.0	5.7	5.1
Supply	Agriculture (%)	0.8	3.4	6.5	2.7	6.1	6.6	5.8	2.3	0.3	4.2	5.9
	Industry (%)	4.2	-2.6	-1.9	4.8	-0.6	2.1	1.3	7.9	2.1	2.9	4.7
	Services (%)	2.6	1.1	1.2	3.6	1.9	3.2	0.8	5.0	3.7	3.8	5.4
Demand	Household consumption (%)	3.0	-0.7	0.4	4.0	0.7	1.9	-0.8	3.8	4.5	5.2	6.3
	Government consumption (%)	1.2	3.2	1.7	-0.2	2.7	4.7	1.2	4.1	2.3	2.6	4.7
	Gross fixed capital formation (%)	8.7	-0.3	-8.2	5.0	0.4	-5.2	-4.6	9.1	3.6	9.8	13.5
	Exports (%)	11.0	4.9	5.7	12.9	10.0	7.4	10.4	15.3	9.3	5.0	6.7
	Imports (%)	14.6	-0.1	-15.1	10.8	1.5	-11.8	-1.6	13.3	8.5	18.4	20.8
<b>Unemployment rate – IBGE (% of workforce)</b>												
	-	-	-	-	-	11.7	12.3	11.5	9.8	10.0	9.3	7.9
<b>Inflation, exchange and interest rate</b>												
IPCA inflation - IBGE (%)	5.2	1.7	8.9	6.0	7.7	12.5	9.3	7.6	5.7	3.1	4.5	5.9
IGP-DI inflation - FGV (%)	7.5	1.7	20.0	9.8	10.4	26.4	7.7	12.1	1.2	3.8	7.9	9.1
Exchange rate – annual average (R\$/US\$)	1.08	1.16	1.82	1.83	2.35	2.93	3.07	2.93	2.44	2.18	1.95	1.83
Exchange rate – end of period (R\$/US\$)	1.12	1.21	1.80	1.95	2.31	3.54	2.89	2.66	2.34	2.14	1.77	2.34
Average Selic interest rate (%)	28.79	29.18	25.59	17.63	17.45	19.23	23.42	16.38	19.14	15.27	11.98	12.39
<b>Fiscal policy</b>												
Total nominal balance (% of GDP)	-5.5	-7.0	-5.3	-3.4	-3.1	-3.7	-5.0	-2.7	-3.4	-3.5	-2.6	-1.9
Total primary balance (% of GDP)	-0.9	0.0	2.9	3.2	3.2	2.7	3.3	3.6	3.9	3.2	3.3	3.6
Central government gross debt (% of GDP)	-	-	-	57.2	59.7	57.0	60.1	54.1	56.5	56.0	57.2	58.3
Net public-sector debt (% of GDP)	31.8	38.9	44.5	45.5	49.8	51.3	53.5	48.2	48.0	45.9	43.9	38.8
<b>Balance of payments</b>												
Trade balance (US\$ bn)	-6.8	-6.6	-1.2	-0.7	2.7	13.1	24.8	33.6	44.7	46.5	40.0	24.8
Export of goods (US\$ bn)	53.0	51.1	48.0	55.1	58.2	60.4	73.1	96.5	118.3	137.5	160.7	197.9
Imports of goods (US\$ bn)	59.7	57.8	49.3	55.8	55.6	47.2	48.3	62.8	73.6	91.4	120.6	173.1
Current account balance (% of GDP)	-3.5	-4.0	-4.3	-3.8	-4.2	-1.5	0.8	1.8	1.6	1.3	0.1	-1.8
Foreign direct investment - FDI (US\$ bn)	19.0	28.9	28.6	32.8	22.5	16.6	10.1	18.1	15.1	18.8	34.6	45.1
Central bank gross international reserves (US\$ bn)	52.2	44.6	36.3	33.0	35.9	37.8	49.3	52.9	53.8	85.8	180.3	193.8
International reserves/ Foreign debt (%)	26.1	19.9	16.1	15.2	17.3	18.0	22.9	26.3	31.7	49.7	93.3	97.7

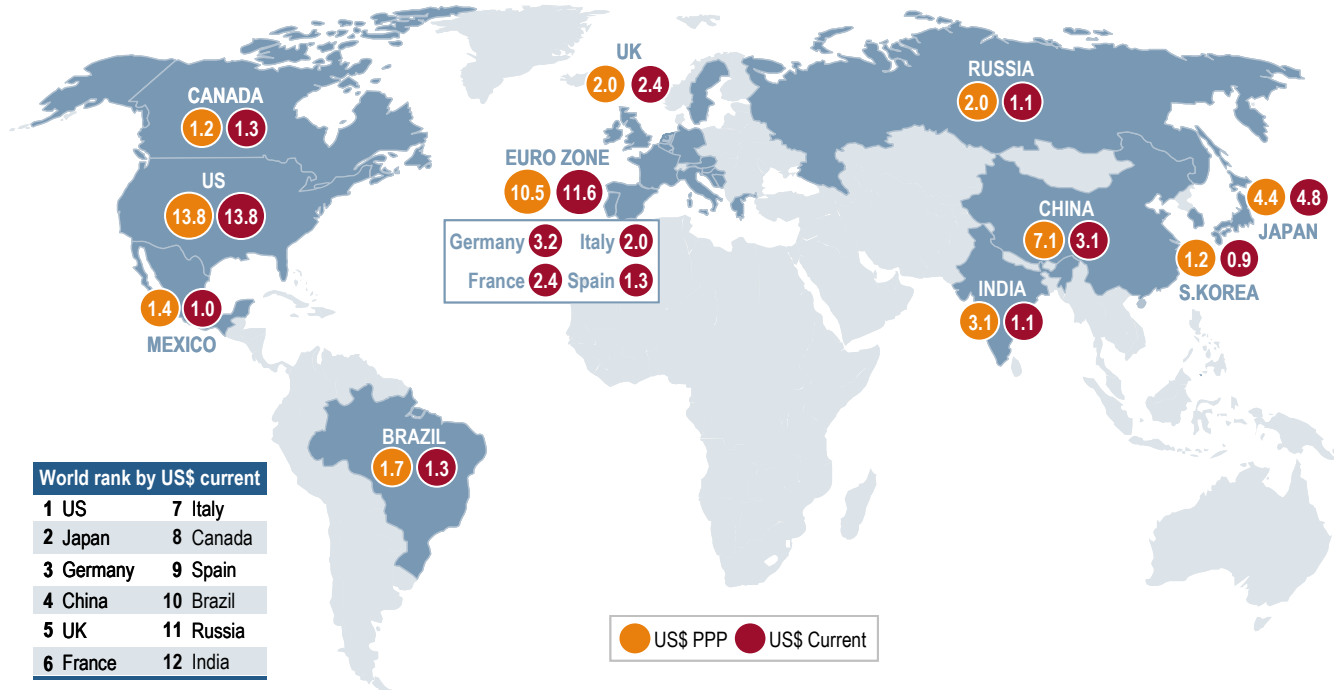
Source: IBGE, Central Bank of Brazil, Credit Suisse

### 4.3. National accounts - GDP figures

Brazil's GDP in 2008 was R\$2.9trn (US\$1.6trn), the tenth largest in the world (Exhibit 46). The highest contribution to GDP came from the services sector (65.8%), followed by industry (28.7%) and agriculture (5.5%).

#### Exhibit 46: World's highest GDPs in 2007

US\$ trn



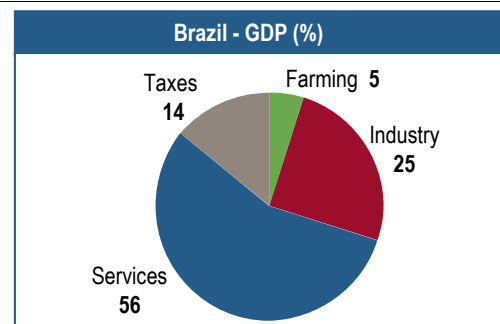
Source: World Bank, Credit Suisse

The Southeast region has the highest share of GDP (in all three sectors), with 56.5%. The South region has the second highest contribution to GDP, followed by the Northeast, Midwest and North regions (Exhibit 47).

#### Exhibit 47: GDP supply side breakdown in 2007

	% of total					Brazil (US\$bn)
	South	Southeast	Midwest	Northeast	North	
Farming	23.2	29.7	18.8	18.9	9.5	64
Industry	17.8	60.1	4.9	11.8	5.4	330
Services	15.8	56.0	10.2	13.5	4.6	735
Taxes	15.4	61.7	7.3	11.4	4.1	187
<b>GDP</b>	<b>16.6</b>	<b>56.5</b>	<b>8.9</b>	<b>13.1</b>	<b>5.0</b>	<b>1,317</b>

Source: IBGE, Credit Suisse

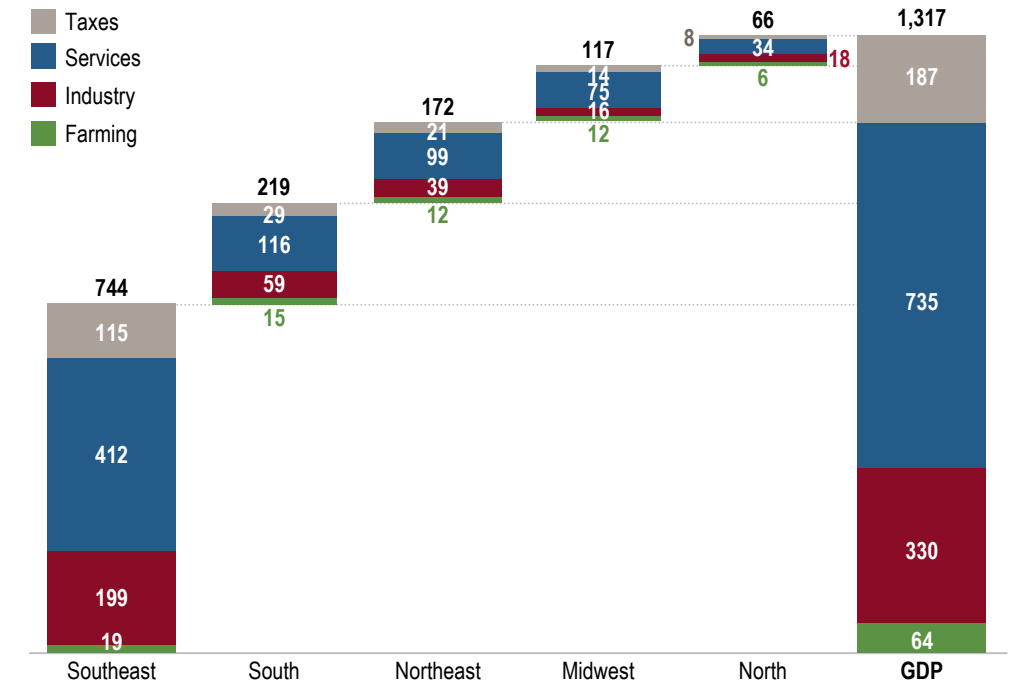


The Southeast region holds the three states with the highest share of GDP: São Paulo (33%), Rio de Janeiro (11%) and Minas Gerais (9%). Services account for the lion's share of GDP in these states.

Rio Grande do Sul (7%) and Paraná (6%), respectively, hold the fourth and fifth largest share of national GDP. In this region, the participation of the industrial and services sectors is slightly lower than in the Southeast region. Farming has a larger share of GDP in these states (Exhibit 48).

#### Exhibit 48: Breakdown of GDP on the supply side

US\$ bn, 2007



Source: IBGE, Credit Suisse

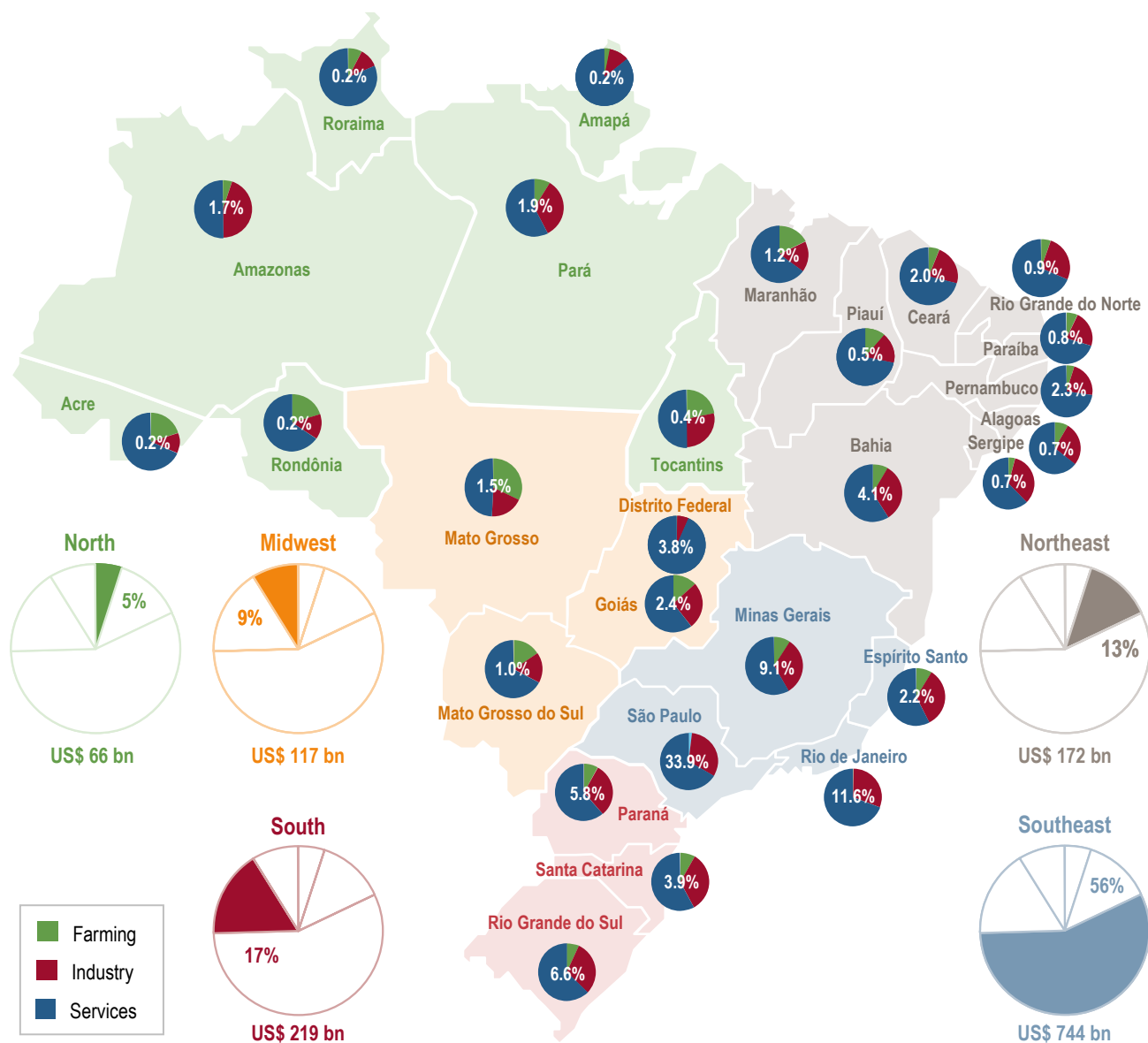
The Northeast region has the most states (9) but accounts for only 13% of GDP. In this region, Bahia, Pernambuco and Ceará hold the most weight in the GDP, accounting for 64% of the region's GDP.

The Midwest is the region where farming weighs most heavily on GDP. For instance, this sector accounts for 32% of its GDP.

Although the North region is the largest in Brazil, it has the lowest GDP, accounting for only 5.0% of national GDP. Pará and Amazonas share the bulk of the region's industrial production, together responsible for 68% of the region's GDP (Exhibit 49).

**Exhibit 49: GDP breakdown by region**

% of total, 2006



Source: IBGE, Credit Suisse

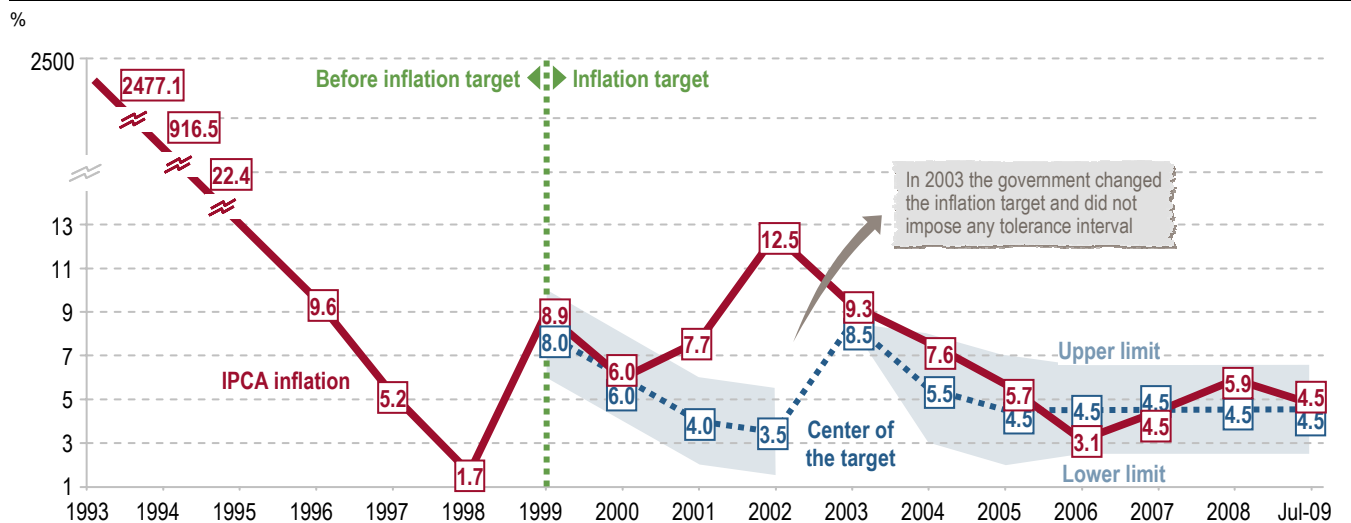
#### 4.4. Inflation-targeting regime

The government implemented the inflation-targeting regime in 1999. The inflation target is determined by the National Monetary Council (CMN), which is composed of three members: the governor of the Central Bank of Brazil, the finance minister and the planning minister. It chooses the midpoint of the inflation target band and the tolerance interval for the following two years. The Extended Consumer Price inflation (IPCA) released by Brazil's Statistics Institute (IBGE) is the official inflation measure. The inflation target was set at 4.5% for 2009, 2010 and 2011 but was allowed to fluctuate from 2.0% to 6.5% (Exhibit 50).

Despite not enjoying formal autonomy, the central bank has had operational independence for stipulating the Selic basic interest rate, the main instrument of monetary policy, in order

to pursue the inflation target. The interest rate decision is made by the Copom at eight meetings per year (held approximately every 45 days). The Copom members are the deputy-governors and the governor of the central bank. All members vote at Copom meetings and the central bank governor has the tie-breaker vote.

#### Exhibit 50: Center and tolerance range of the inflation target and IPCA inflation



Source: Central Bank of Brazil, Credit Suisse

There are several price indices in Brazil due to the country's history of high inflation. We have discussed all these indices in great depth in our "Inflation Guide: Inflation Indices in Brazil", published on 25 June 2009. We present here a brief description of the main inflation indices in Brazil.

#### 4.4.1. Broad Consumer Price Index - IPCA

The Brazilian Institute of Geography and Statistics (IBGE) publishes three inflation indices each month: IPCA, IPCA-15 and INPC. These indices follow the same methodology but differ in the period of data collected and the basket of products and services.

The Broad Consumer Price Index (IPCA) is the index most closely watched by market participants due to its status as the standard price index under the inflation-targeting regime introduced in 1999. Since then, the demand for government bonds linked to IPCA inflation (NTN-Bs) has increased considerably.

The IPCA reflects nationwide prices (data collected in nine metropolitan areas, plus the municipalities of Goiânia and Brasília) for goods and services used by households with monthly income between 1 and 40 times the minimum wage<sup>3</sup>. The National Consumer Price Index (INPC) reflects the nationwide prices for goods and services used by households with income between one and four minimum wages. Inflation figures are calculated as the change in the weighted arithmetic average of prices, and the weighting changes according to past inflation.

The most usual breakdown for the IPCA inflation is between competitive prices and administered prices. Around 30% of the IPCA is comprised of goods and services with prices that are monitored or regulated, either directly or indirectly, by the government or by contracts with price-adjustment clauses.







<sup>3</sup> The Congress has set the minimum wage at R\$465.00 from February 2009 and January 2010.

#### 4.4.2. General Prices Indices - IGP

The General Price Indices (IGPs) are published by the Getúlio Vargas Foundation (FGV), combining prices collected in various production chains, ranging from basic agricultural prices to inputs in the building sector. The IGPs are made up of three sub-indices: the Wholesale Price Index (WPI), the Consumer Price Index (CPI) and the National Construction Cost Index (INCC).

The FGV releases three monthly general price indices: IGP-10, IGP-M and IGP-DI, which use the same calculation methodology and differ only in the period of data collected (Exhibit 51).

**Exhibit 51: Periods of data collected and release of IGPs**

	IGP-10	IGP-M	IGP-DI
Survey period	 from the 11 <sup>th</sup> day of the month before the reference month to the 10 <sup>th</sup> day of the reference month	 from the 21 <sup>st</sup> day of the month before the reference month to the 20 <sup>th</sup> day of the reference month	 from the 1 <sup>st</sup> to the 30 <sup>th</sup> day of the reference month
Approximate monthly release date	 of the reference month	 of the reference month	 of the following month

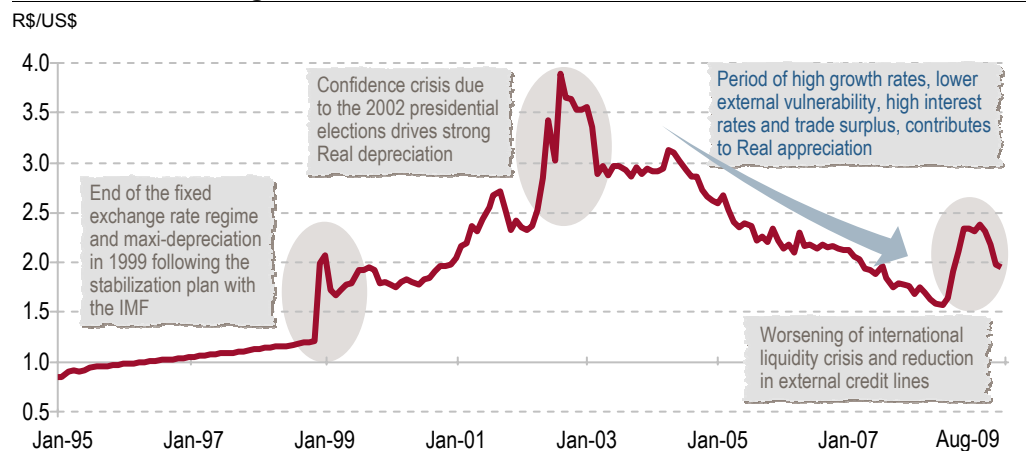
Source: FGV, Credit Suisse

The IGP-M is one of the most used indices, since it is published before the end of the reference month, while the results of most other indices are not published until the following month. Also, the IGP-M is the only IGP index that collects partial data every ten days, called “preview values.” The announcement of the partial results of the first and second ten-day periods enables observers to anticipate changes in the overall IGP-M index. The previews of the IGP-M index measure the change in prices in ten-day periods over a specific comparison base. IGP indexes are used mainly to measure administered prices (e.g., telephone charges).

#### 4.5. Floating exchange rate regime

The floating exchange rate regime was adopted in 1999, after the crises of Asia (1997) and Russia (1998) and the ensuing agreement between Brazil and the IMF at the end of 1998. At the start of the floating exchange rate regime, there was a strong currency depreciation, which took the local currency from R\$1.21/US\$ at year-end 1998 to R\$2.15/US\$ at the beginning of March 1999. The domestic currency subsequently reverted course and appreciated to R\$ 1.80/US\$ by year-end 1999 (Exhibit 52).



**Exhibit 52: Exchange rate**

Source: Central Bank of Brazil, Credit Suisse

The Brazilian exchange rate regime is a dirty floating regime, with the central bank acting both in the spot and futures markets. The central bank intervenes in the market via auctions of its dealers, notifying market participants whenever it operates. Daily trading volume in the dollar spot market is roughly US\$3.0bn.

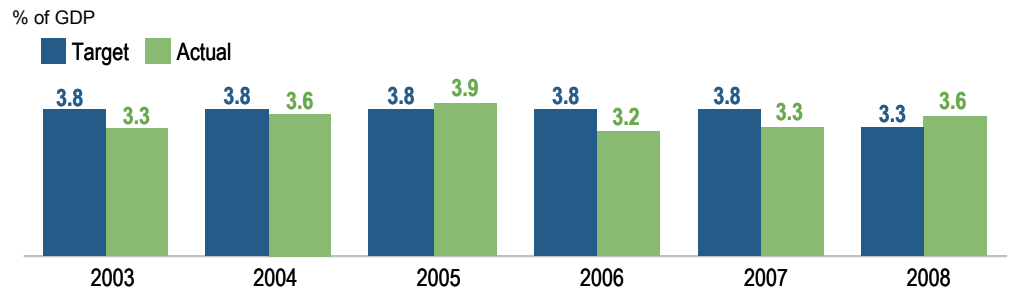
The central bank's moves in the spot market led to a strong rise in Brazil's international reserves. In 2005, Brazil's international reserves totaled US\$54bn, and rose to R\$206bn in September 2008. In response to the global crisis, the central bank interrupted its dollar purchase auctions and started selling dollars in the spot market (a process interrupted in February 2009). In this period, Brazil's international reserves fell to US\$187bn. In May 2009, due to the resumption of currency inflows into Brazil, the central bank began to hold USD purchase auctions again, causing Brazil's international reserves to rise to US\$216bn by 31 August 2009.

#### 4.6. Fiscal regime in Brazil

The Fiscal Responsibility Act was approved by the Brazilian Congress in 2000. It is widely considered the watershed in Brazilian fiscal policy. By introducing clear parameters for states' finance, government spending, debt refinancing and liabilities of public officials, the Act helped to reduce the lack of control of public accounts and the primary deficits of the consolidated public sector (central government, regional governments and non-financial state-owned companies), common in the 1990s.

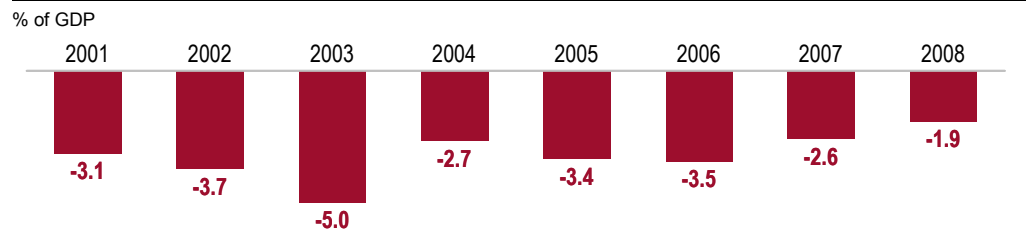
The Act placed caps on spending items (e.g., personnel, current expenditures) of state and municipal governments. If states and municipalities do not meet their spending limits, they run the risk of having their payouts from the State and Municipal Participation Fund blocked and not being able to refinance their debts.

Since the law took effect, the consolidated public sector has met its primary surplus target each year (Exhibit 53). The formal primary surplus target was originally set at 3.80% of GDP in 2009. But the current economic outlook led the government to reduce the target to 2.5% of the GDP in 2009, shared by the central government (1.40% of GDP), regional governments (0.95% of GDP) and state-owned companies (0.15% of GDP). Most importantly, the exclusion of the state-owned oil company, Petrobras, has reduced the primary surplus of state-owned companies by 0.5% of GDP.

**Exhibit 53: Primary surplus**

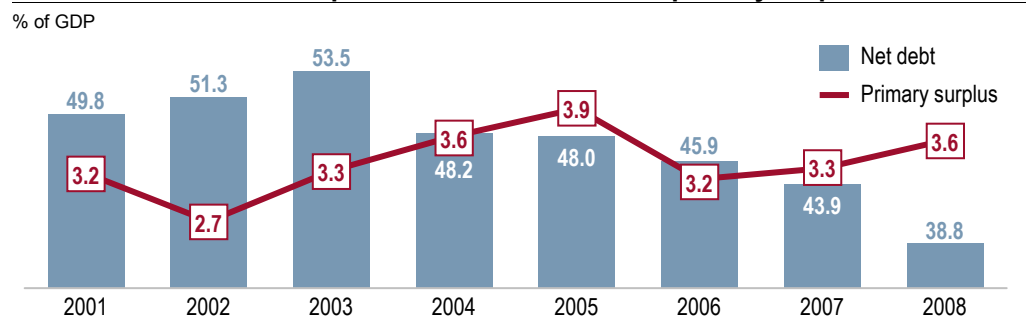
Source: Central Bank of Brazil, Credit Suisse

The primary surplus target for 2010 was set at 3.3% of GDP. Our simulations suggest that primary surpluses of 2.0% of GDP in 2009 and of 3.3% of GDP from 2010 on are sufficient to eliminate the nominal deficit approaching 2015 (Exhibit 54).

**Exhibit 54: Nominal result of the consolidated public sector**

Source: Central Bank of Brazil, Credit Suisse

Several years of primary surpluses in the consolidated public sector have placed the public sector's net debt/GDP ratio on a declining path. The net debt/GDP ratio, which totaled 54.9% in 2003, fell to 39.9% in December 2008. Our estimates suggest that primary surpluses at 2.0% of GDP in 2009 and at 3.3% of GDP from 2010 on are sufficient to reduce the net debt/GDP ratio in the years thereafter. Assuming annual GDP growth of 4% p.a., the net debt/GDP ratio would reach 30% of GDP around 2015 (Exhibit 55).

**Exhibit 55: Consolidated public-sector net debt and primary surplus**

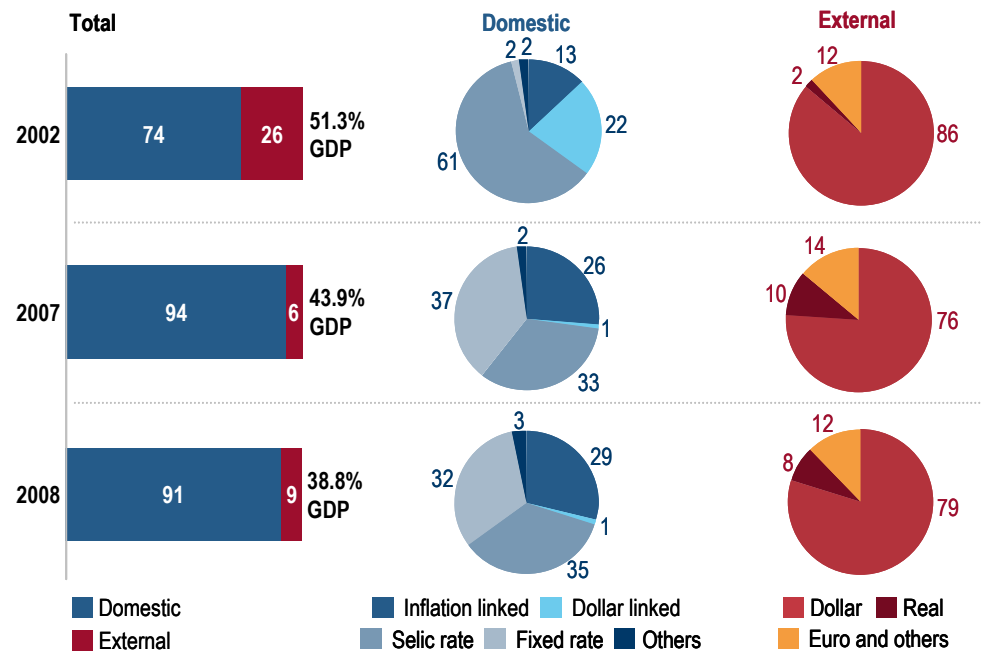
Source: Central Bank of Brazil, Credit Suisse

**4.6.1. Public debt**

The public debt profile changed significantly from 2002 to 2008, with a substantial decline in the external debt, reduction in the portion linked to the Selic basic interest rate, rise in the portion linked to inflation and fixed-rate, as well as lengthening of average maturity. This improvement in the debt profile helped expand the planning horizon for households and companies, since it reduced the risks associated with the public-sector insolvency (Exhibit 56).

**Exhibit 56: Federal public securities debt**

% of total

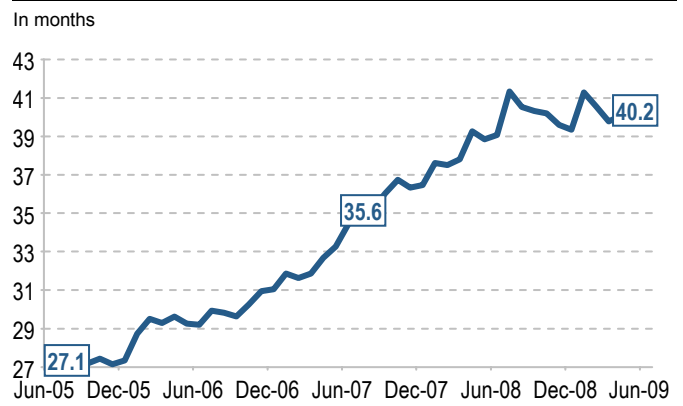


Source: Treasury, Credit Suisse

In addition to this favorable change in the public debt profile, the maturity profile has also improved significantly. The portion maturing within 12 months declined from 41% in December 2005 to 28% in June 2009. The portion maturing in more than four years rose from 10% in December 2002 to 25% in June 2009. Accordingly, the average debt maturity rose from 27 months in December 2005 to 40 months in June 2009 (Exhibits 57 and 58).

**Exhibit 57: Public debt maturity**

Source: Treasury, Credit Suisse

**Exhibit 58: Average term of public debt**

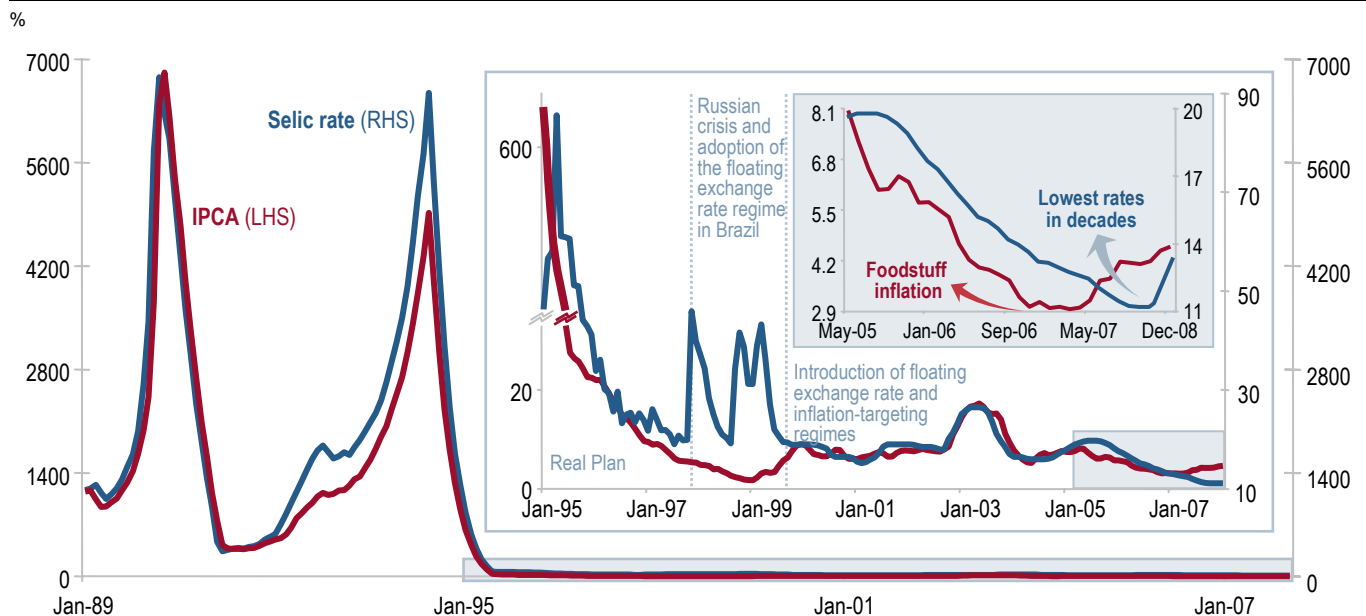
Source: Treasury, Central Bank of Brazil, Credit Suisse

The solvency of the public debt has improved substantially in recent years. The public debt has become much less sensitive to abrupt fluctuations in the local exchange rate.

## 4.7. Economic growth

Since 2000, Brazil has posted its lowest inflation and interest rates in decades (Exhibit 59). This greater stability of the economy has enabled companies to better plan their sales, and households to better assess future income dynamics. Economic growth has risen significantly since 2003 as a result of higher investments and growth in household consumption, favored by credit growth in the economy.

**Exhibit 59: Selic interest rates and inflation**



Source: Central Bank of Brazil, Credit Suisse

Strong growth in GDP, consumption and investments from 2004 to 2008 were made possible largely by greater predictability and stability in the economy in recent years. The improvement in fiscal solvency, with a reduction in the dollar-linked portion and an increased share in fixed-rate securities, also contributed to this greater stability. The favorable outlook in the global economy and higher commodity prices afforded the country rapid growth without an unsustainable current account deficit.

The 2004-2008 period was the longest GDP growth cycle in Brazil since the 1970s, with an average annual growth of 4.7%, which was interrupted by the global crisis in the second half of 2008 (Exhibit 60).

**Exhibit 60: Annual GDP growth**

		Weight	2000	2001	2002	2003	2004	2005	2006	2007	2008
Supply	GDP	100	4.3	1.3	2.7	1.1	5.7	3.2	4.0	5.7	5.1
	Taxes	14.4	7.4	0.5	-0.1	0.6	6.4	4.4	5.0	8.4	7.4
	Farming	4.7	2.7	6.1	6.6	5.8	2.3	0.3	4.2	5.9	5.8
	Industry	24.6	4.8	-0.6	2.1	1.3	7.9	2.1	2.9	4.7	4.3
	Services	56.3	3.6	1.9	3.2	0.8	5.0	3.7	3.8	5.4	4.8
Demand	Household consumption	60.9	3.9	0.7	1.8	-0.7	3.8	4.5	4.6	6.3	5.4
	Government consumption	19.7	-0.2	2.7	4.7	1.2	4.1	2.3	2.8	4.7	5.6
	Gross fixed capital formation	17.6	5.0	0.4	-5.2	-4.6	9.1	3.6	10.0	13.5	13.8
	Exports (+)	13.9	12.9	10.0	7.4	10.4	15.3	9.3	4.7	6.7	-0.6
	Imports (-)	-12.3	10.8	1.5	-11.8	-1.6	13.3	8.5	18.3	20.8	18.5

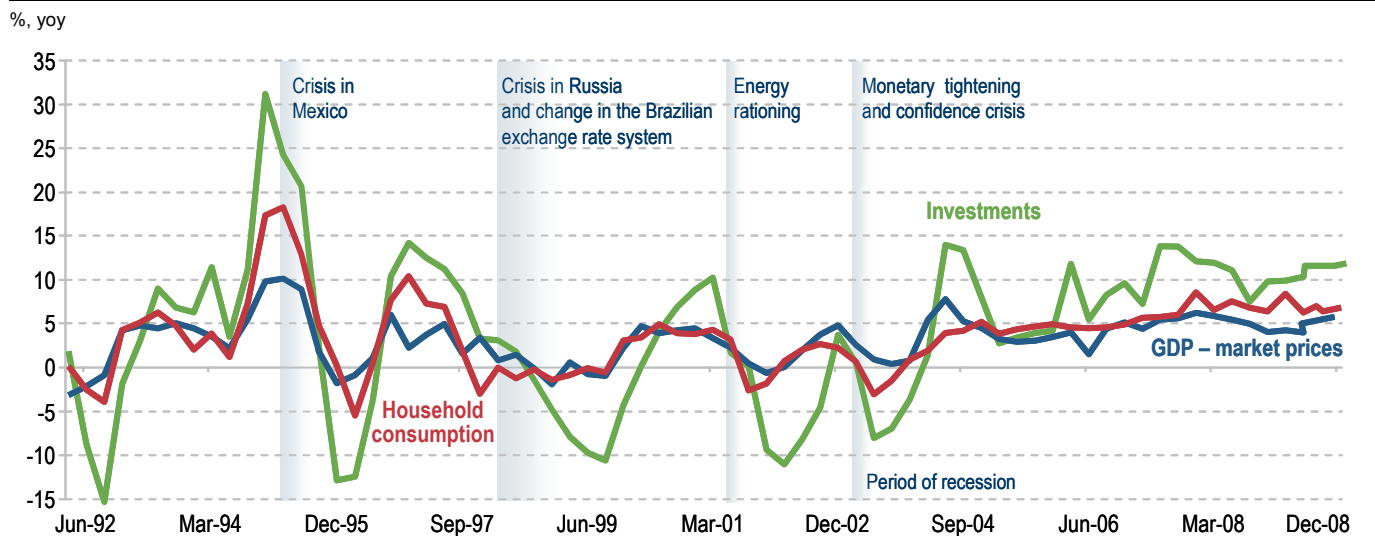
Source: IBGE, Credit Suisse

The main causes of the interruption of the growth cycle in the past few decades were:

- **External crises** - the crises of Mexico (1994), Asia (1997), Russia (1998) and the financial crisis (2008-2009) caused significant net outflows, leading to depreciation of the domestic currency, strong interest rate hikes and a sharp decline in consumer and business confidence.
- **Change in the handling of economic policy** - during inflation stabilization planning and in the presidential campaign in 2002, when the risk of a drastic change in economic policy rose (e.g., imposition of capital controls).
- **Infrastructure crisis** - in 2001, energy rationing interrupted the growth cycle initiated in 1999, causing a marked slowdown in economic activity.

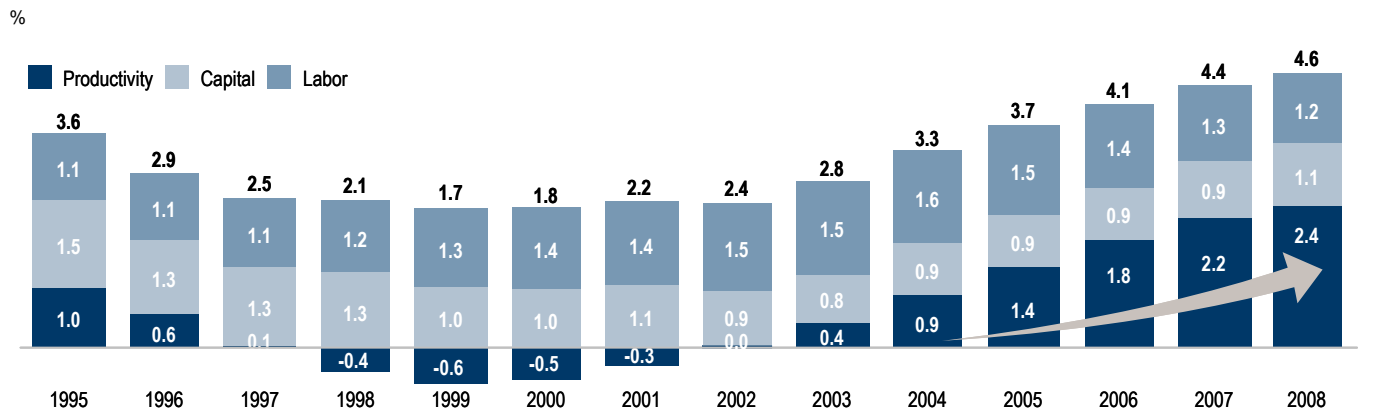
Brazil witnessed an interruption of its growth cycle in the last quarter of 2008 as a result of the deterioration in global financial market conditions (Exhibit 61). The contraction in Brazil's GDP was leveraged by the abrupt slowdown in bank lending. Despite the local currency depreciation that resulted from the reduction in external credit lines, the government's status as a net creditor in dollars ensured that the public debt/GDP would not suffer serious deterioration. Additionally, in light of the strong decline in international commodity prices and swift drop in domestic and external demand, the local currency depreciation has not caused a rise in inflation. For the first time, the government implemented a countercyclical monetary policy, which has brought the basic interest rate down to its lowest level in several decades.

#### Exhibit 61: GDP growth cycles and evolution of household consumption



Source: IBGE, Credit Suisse

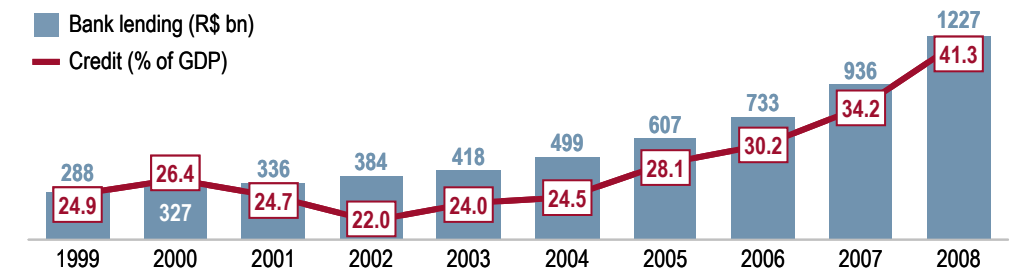
Due to the low level of investment and the successive crises in the 1990s, we estimate that the potential GDP growth rate at the end of the 1990s was very low, at less than 2.0% p.a. This low potential GDP growth helps explain the low growth rates and the stop-and-go growth cycles in the period. Since 2004, the investments cycle and the increase in productivity have led to a significant acceleration in potential GDP growth, to a level between 4% and 5% in 2008 (Exhibit 62).

**Exhibit 62: Potential GDP growth rate of the Brazilian economy**

Source: Central Bank of Brazil, Credit Suisse

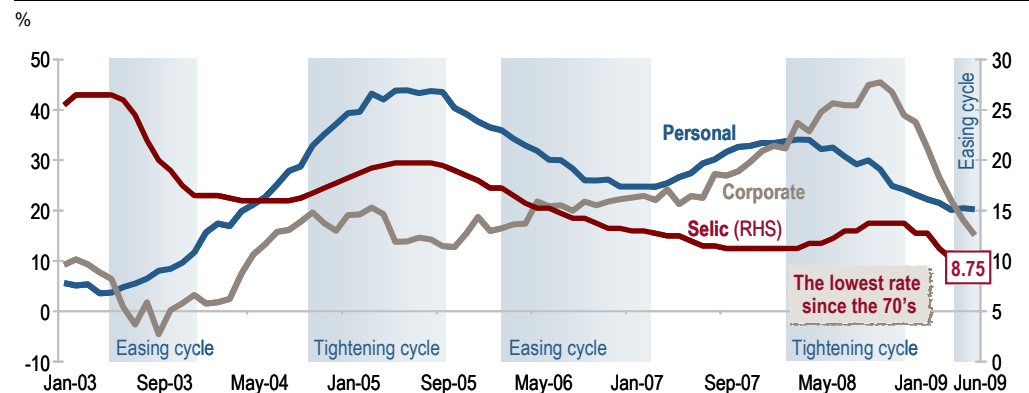
**4.8. Banking credit**

The stability of the Brazilian economy since 2004 has driven a strong expansion in credit supply (Exhibit 63). The data available underestimate the domestic credit market, since the only reliable source of information is the central bank data on bank lending, which do not take into consideration credit extended to consumers by retailers.

**Exhibit 63: Bank lending volume**

Source: Central Bank of Brazil, Credit Suisse

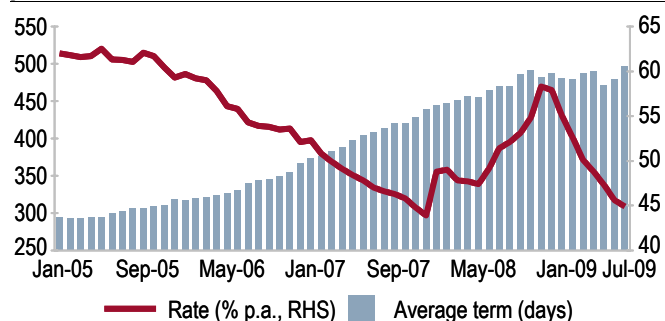
The decline in the Selic basic interest rate in recent years has contributed to the strong expansion in both personal and corporate loans (Exhibit 64).

**Exhibit 64: Selic basic interest rate and unmarked bank lending growth**

Source: Central Bank of Brazil, Credit Suisse

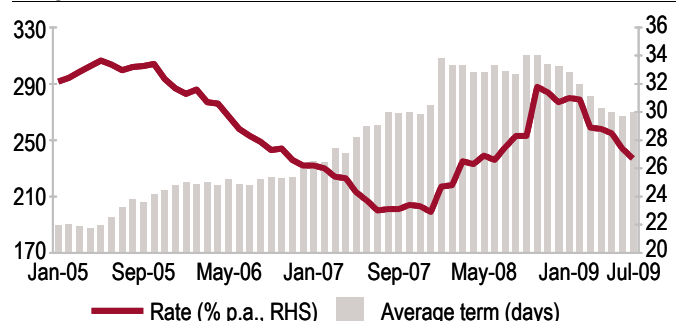
The greater economic stability has also helped lengthen loan terms which, combined with lower interest rates on loans, have fueled the demand for these loans, both in the personal and corporate segments (Exhibits 65 and 66).

**Exhibit 65: Average term and interest rate of personal loans**



Source: Central Bank of Brazil, Credit Suisse

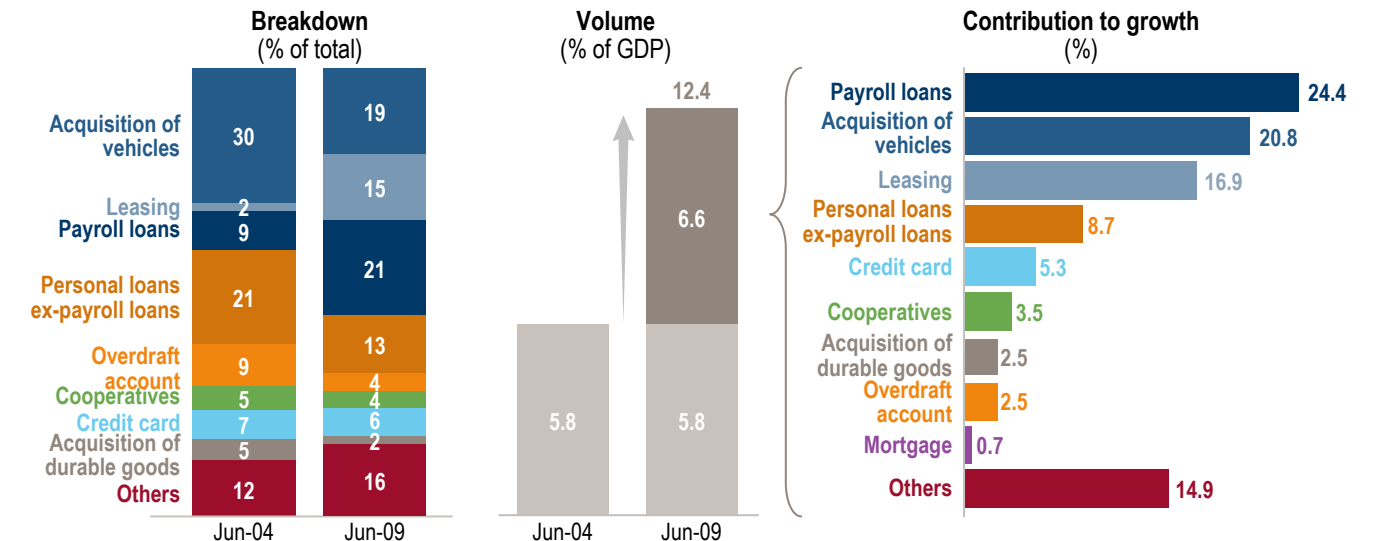
**Exhibit 66: Average term and interest rate of corporate loans**



Source: Central Bank of Brazil, Credit Suisse

Car loans, leasing (almost exclusively for vehicles) and payroll loans have increased substantially in recent years. These types of loans provide more guarantees to creditors and therefore have lower interest rates and longer terms (Exhibit 67). Payroll loans are a type of personal cash loan in which the monthly payment installments are withdrawn by direct debit as soon as pensions and wages are deposited into accounts of retirees, civil servants and private sector employees. Delinquencies in payroll loans are quite low, which has been driving banking spreads down.

**Exhibit 67: Unmarked bank lending to individuals**



Source: Central Bank of Brazil, Credit Suisse

Brazil's reserve requirements are among the highest in the world. The central bank establishes mandatory reserves requirements for cash deposits, term deposits, savings deposits, debentures, among others. Large reserve requirements were one of the reasons why banking spreads remained very high in the last few years (Exhibit 68).



**Exhibit 68: Structure of reserve requirements in Brazil**

%

		Deposits		
		Demand	Time and interbank	Savings
<b>Total rate</b>		<b>47</b>	<b>19</b>	<b>30</b>
<b>Reserve requirements</b>	Rate	42	15	20
	Deduction*	R\$44mn	R\$2bn	-
	Form of reserve requirement	In cash	60% in cash and 40% in government bonds	In cash with remuneration
	Remuneration	None	60% without remuneration and 40% with remuneration	Remuneration of savings
<b>Additional reserve requirements</b>	Rate	5	4	10
	Deduction*	R\$1bn		
	Form of reserve requirement	In government bonds		
	Remuneration	Remunerated		

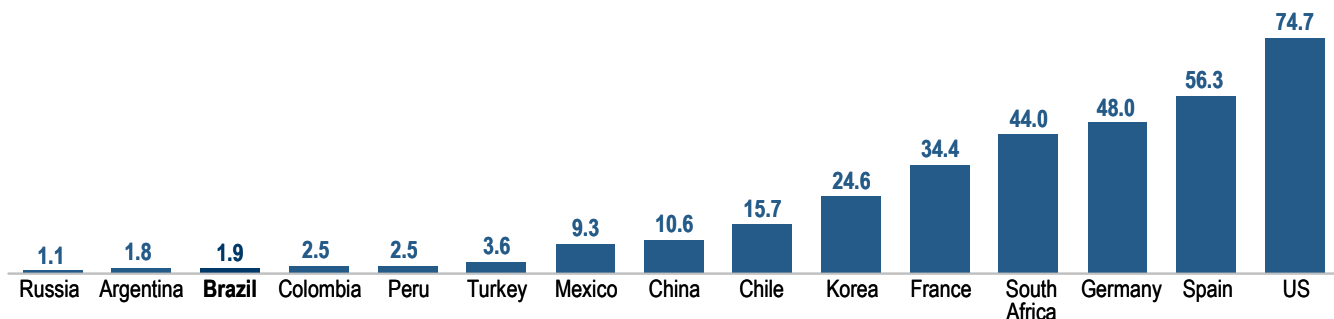
\* Above the reserve requirement

Source: Central Bank of Brazil, Andima, Credit Suisse

Unlike developed countries, personal loans in Brazil are primarily for consumer credit, rather than mortgages. Mortgage lending in Brazil accounts for less than 1.9% of GDP versus 15.7% of GDP in Chile, 9.3% of GDP in Mexico and 74.7% of GDP in the U.S. (Exhibit 69).

**Exhibit 69: Mortgage lending in different parts of the world**

% of GDP, 2007



Source: Central Bank of Brazil, Credit Suisse

In Brazil, the bulk of mortgage lending is funded by channeled loans. Banks are required to direct 65% of savings deposits to the housing sector or, alternatively, to deposit these funds with the central bank without earning interest.

In the past few years, two institutional reforms – fiduciary alienation and separate accounting by legal mandate – have provided more guarantees to investors in the event of the borrower's default or the construction company bankruptcy (Exhibit 70). These two reforms will be key factors for real estate market expansion in upcoming years:

- **fiduciary alienation** - a legal form of ownership under which the creditor holds conditional title to the financed asset until the asset is fully paid for. This form of ownership is a significant advance in comparison with previous laws, since it makes it easier for the creditor to repossess the asset in the event the borrower defaults.

- **separate accounting for each development** - provides greater security to borrowers in a real estate development since it legally separates the development from the company responsible for carrying out the construction. This law has reduced risks to borrowers, since the property itself is not exposed to the developer's balance sheets.

#### Exhibit 70: Timetable for foreclosing on real property

<b>D+5</b> Telephone call to inquire about the delay and schedule a new payment date, no later than D+10.	<b>D+10</b> First collection letter sent out.	<b>D+15</b> Second telephone call to verify whether the problem persists and the borrower intends to make payment. Verification of receipt of the collection letter and possibility of renegotiation. Payment deadline is D+30.	<b>D+30</b> Third phone call to make the borrower aware that if payment is not made within ten days, an official collection notice will be sent. Status reported to the Securitization Company.
<b>D+40</b> First collection notice, sent by registered letter, notifying the borrower of the debt amount.	<b>D+60</b> Second collection notice, sent by registered letter, notifying the borrower of the debt amount and demanding payment within 20 days.	<b>D+80</b> Letter sent to the appropriate Real Estate Registry Office to officially report the arrearage and other costs. A 15-day period is granted for the borrower to settle the arrears at the Real Estate Registry Office.	<b>D+83</b> If Real Estate Registry Office is unable to locate the borrower, a formal collection notice is published in the newspaper.
<b>D+98</b> After payment of the Property Transfer Tax (ITBI), ownership of the property is vested in the Securitization Company by the Real Estate Registry Office.	<b>D+110</b> Public auctioneer retained; publication of Invitation to Bid in first auction.	<b>D+128</b> First public auction held (for at least the real property's appraisal value).	<b>D+130</b> Invitation to Bid in a second auction is published, if necessary.
<b>D+133</b> If property is sold, the difference between the amount of the winning bid and that of the debt plus charges and expenses is returned to borrower.	<b>D+143</b> Second public auction is held (awarded to highest bidder, as long as the bid covers the debt plus expenses and charges).	<b>D+148</b> If the property is sold, the difference between the amount obtained at the auction and the debt plus all expenses and charges is returned to the borrower.  If the property is not sold at the second auction, a Debt Settlement Instrument is issued by the Securitization Company considering the debt paid and releasing the borrower from further liability.	

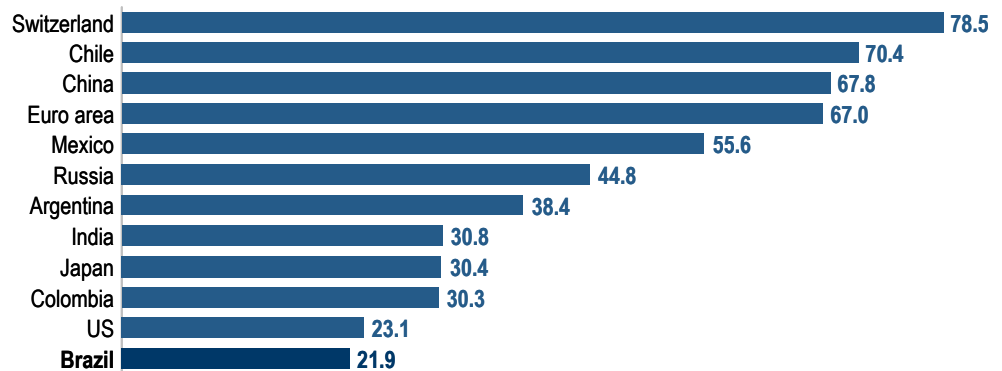
Source: Fitch Ratings, Credit Suisse

## 4.9. External sector

Brazil is a relatively closed economy in comparison with other economies, especially emerging countries. Trade flows (sum of imports and exports) as a percentage of GDP stood at 21.9% in 2007, versus 78.5% in Switzerland, 70.4% in Chile and 23.1% in the U.S. (Exhibit 71).

**Exhibit 71: Trade flows**

% of GDP, 2007

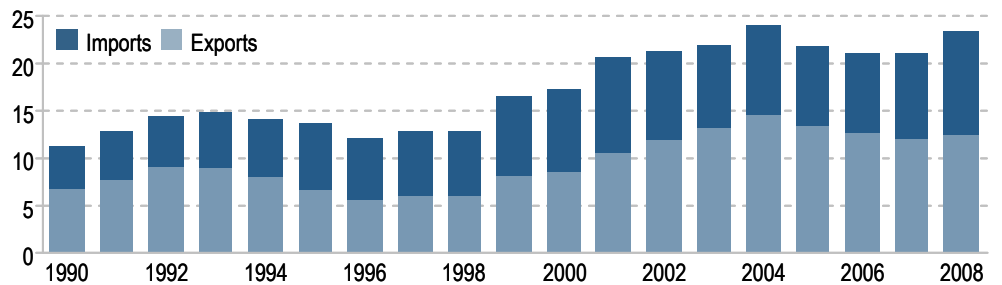


Source: World Bank, Credit Suisse

Trade flows rose from 11% of GDP in 1990 to 23% of GDP in 2008, with exports and imports growing more significantly after 2003 (Exhibit 72). Exports rose from 7% of GDP in 1990 to 13% of GDP in 2008, while imports increased from 4% of GDP to 11% of GDP.

**Exhibit 72: Evolution of imports and exports**

% of GDP

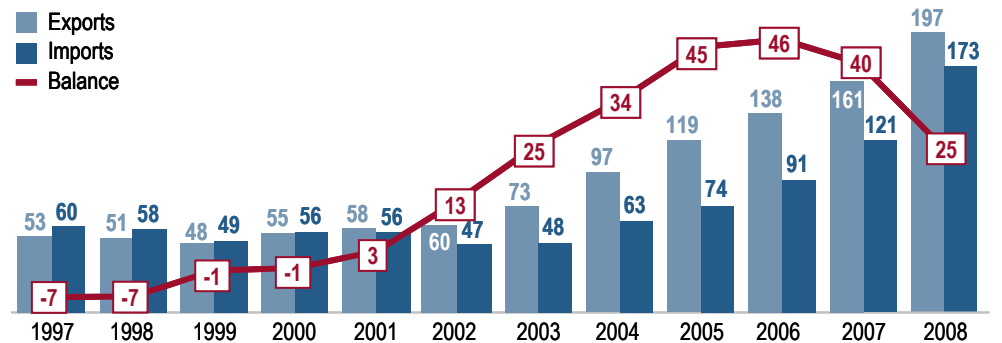


Source: MDIC, Credit Suisse

The trade balance recorded surpluses from 2001 to 2008, against the trade deficits in the 1990's. The average annual trade surplus was US\$29bn from 2001 to 2008 and reached its peak of US\$46bn in 2006 (Exhibit 73).

**Exhibit 73: Trade Balance**

US\$ bn



Source: MDIC, Credit Suisse

The rise in trade surplus was due to a strong expansion in exports. The annual average of Brazilian exports rose from US\$ 53bn in the 1997-2001 period to US\$ 121bn in the 2002-2007 period. This exports growth is explained by greater global growth in recent years and higher prices for commodities, which represent a significant portion of Brazil's exports. The share of commodities in Brazilian exports increased from 20% in 1997 to 61.9% in 2008 (Exhibit 74).

#### Exhibit 74: Main Brazilian export products

US\$ bn, accumulated in the last 12 months

	2006	2007	2008	Jun-09*	
				USD	% of total
<b>Main products</b>	<b>99.7</b>	<b>116.8</b>	<b>148.3</b>	<b>133.1</b>	<b>75.1</b>
<b>Commodities</b>	<b>77.7</b>	<b>91.3</b>	<b>120.1</b>	<b>109.7</b>	<b>61.9</b>
Soybean-based products	9.3	11.4	18.0	19.1	10.8
Oil and distillates	13.0	16.0	23.2	17.9	10.1
Iron ore	8.9	10.6	16.5	16.9	9.5
Steels and metals	10.3	11.1	15.1	12.2	6.9
Sugar	6.2	5.1	5.5	6.6	3.7
Chicken	3.5	5.0	6.9	6.3	3.5
Pulp and paper	3.8	4.7	5.8	5.3	3.0
Non-iron metals	5.1	6.2	6.3	4.9	2.8
Beef	3.9	4.4	5.3	4.7	2.7
Coffee	3.7	4.3	4.8	4.6	2.6
Tobacco	1.8	2.3	2.8	3.0	1.7
Ethanol	1.6	1.5	2.4	2.1	1.2
Logging	3.2	3.3	2.8	2.0	1.1
Pork	1.0	1.2	1.5	1.4	0.8
Corn-based products	0.5	1.9	1.4	1.3	0.8
Furs and hides	1.9	2.2	1.9	1.3	0.7
<b>Non-commodities</b>	<b>22.0</b>	<b>25.5</b>	<b>28.2</b>	<b>23.4</b>	<b>13.2</b>
Aircraft	3.4	5.1	5.9	5.2	2.9
Chemical products	3.8	4.7	5.5	4.8	2.7
Vehicles and motorcycles	4.9	4.9	5.2	4.2	2.4
Transport vehicles	3.9	4.6	5.1	3.8	2.1
Vehicle parts	3.0	3.2	3.5	2.8	1.6
Footwear	2.0	2.0	2.0	1.7	1.0
Furniture	1.0	1.0	1.0	0.8	0.5
<b>Others</b>	<b>38.1</b>	<b>43.8</b>	<b>49.6</b>	<b>44.1</b>	<b>24.9</b>
<b>Total</b>	<b>137.8</b>	<b>160.6</b>	<b>197.9</b>	<b>177.2</b>	<b>100</b>

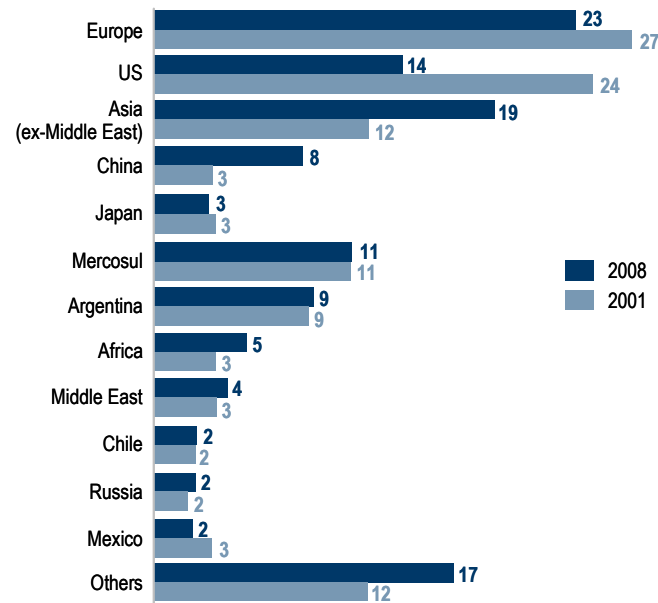
\* accumulated in the last 12 months up to June 2009

Source: MDIC, Credit Suisse

Brazil's export destinations were almost equally split between emerging markets and developed countries in 2008. Exporters have diversified their sales abroad, but the diversification hasn't been uniform. There has been a significant decline in exports to U.S., Japan and Europe (from 54% of the total in 2001 to 40% in 2008). On the other hand, exports to Asian and African countries accounted for 24% of total exports in 2008. Exports to Asia have risen in recent years as a result of the increase in commodities exports, since sales to Asia are concentrated mainly in intermediates like commodities. Brazil's most frequent exports are oil, steel products, soybean and iron ore (Exhibits 75 and 76).

**Exhibit 75: Share in Brazil exports**

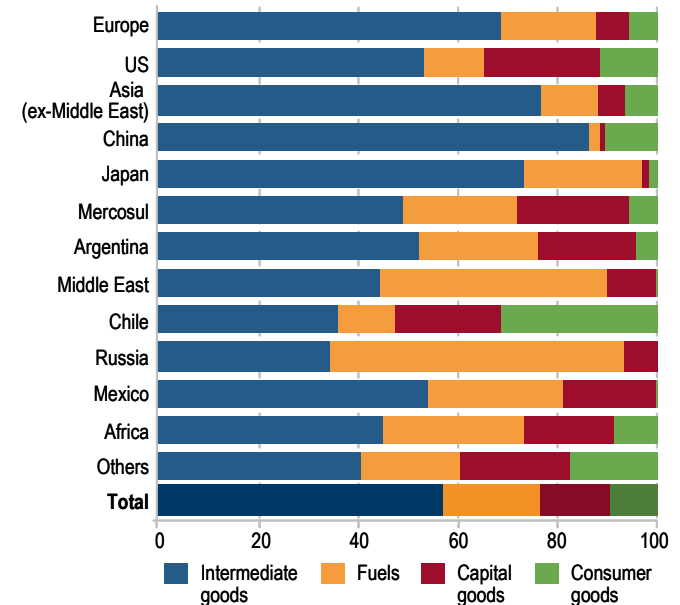
% of total



Source: MDIC, Credit Suisse

**Exhibit 76: Breakdown of exports by destination and subgroup in 2008**

% of total

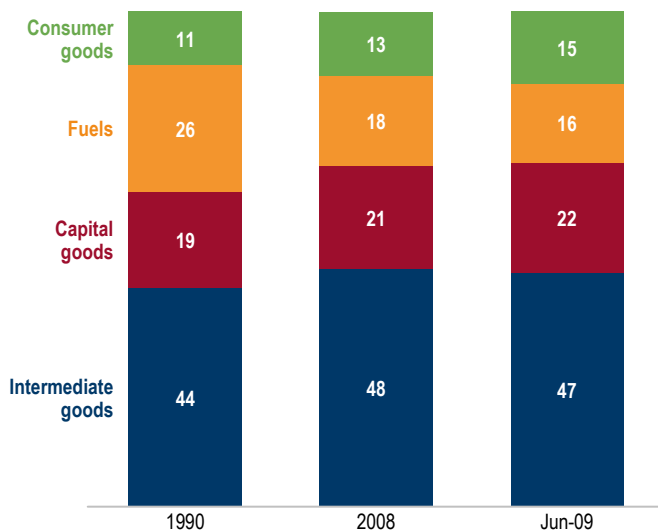


Source: MDIC, Credit Suisse

The significant increase in imports in recent years was the result of the local currency appreciation against the dollar and strong domestic growth (Exhibit 77). Imports of intermediate products and capital goods account, respectively, for 48% and 21% of total imports in 2008. Durable consumer goods and fuels were the highlights in imports growth in 2008, signaling the importance of consumption and investments for imports growth (Exhibit 78).

**Exhibit 77: Imports by categories of use**

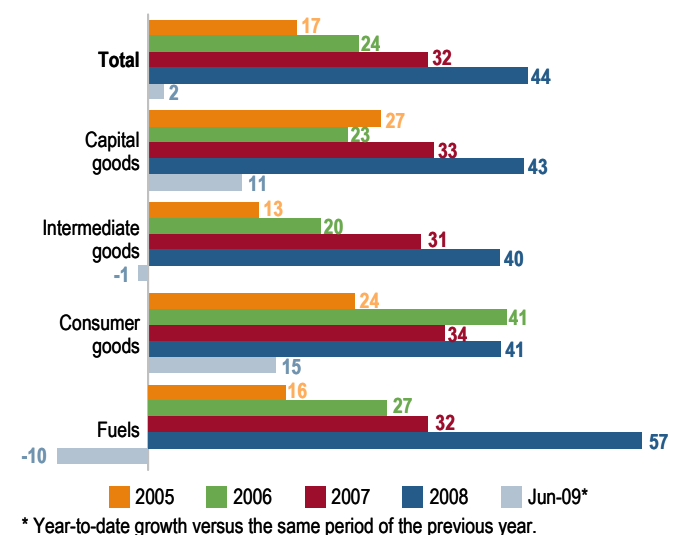
% of total, accumulated in the last 12 months



Source: MDIC, Credit Suisse

**Exhibit 78: Growth in Brazilian imports**

%, yoy



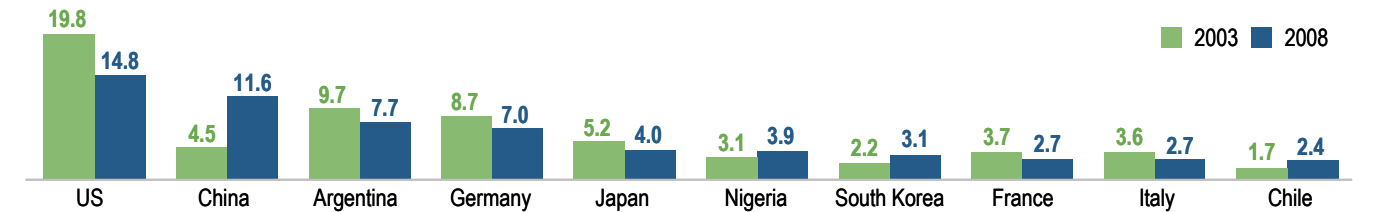
\* Year-to-date growth versus the same period of the previous year.

Source: MDIC, Credit Suisse

The most significant changes in the origin of Brazilian imports from 2003 to 2008 were the reduction in the share of imports from the U.S. and the huge increase in the share of imports from China (Exhibit 79).

### Exhibit 79: Origin of Brazilian imports

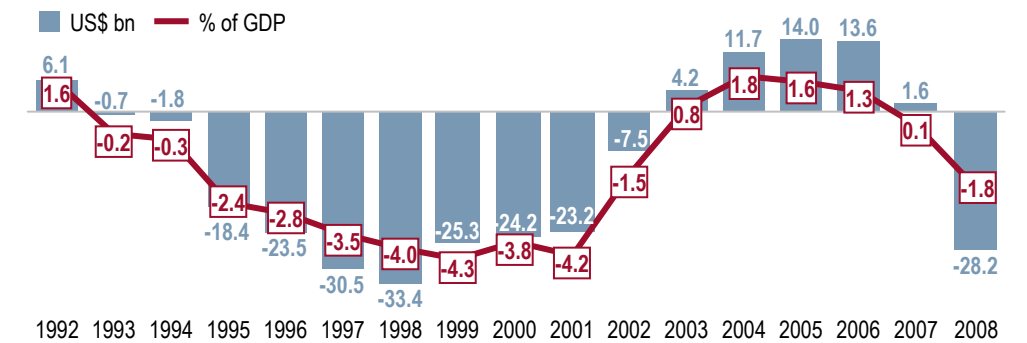
%, share in total imports, 2003 and 2008



Source: MDIC, Credit Suisse

The trade surpluses posted since 2003 have helped turn the high current account deficits recorded in the 1990's (4.3% of GDP in 1999) into surpluses. The current account surplus stood at 1.8% of GDP in 2004. However, higher import growth rates have helped reduce the current account result from a surplus 0.1% of GDP in 2007 to a deficit of 1.8% of GDP in 2008 (Exhibit 80).

### Exhibit 80: Rolling 12-month current account balance

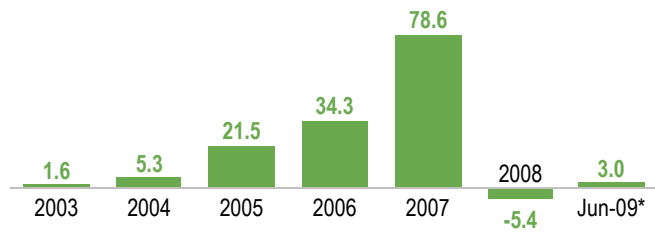


Source: MDIC, Credit Suisse

In recent years, the main highlight of Brazil's external accounts has been strong growth in financial inflows, resulting in appreciation of local currency against the USD and a major increase in Brazil's international reserves. In the 2004-2008 period, net dollar purchases by the central bank in the spot market totaled US\$134bn, boosting the country's international reserves from US\$54bn at year-end 2005 to US\$201bn in June 2009 (Exhibits 81 and 82).

**Exhibit 81: Net dollar purchases in the spot market by the central bank**

US\$ bn

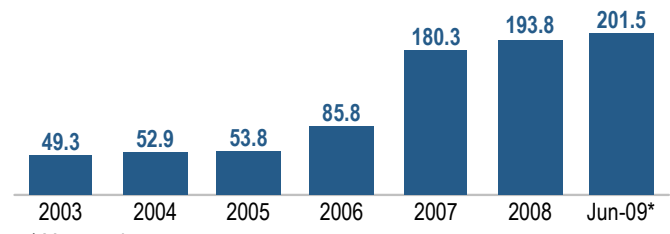


\* Year-to-date

Source: Central Bank of Brazil, Credit Suisse

**Exhibit 82: International reserves**

US\$ bn



\* Year-to-date

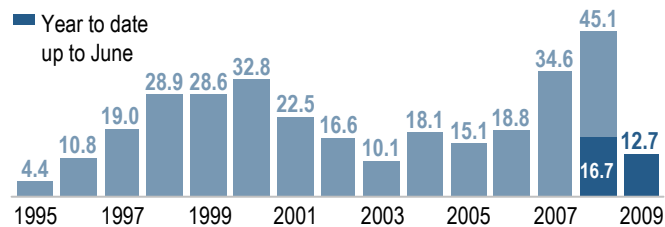
Source: Central Bank of Brazil, Credit Suisse

Financial inflows focused on foreign direct investment (FDI) and foreign portfolio investment (stocks and long-term fixed-income bonds), resulting in net inflows of US\$181bn from 2005 to 2008:

- Foreign Direct Investments (FDI) increased in the 1990's, in view of wide-scale privatization of government-owned companies. FDI totaled US\$32.8bn in 2000, the highest level in the decade. FDI and portfolio investments have increased significantly since 2003, this time more related to investments in production capacity, acquisitions and equity interests in local companies, but unrelated to the privatizations. In 2008, FDI totaled US\$ 45.1bn, the highest level in the series (Exhibit 83). With such an increase in inflows, FDI stock in Brazil totaled US\$288bn in 2008 versus US\$122bn in 2000 (Exhibit 84).

**Exhibit 83: Flow of foreign direct investments (FDI)**

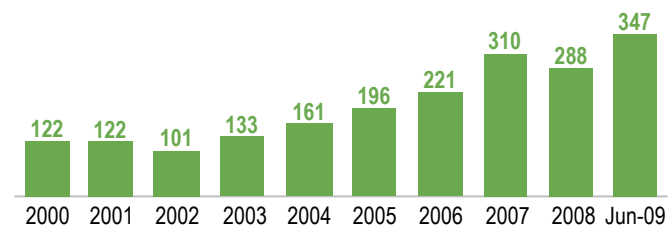
US\$ bn



Source: Central Bank of Brazil, Credit Suisse

**Exhibit 84: Volume of foreign direct investments**

US\$ bn



Source: Central Bank of Brazil, Credit Suisse

- Foreign portfolio investments have grown significantly in recent years, enabling strong growth in the domestic capital market (Exhibit 85). Purchases of government bonds benefited foreign buyers in the form of income tax exemption (from 2006 onwards) and the prospects of a rate decline in the medium term in Brazil. Equity investments have also risen significantly in recent years, reflecting stronger global liquidity and the continued bright outlook for the Brazilian economy over the next few years.

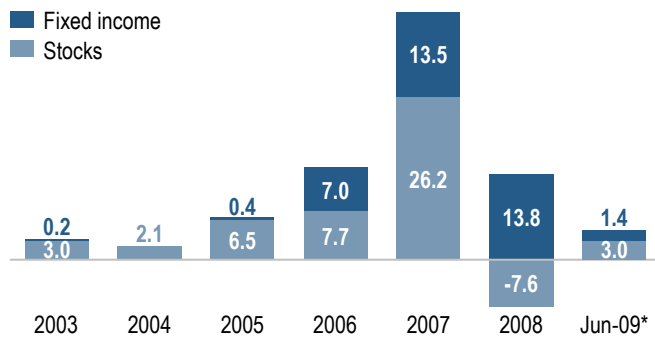
The overall volume of portfolio investment by foreign investors has skyrocketed in recent years, from US\$20bn in 2003 to US\$123bn in 2008, favored by higher inflows, higher asset prices and the local currency appreciation against the dollar (Exhibit 86).



**Exhibit 85: Portfolio investment inflows**

US\$ bn

■ Fixed income  
■ Stocks



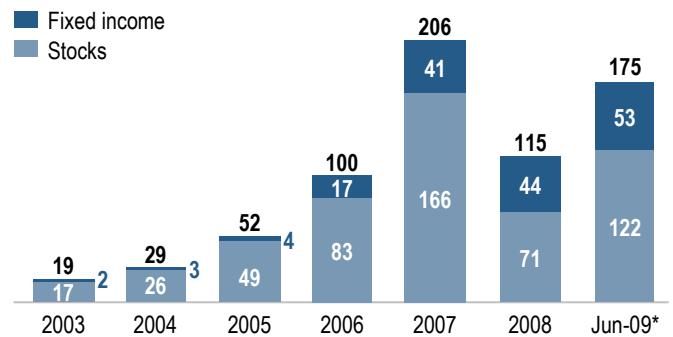
\* Year-to-date

Source: Central Bank of Brazil, Credit Suisse

**Exhibit 86: Volume of foreign portfolio investments**

US\$ bn

■ Fixed income  
■ Stocks



\* Year-to-date

Source: Central Bank of Brazil, Credit Suisse

Fewer doubts regarding the Brazilian economy, improved external solvency and the higher fiscal surpluses have led to a reduction in the country risk premium. S&P upgraded Brazil to investment grade in April 2008, from BB+ to BBB- (neutral outlook), and Fitch did the same in May 2008 (Exhibit 87). This rating reflects Brazil's lower risk.

**Exhibit 87: Country risk<sup>4</sup> and sovereign credit rating upgrades**

Source: S&amp;P, Fitch, Moody's, Credit Suisse

We expect Brazil's rating upgrade not only to help reduce the government's financing costs but also to accelerate the pace of improvement in the domestic public debt profile, via lengthening of the average public debt maturity. We also expect the investment grade to foster investment in Brazil, via lower funding costs for Brazilian companies, whose rating is usually capped by the country's risk rating.

## 4.10. Politics

### 4.10.1. Political institutions







The Federative Republic of Brazil is governed by the Constitution of 1988 (the seventh constitution since Brazil gained independence in 1822) and is divided into 26 states and the Federal District, which comprise 5,565 municipalities. The executive branch of the

<sup>4</sup> Five-year Credit Default Swap (CDS) contract.

federal government is headed by the president and the vice-president, both of whom are elected jointly. The Brazilian federal legislature has two chambers, consisting of the House of Representatives and the Senate. The executive branch in the states and Federal District is led by the governors and vice-governors. State legislatures, known as “legislative assemblies,” are unicameral. In the municipalities, mayors and deputy mayors head the executive branch, and municipal legislative assemblies (city councils) pass local ordinances.

The president of Brazil, state governors, mayors, city councilors, and state and federal congressmen are elected for a four-year term of office. Senators are elected for an eight-year term. Government officials are eligible for a single consecutive reelection, and legislative officials an unlimited number of reelections (Exhibit 88).

### Exhibit 88: Profile of Brazilian political institutions

Executive 		Legislative 	Judiciary 
 <b>Federal</b>	<b>President and vice-president</b> Elected to 4-year mandates, with possibility of reelection. President is government leader and head of State and has full autonomy to appoint and fire cabinet ministers.	<b>House of Representatives</b> Formed by 513 members with 4-year mandates. Distribution of seats between states and Federal District is proportional to population. However, no state (or the Federal District) can have less than 8 or more than 70 seats – leading to distortions in proportional representation.	<b>Federal</b> Formed by the Federal Supreme Court (STF), the Higher Justice Court (STJ), the Public Prosecutors' Office (MPU) and by separate courts for labor, electoral and military questions.
	<b>Senate</b> Formed by 81 senators, three for each state and three for the Federal District (DF). Senators have an 8-year mandate. The elections are alternated: 1/3 and 2/3 of the seats every four years. In 2010, 54 new senators will be elected (two per state plus the Federal District).	<b>State Legislative Assemblies</b> Each state and the Federal District has a Legislative Assembly, whose representatives are elected to 4-year mandates. The number of members varies in accordance with the population.	<b>State</b> The state judiciary is formed by the State Justice Courts and by the State Prosecutors' Offices, in each of Brazil's states plus the Federal District.
 <b>States</b>	<b>Governors and deputy governors</b> Elected to 4-year mandates, with possibility of reelection. Elections are held at the same time as the presidential election.	<b>City Councils</b> Each one of Brazil's 5,564 municipalities has a city council. The number of members depends on the size of the municipality. Overall, Brazil has 52,137 councilors, elected to 4-year mandates.	
	<b>Mayors and deputy mayors</b> Elected to 4-year mandates, with possibility of reelection. Municipal elections (mayors and city councilors) take place two years after the elections for president and state governor.		
 <b>Municipalities</b>			

Source: Brazil's Electoral Court (TSE), Credit Suisse

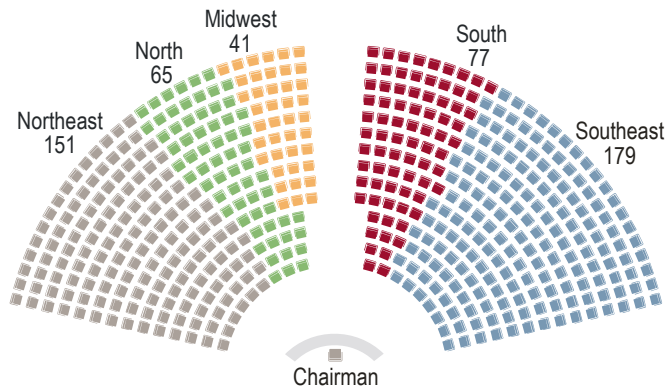
### 4.10.2. Legislative branch

Brazil's federal legislative branch is based in Brasília (Federal District) and is bicameral, comprising the House of Representatives and the Federal Senate. Seats in the House of Representatives are distributed among the 26 states and the Federal District proportionally to population size, and no state is allowed less than eight, or more than 70, federal representatives.

These floor and ceiling limits of each state's participation lead to disproportionate representation of voters in the House of Representatives. Less populous states, particularly those in the North region, are home to 7.9% of the Brazilian population but hold 12.7% of the seats in the House of Representatives (Exhibits 89 and 90). Most underrepresented are states in the Southeast, especially São Paulo (22% of the country's population but only 14% of House seats).

### Exhibit 89: Breakdown of seats in the House of Representatives by region

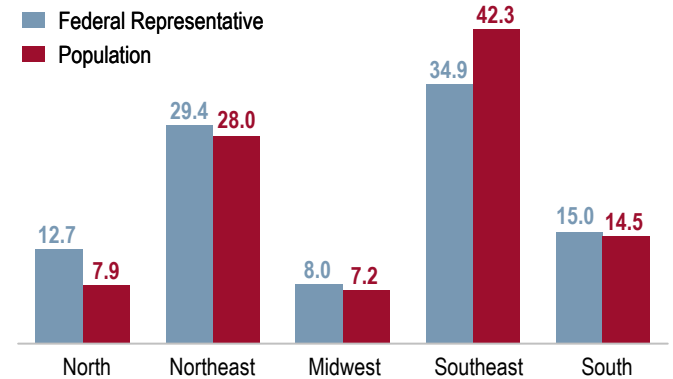
Number of Congressman in 2008



Source: House of Representatives, Credit Suisse

### Exhibit 90: Composition of Brazil's House of Representatives by region

% of total in 2008

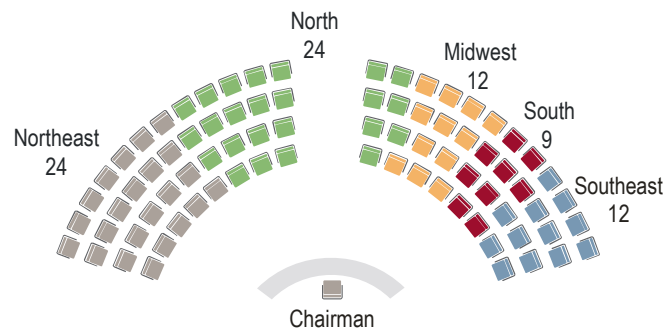


Source: House of Representatives, IBGE, Credit Suisse

The Senate is made up of 81 members, with three representatives from each state and the Federal District (Exhibit 91). Elections are always held in the same year as presidential elections, alternating between one-third and two-thirds of total seats (27 and 54 seats, respectively).

### Exhibit 91: Composition of the Senate by region

Number of Senators in May 2008

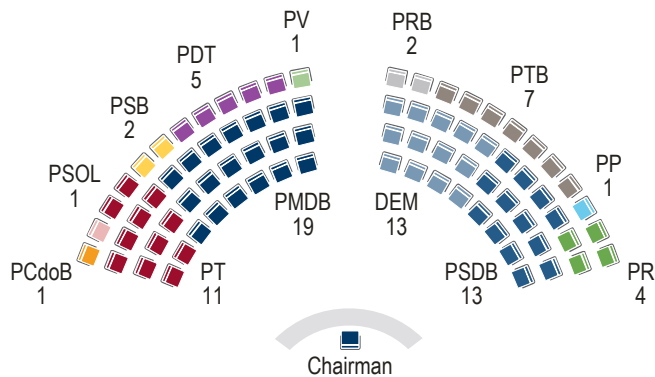


Source: TSE, Credit Suisse

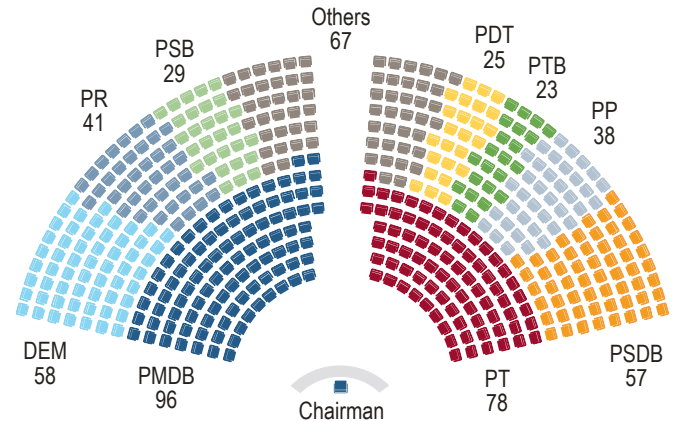
### 4.10.3. Political parties

Brazil has many political parties, 27 of which are registered with the Brazil's Electoral Court (TSE) in 2009. Only 19 political parties have a seat in the House of Representatives and 13 parties have a seat in the Senate. The three main parties (PMDB, PT, DEM, PSDB) have 57% of the seats in the House and 70% in the Senate. Therefore, administrations need to build alliances in the Congress, since constitutional amendments, for example, need 60% of votes in both houses to be approved.

The PMDB is the largest party, with a leading role in virtually all positions. The PT holds a large number of seats in the House of Representatives but is not as influential in the Senate. The PSDB is the most evenly balanced and is represented in nearly all positions (Exhibit 92 and 93).

**Exhibit 92: Composition of the Senate by party\* (August 2009)**

Source: Senate, Credit Suisse

**Exhibit 93: Composition of the House of Representatives by party (August 2009)**

Source: House of Representatives, Credit Suisse

\* Brazilian parties: DEM (Democratas - "The Democrats" political party); PMDB (Brazilian Democratic Movement Party); PT (Workers Party); PSDB (Brazilian Social Democracy Party); PR (Party of the Republic); PP (Progressivist Party); PDT (Democratic Labor Party); PTB (Brazilian Labor Party); PV (Green Party); PPS (People's Socialist Party); PTC (Christian Labor Party); PSOL (Socialism and Liberty Party); PSB (Brazilian Socialist Party); PCdoB (Communist Party of Brazil).

#### 4.10.4. Brazilian electorate

According to figures from Brazil's Electoral Court (TSE), Brazil had 130 million voters in May 2008. Brazilian law requires citizens of voting age to register as voters and to vote in elections. Voters are found primarily in the Southeast and Northeast regions, with 44% and 27% of the total, respectively.

Brazil's five most populous states (São Paulo, Minas Gerais, Rio de Janeiro, Bahia and Rio Grande do Sul) were home to 55% of voters in July 2008. Around 24% of voters live in state capitals, showing that the profile of the Brazilian electorate is predominantly urban (Exhibit 94).

**Exhibit 94: Electorate in Brazil's states and state capitals (May 2008)**

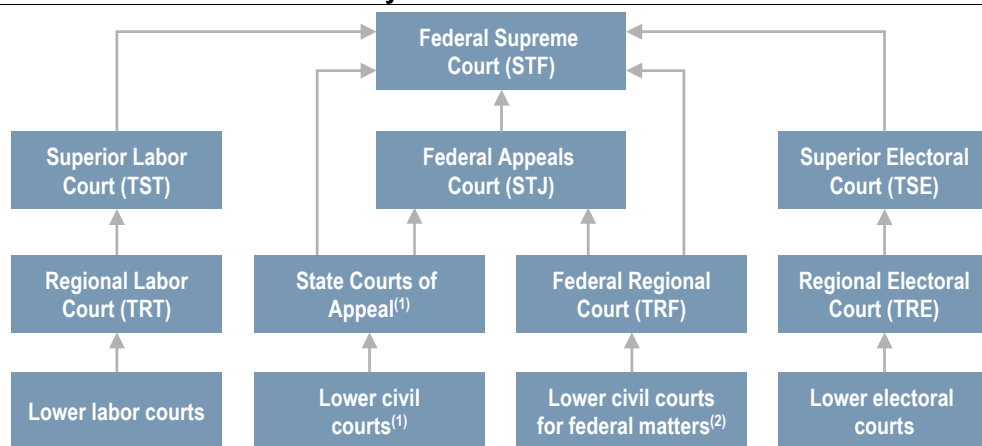
State	Voters	%	Capital	Voters	%
<b>Southeast region</b>	<b>56,872,710</b>	<b>44</b>			
SP	29,158,369	22.4	São Paulo	8,205,386	6.3
MG	14,036,795	10.8	Belo Horizonte	1,774,299	1.4
RJ	11,236,116	8.6	Rio de Janeiro	4,579,421	3.5
ES	2,441,430	1.9	Vitória	244,310	0.2
<b>Northeast region</b>	<b>34,957,465</b>	<b>26.9</b>			
BA	8,980,041	6.9	Salvador	1,753,454	1.3
PE	6,041,505	4.6	Recife	1,110,835	0.9
CE	5,580,128	4.3	Fortaleza	1,472,368	1.1
MA	4,112,102	3.2	São Luís	641,138	0.5
PB	2,649,229	2.0	João Pessoa	444,965	0.3
RN	2,163,485	1.7	Natal	497,429	0.4
PI	2,154,402	1.7	Teresina	488,613	0.4
AL	1,929,526	1.5	Maceió	497,465	0.4
SE	1,347,047	1.0	Aracajú	354,076	0.3
<b>South region</b>	<b>19,591,228</b>	<b>15.1</b>			
RS	7,932,795	6.1	Porto Alegre	1,040,523	0.8
PR	7,305,060	5.6	Curitiba	1,255,484	1.0
SC	4,353,373	3.3	Florianópolis	302,288	0.2
<b>North region</b>	<b>9,359,845</b>	<b>7.2</b>			
PA	4,454,114	3.4	Belém	958,203	0.7
AM	1,895,148	1.5	Manaus	1,060,442	0.8
RO	1,026,734	0.8	Porto Velho	252,508	0.2
TO	911,826	0.7	Palmas	128,460	0.1
AC	443,338	0.3	Rio Branco	201,966	0.2
AP	381,281	0.3	Macapá	218,263	0.2
RR	247,404	0.0	Boa Vista	160,051	0.1
<b>Midwest region</b>	<b>9,127,128</b>	<b>7.0</b>			
GO	3,862,554	3.0	Goiânia	845,321	0.7
MT	1,982,917	1.5	Cuiabá	368,751	0.3
DF	1,669,399	1.3	Brasília	1,669,399	1.3
MS	1,612,258	0.1	Campo Grande	511,316	0.4
<b>Abroad</b>	<b>105,561</b>	<b>0.081</b>			
<b>Total</b>	<b>130,013,937</b>				

Source: TSE, Credit Suisse

**4.10.5. Judiciary branch**

The judicial branch is headed by the Federal Supreme Court (11 sitting judges), the Federal Appeals Court (STJ), and separate courts for labor, electoral and military matters.

The judicial branch is active at both the federal and state levels (with similarities to the U.S. judicial system). The Federal Supreme Court is the court of final appeal for all federal and state courts (Exhibit 95). The legal system allows for a significant number of appeals and, as a result, final rulings can, in some cases, take decades. Municipalities do not have their own judicial systems.

**Exhibit 95: Brazilian Judicial System**

<sup>(1)</sup>Some states have other courts for specific types of cases (e.g. civil, criminal, tax, etc.)

<sup>(2)</sup>Matters in which one party is a federal agency.

Source: Credit Suisse

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## 5. Infrastructure



- Brazil's transportation grid is made up mostly of highways, which move more than 60% of the country's freight, followed by railroads (21%) and waterways (14%). Brazil's high average shipping costs are explained mostly by the heavy emphasis on highways coupled with poor conservation. Most highways are managed by the government and their quality is well below that of concession roads managed by the private sector. Virtually the entire railway network is managed by the private sector and, although minute, its efficiency standards are similar to those of developed countries.
- Brazil's energy grid is dominated by hydroelectric power. Around 85% of electric power capacity in Brazil is generated by hydropower plants, while the global average is 16%. Thermal power plants correspond to 12% of Brazil's total installed capacity and are used mainly to substitute for hydroelectric power when reservoirs are low. Brazil's two nuclear power plants account for just 3% of Brazil's energy installed capacity.
- The end of the state monopoly on telecommunications and the subsequent privatization process established a competitive market and extended services to a vast swath of the Brazilian population. In a decade, the number of landlines doubled, from 20 million in 1998 to 41 million in 2008, and cell phone subscribers rose from 4.5% to 78% of the population in the period.

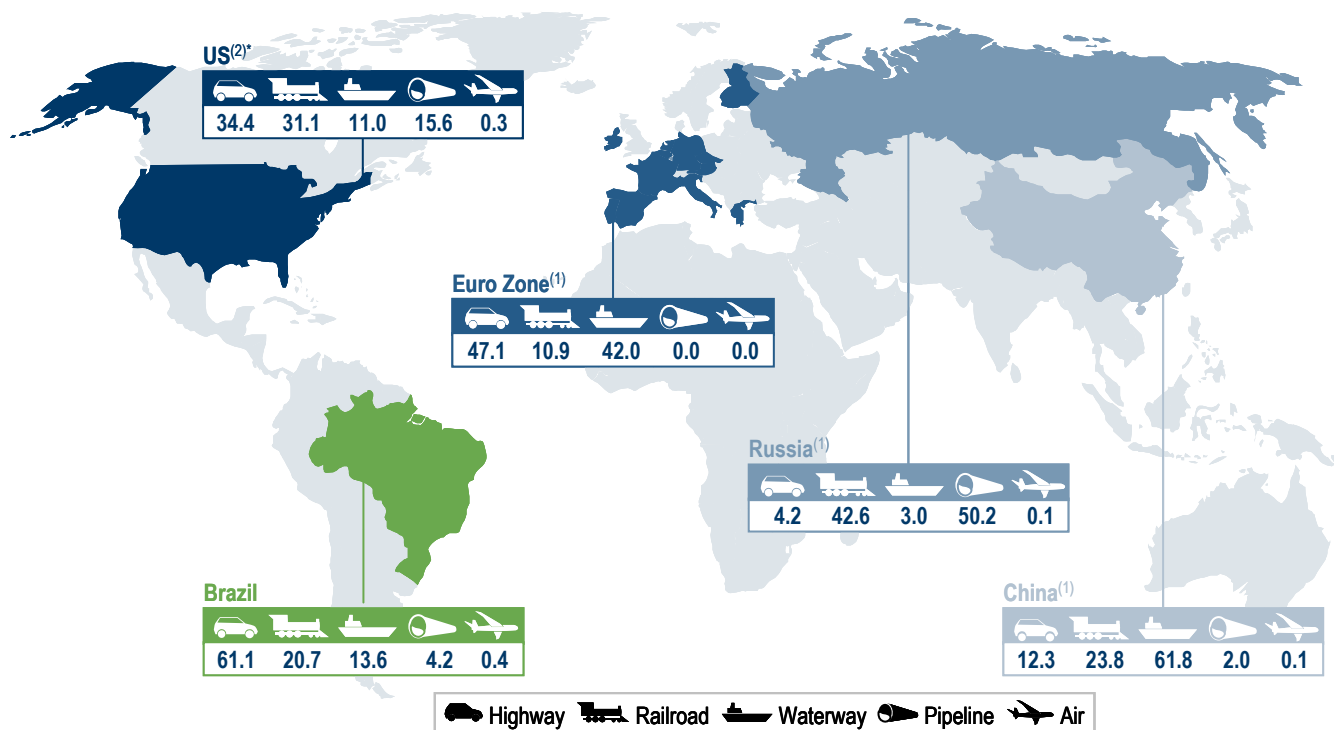


## 5.1. Freight transportation

The main characteristic of Brazilian freight transportation is its high emphasis on the highway system. Despite the slight decline in recent years, highways are still used for some 61% of Brazil's total freight transportation, much higher than in other countries, especially those with a territorial size equivalent to Brazil's (Exhibit 96).

### Exhibit 96: Freight transportation by country

% of total



\*Multimodal and unknown = 7.6% (1) Data related to 2008. (2) Data related to 2006  
Source: European Commission, Bureau of Transportation Statistics, Russian Federal State Statistics Service, National Bureau of Statistics of China, Credit Suisse

### 5.1.1. Highway transportation

Brazil's paved highway system extends over 196,300 Km and is distributed very unevenly among regions. The South and Southeast regions contain 53% of Brazil's highways, even though they represent only 18% of national territory (Exhibit 97).

### Exhibit 97: Brazilian main interstate highway grid

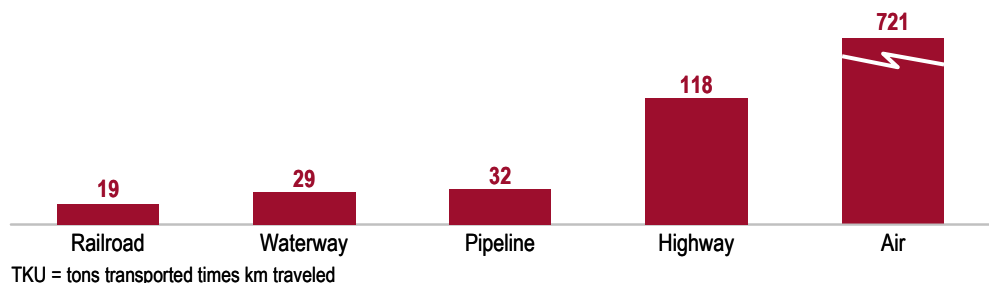


Source: ANTT, Credit Suisse

Opting to build highways was largely due to the lower implementation cost versus railroad transportation. It also served as an incentive for the development of the Brazilian vehicle industry. Despite the lower cost of implementation, the operational cost of highway transportation is some six times higher than for railroad transportation, which contributes to the high average spending for transportation in Brazil (Exhibit 98).

### Exhibit 98: Freight transportation costs in Brazil

US\$/TKU, 2006

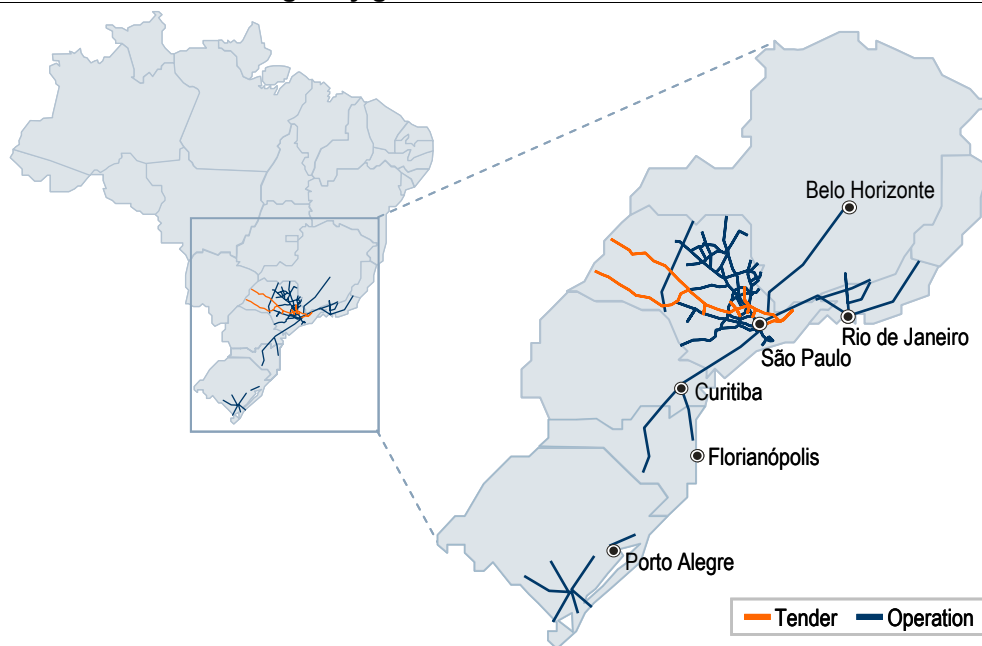


Source: Coppead, Credit Suisse

Maintenance costs are also high and, given the large portion of highways under public-sector management, this also results in poor conservation, which further raises the operational cost of highway transportation versus other means of transportation.

The public sector (especially federal and state governments) is responsible for managing 95% of Brazil's paved highway system. The sections under private-sector concession total around 10,100 Km, just over 5% of the total system. Most of the highways under concession are located in the Southeast and South regions, especially in São Paulo, Rio Grande do Sul and Paraná. Around 85% of the highways under concession are controlled by the state's government. Over the next few years, we should see a significant rise in the percentage of the highway system under concession, mostly federal and São Paulo state highways (Exhibit 99).

#### Exhibit 99: Brazilian highway grid under concession

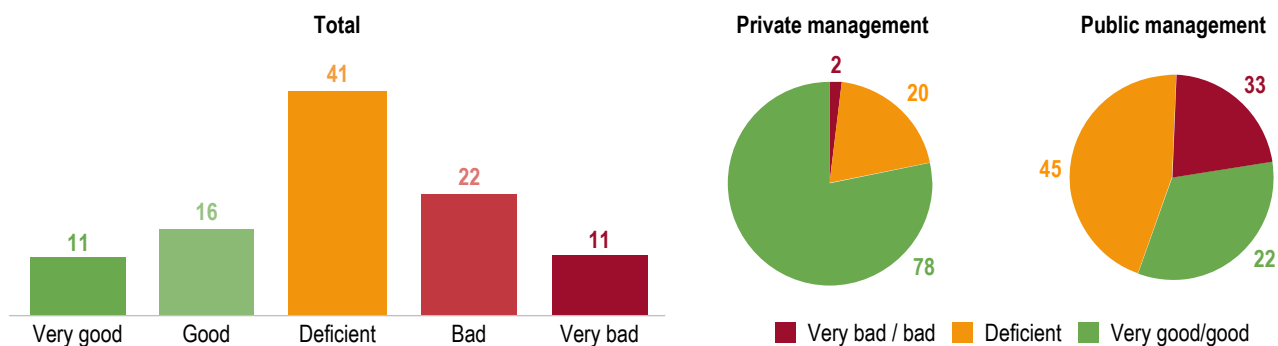


Source: ANTT, Credit Suisse

Despite the generally poor conservation of Brazilian highways, there is a major difference between the highways managed by the public and private sectors. A 2009 survey by the National Transportation Confederation (CNT) showed that 33% of Brazil's paved highways are in bad or very bad condition. However, of the highways under concession, 78% are in a good or very good state of conservation, a percentage that drops to 17% for the highways run by the public sector (Exhibit 100).

#### Exhibit 100: Quality of Brazilian roadways

% of total, 2007



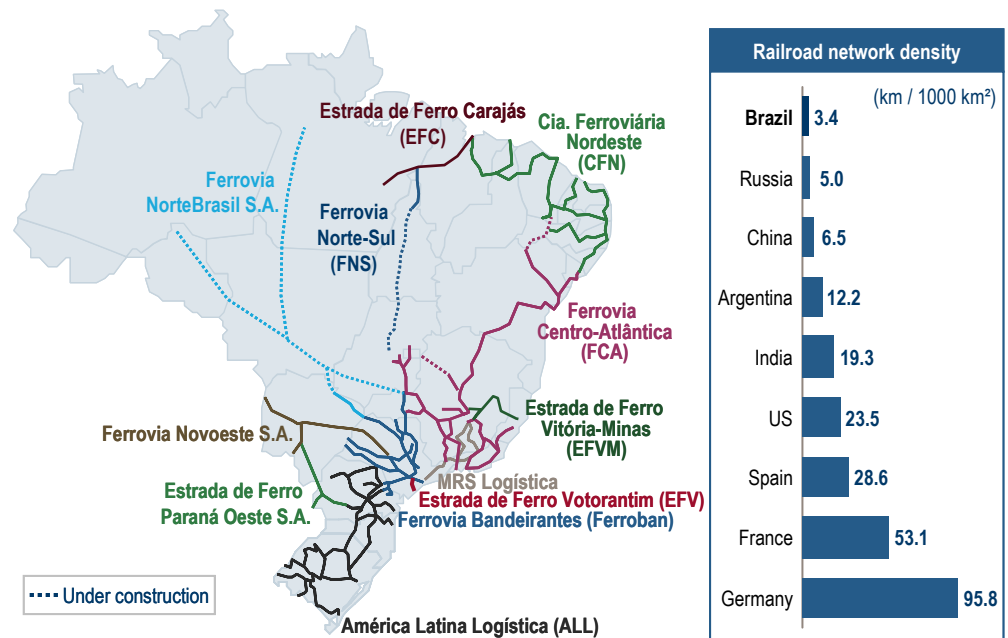
Source: CNT, Credit Suisse

### 5.1.2. Railroad transportation

The railroad system accounts for 21% of all freight transportation in Brazil and consists of over 28,800 Km of track, which is quite limited in comparison to other countries, especially taking into account Brazil's vast area (Exhibit 101).

#### Exhibit 101: Length and density of freight railroad system

Km / 1000 Km<sup>2</sup>

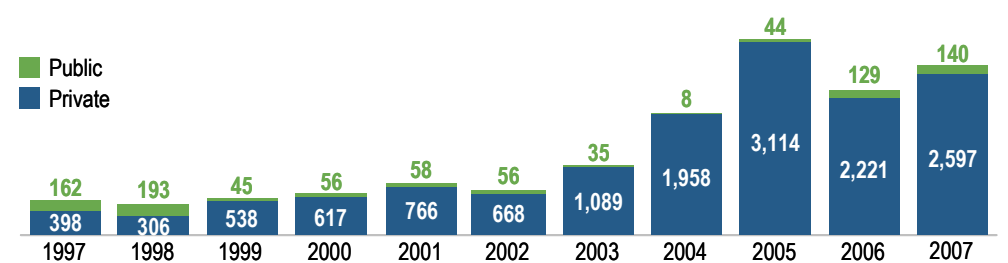


Source: ANTF, Credit Suisse

Although the length of Brazil's railroad system has remained relatively stable since the 1990s, the total volume of freight transported by the system has increased considerably in recent years. The rise in the railroad capacity utilization was due to higher investments (Exhibit 102). Between 2002 and 2007, the quantity of locomotives in operation increased 37% and the number of railcars for freight transportation rose 130%.

#### Exhibit 102: Investments by railroad concessionaires

R\$ mn



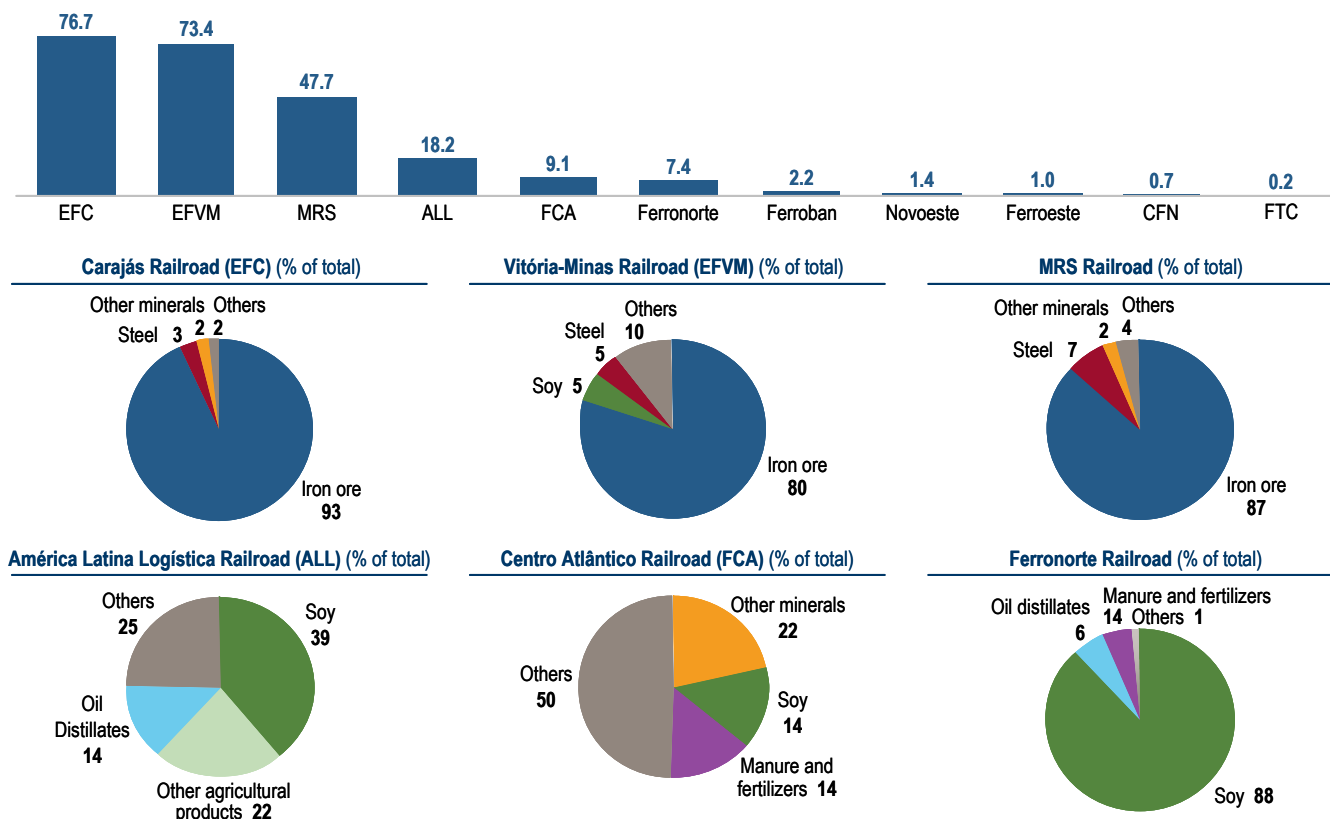
Source: ANTF, ANTT, Credit Suisse

Growth in volume transported was concentrated in the groups of ores (especially iron ore) and coal, which represent around 81% of the total freight transported on Brazil's railroads. Unlike the highway system, the Brazilian railroad system is almost 100% administered by private-sector companies. The system's privatization began in 1996 and was completed in 1998. Currently, there are 12 railroad concessions in Brazil, operated by five private groups

and two state-owned corporations. The private sector administers around 98% of the 28,800 Km of railroad track in operation. By the criteria of length of the railroad system, América Latina Logística controls some 11,700 Km of railroad tracks, mostly in the South and Southeast regions. By volume transported, the two main railways are controlled by Vale, used basically for transporting the company's iron ore production in the Southeast and North regions (Exhibit 103).

### Exhibit 103: Primary railroad operators

Billions of TKU, 2007



Source: ANTT, Credit Suisse

### 5.1.3. Waterway system

Brazil has approximately 8,500 Km of ocean coast and approximately 42,000 Km of navigable inland waterways. The Brazilian port system is made up of 40 ports: 37 fall under the responsibility of the public sector and three are run by the private sector. There are also 42 private port terminals (Exhibit 104).

The privately-owned port terminals are divided into two categories:

- Private use: the company is authorized by the government to install and operate a port terminal only for movement of self-owned cargo.
- Mixed-use: as well as moving its self-owned cargo, the concession holder can operate a terminal for the movement of third-party cargo.

In addition to the private management of ports and the concession of private terminals, the private sector also participates in the operation of ports administered by the government. Public-sector entities can transfer the operation of the public ports to private companies, through a concession involving a public bidding process. In this case, the successful bidder

is responsible for equipping the terminal and for loading and unloading operations at the port. It is incumbent on the public-sector entities to inspect and maintain the port infrastructure, including roadways connecting the port to the highway and the dredging of the access canals to the terminals.

#### Exhibit 104: Ports and state capitals



Source: ANTAQ, Credit Suisse

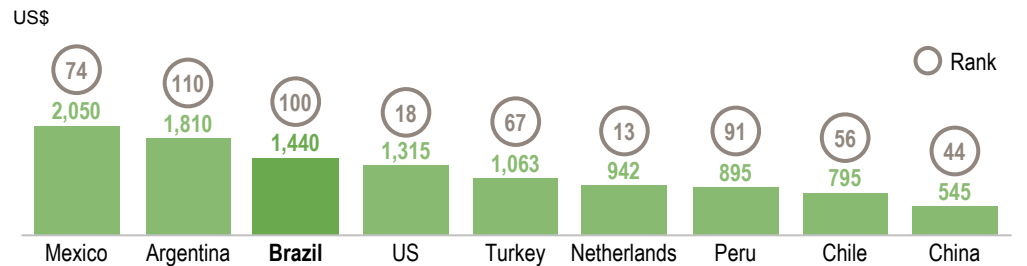
The waterway transportation system can be divided into three main types:

- **Long-haul ocean shipping** - comprises the carriage of goods on international routes. Maritime transportation is responsible for around 90% of Brazil's foreign trade flows.
- **Cabotage** - comprises the transportation of goods along Brazil's coast, using the same infrastructure for land transportation and long-haul.
- **Inland marine transportation** - despite the vast length of navigable waterways in Brazil, only some 10,000 Km (25% of total potential) are actually used for navigation.

Brazil's land routes and waterway characteristics are favorable for waterway transportation. However, the share of the system in total freight transportation is only 14%. The system is used mostly for international trade; inland marine and cabotage shipping is not very significant. As with railroad transportation, the main limitation to waterway system expansion, especially for inland marine transportation, is the high cost of building infrastructure. On the other hand, operational costs are nearly four times lower than those of road transportation.

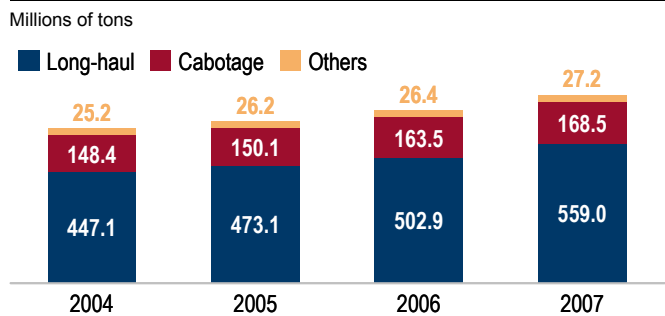
The cost of freight movement through Brazilian ports is very high, significantly higher than in many developed countries or emerging markets. In a group of 183 countries, Brazil ranks 100<sup>th</sup> in trading across the borders (Exhibit 105).

#### Exhibit 105: Port landing cost per imported container

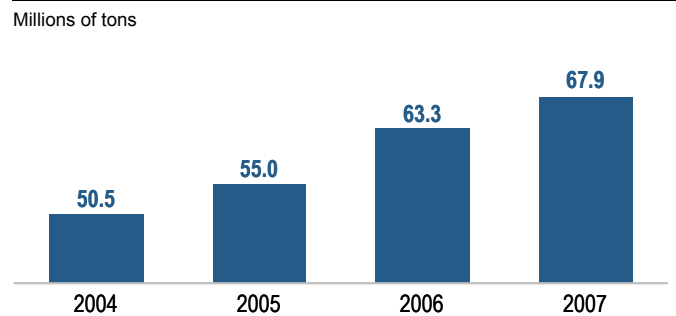


According to the National Waterway Transport Agency (ANTAQ), total cargo movement (except containers) at Brazil's ports and terminals grew 7% p.a. from 2004 to 2007, mainly in long-haul shipping (Exhibit 106). In the same period, container movement grew 10% p.a. (Exhibit 107).

#### Exhibit 106: Cargo movement in the waterway system



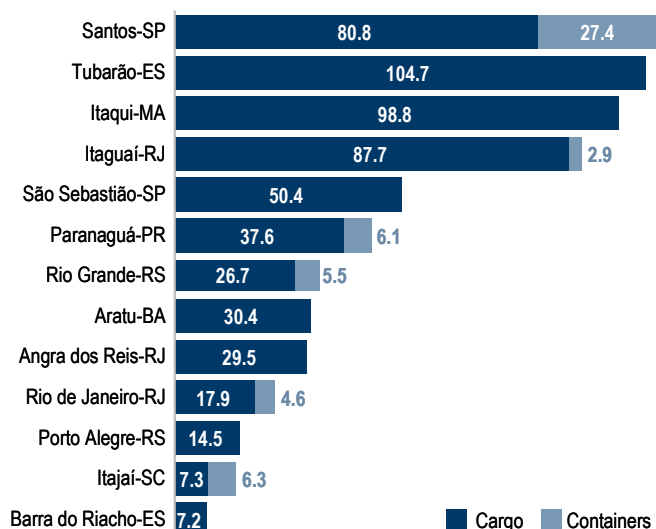
#### Exhibit 107: Total container movement



Cargo movement through Brazil's main ports is highly concentrated in bulk products as a result of the high weight of commodities in Brazil's exports, especially iron ore, soybean and fuels (Exhibit 108).

**Exhibit 108: Main products exported through seaports**

Millions of tons, 2007



<b>General cargo</b>		<b>102.7</b>	
Santos-SP	32.4	N/D	
Paranaguá-PR	8.5	Lumber, sugar and frozen foods	
Itajaí-SC	7.2	Frozen meat and caustic soda	
Barra do Riacho-ES	7.1	Pulp	
Rio Grande-RS	6.6	Soy, wheat and lumber	
Others	40.8		
<b>Solid bulk</b>		<b>457.4</b>	
Tubarão-ES	103.5	Iron ore, coal and fertilizers	
Itajaí-MA	92.2	Iron ore	
Itaguaí-RJ	84.1	Iron ore, coal and alumina	
Santos-SP	33.2	Soy, sugar and manure	
Paranaguá-PR	25.2	Soy, corn and fertilizers	
Others	119.4		
<b>Liquid bulk</b>		<b>194.6</b>	
São Sebastião-SP	49.8	Oil and distillates	
Angra dos Reis-RJ	29.3	Oil and distillates	
Aratu-BA	26.7	Petrochemical naphtha	
Santos-SP	15.2	Ethanol, fuel oil and diesel oil	
Porto Alegre-RS	12.3	Oil, wheat and petrochemicals	
Others	61.3		

Source: Port administrations, ANTAQ, Credit Suisse

**5.1.4. Air transportation**

The Brazilian airport system has 31 international airports and 36 domestic airports. There are some 2,500 smaller airports, whose capacity cannot accommodate larger aircraft. The administration and operation of the 67 main airports in Brazil are under the responsibility of Infraero, a state-run company controlled by the federal government.

The airport system is used mainly for passenger transportation. In 2008, airports operated by Infraero served 113.2 million passengers (arrivals and departures), 54% of them at Brazil's five largest airports (São Paulo (GRU); São Paulo (CGH); Rio de Janeiro (GIG); Brasília; and Salvador).

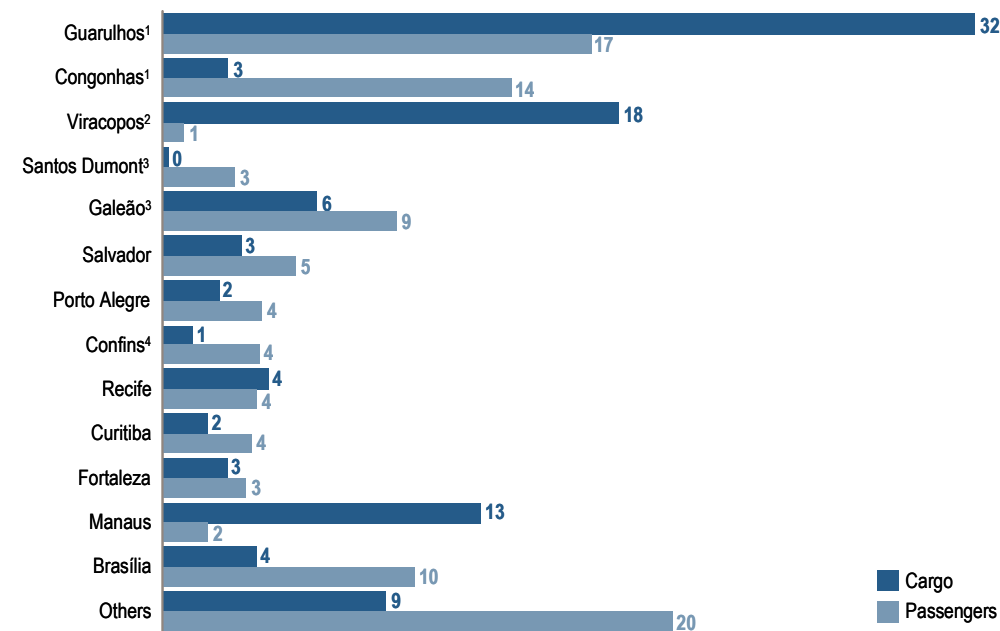
Only 0.4% of all freight is sent by air. Total air freight in 2008 was 1.3 million tons at the five main freight shipping airports, São Paulo (GRU); Campinas; Manaus; Rio de Janeiro (GIG) and Recife, representing around 73% of the total (Exhibit 109).

If it were not for its relatively high cost, perhaps more freight would be sent by air. The cost of air transportation in Brazil is around 38 times higher than that of railroad transportation and some six times the cost of highway transportation.



**Exhibit 109: Brazil's main passenger and freight shipping airports**

% of total passenger or freight flows, 2007



<sup>1</sup>São Paulo <sup>2</sup>Campinas (São Paulo state) <sup>3</sup>Rio de Janeiro <sup>4</sup>Belo Horizonte (Minas Gerais state)

Source: Infraero, Credit Suisse

Although Brazil's airport infrastructure is managed by the state, there is no state-owned airline in operation. Currently, 17 Brazilian airlines run regular domestic flights and six operate international routes.

## 5.2. Electricity

In 2008, around 95% of the Brazilian population had access to the country's electricity grid. Brazil has over 61.5 million consumer points of connection, in 99% of the country's municipalities. Of this total, 85% are residential consumers and 15% are industrial and/or commercial users.

Of the total electricity consumed in Brazil, 88% is produced domestically and 12% is imported, mainly from Itaipu<sup>5</sup>. Domestic consumption totaled 412.2 GWh in 2007, of which 85% comes from hydro power<sup>6</sup> (Exhibit 110). Brazil is unique in its dependence on hydro power<sup>7</sup>. In the rest of the world, only 16% of domestic consumption, on average, is generated by hydro power.

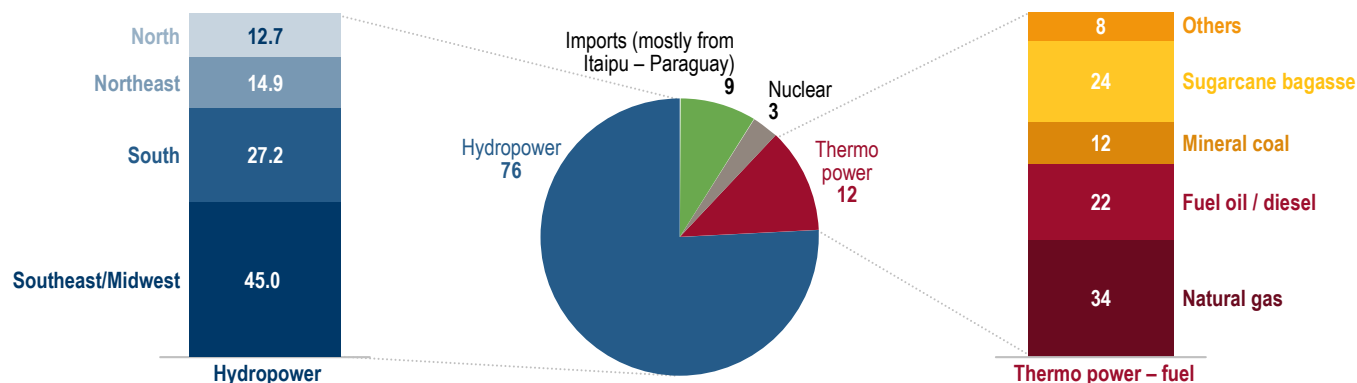
<sup>5</sup> The Itaipu hydroelectric plant is a binational venture between Brazil and Paraguay, built in 1974 on the border between both countries at the Paraná river. Itaipu is currently the world's largest hydroelectric plant in terms of installed capacity, and accounts for 18% of energy consumed in Brazil.

<sup>6</sup> Brazil experienced energy rationing in 2001. This measure led to the interruption of the economic growth cycle and led the government to grant incentives to boost Brazil's energy generation capacity using thermoelectric energy plants. These plants aimed to turn Brazil less vulnerable to rainfall conditions.

<sup>7</sup> Hydro energy consumption as a percentage of total energy consumption in Brazil is the second highest in the world, only trailing Norway (98%).

**Exhibit 110: Brazil's sources of power**

%, 2007

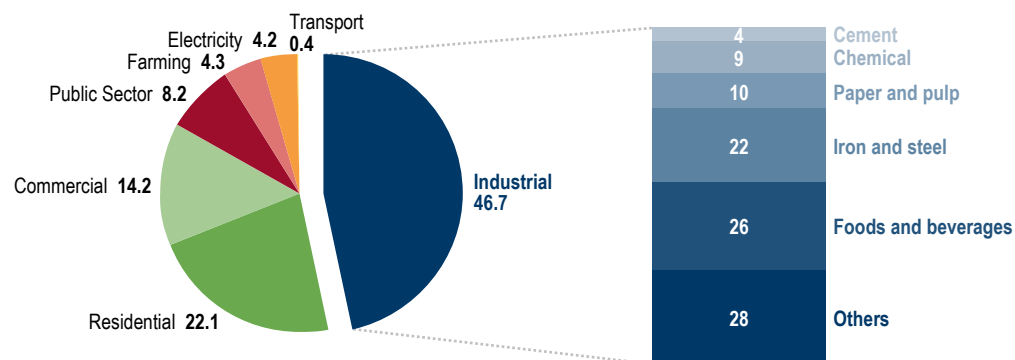


Source: BEN, Credit Suisse

The industrial sector accounts for 46.7% of the electricity consumed in Brazil, followed by the residential (22.1%), commercial (14.2%), public (8.2%), farming (4.3%), energy (4.2%) and transportation (0.4%) sectors. Food and beverages, steel and metal and paper and pulp are among the industrial sectors with the highest energy consumption (Exhibit 112).

**Exhibit 111: Energy consumption by sector**

% of total, 2007



Source: ANEEL, Credit Suisse

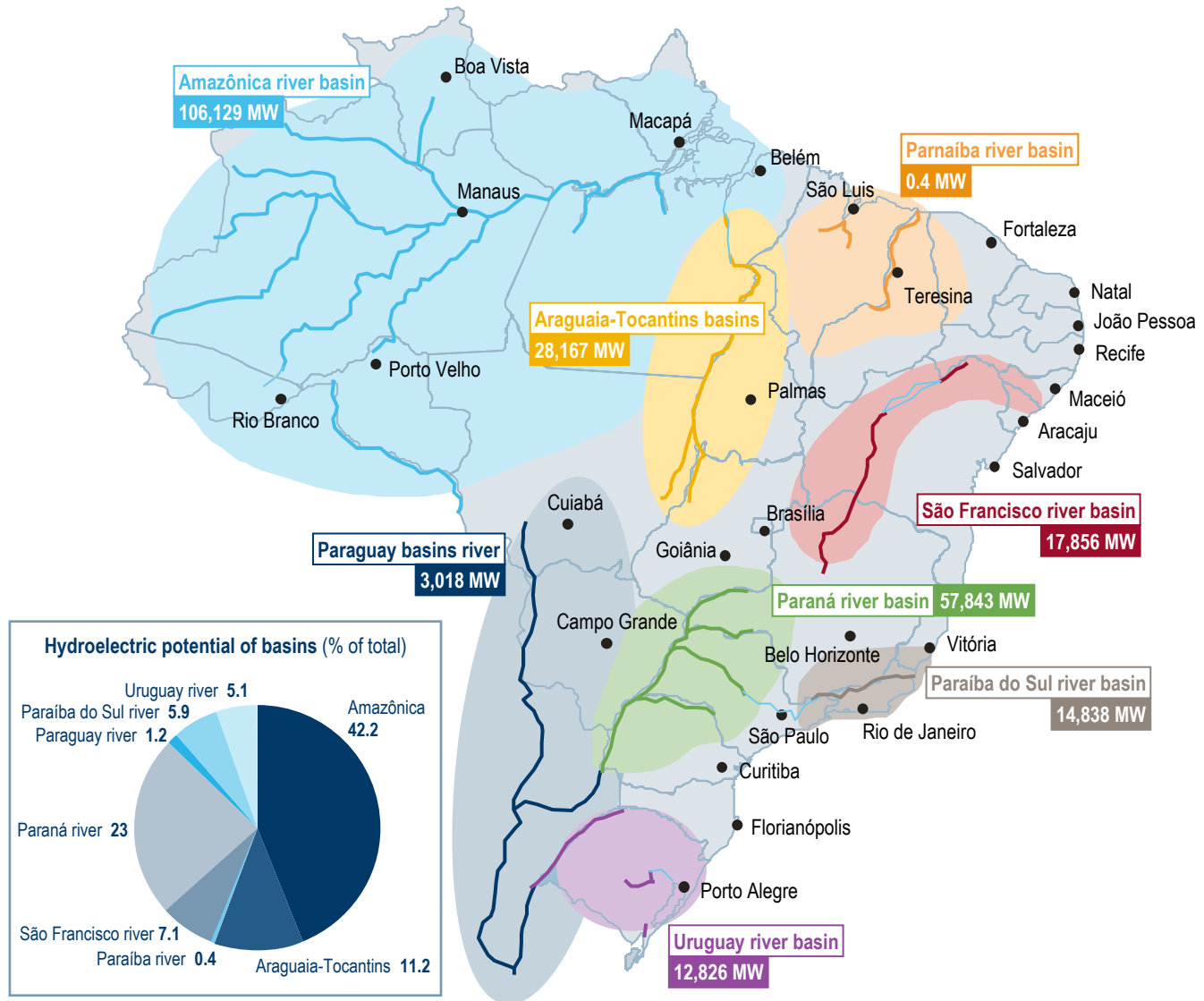
In November 2008, there were 1,768 energy generation companies operating in Brazil, with an aggregate installed capacity of 104.8 GWh<sup>8</sup>; 159 units were medium- and large-scale hydroelectric plants, 320 were small hydroelectric plants and 1,042 were thermoelectric plants fired by various energy sources (natural gas, diesel oil, fuel oil and biomass). Brazil has the largest hydro power potential in the world: a total of 260GW. Of this amount, only 30% (77GW) is being exploited by existing plants. The hydro power potential yet to be exploited totals some 126GW – of which 70% lies in the basins of the Amazon and Tocantins/Araguaia regions (Exhibit 112).

Most of Brazil's large hydro power plants are located in the basins of the Paraná and São Francisco rivers, in the South, Southeast and Northeast regions, despite the existence of important energy plants in the North region. Nearly 100% of the hydro power capacity in the South, Southeast and Northeast regions is being exploited (or subject to environmental restrictions). Efforts to expand Brazil's hydro power capacity should therefore focus on the country's North region.

<sup>8</sup> Number that excludes Paraguay's stake in the Itaipu plant.

Since the largest hydro power potential is located far from the main centers of consumption, Brazil's energy grid is highly interconnected in a vast transmission network. Small isolated systems represent only 3.4% of Brazil's total hydro power generation.

### Exhibit 112: Hydro power potential in Brazil



Source: EPE, Credit Suisse

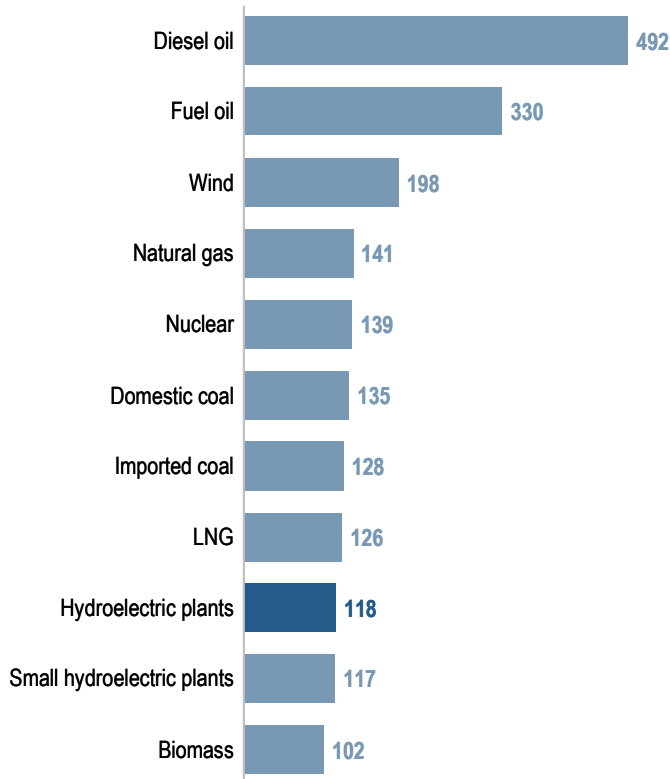
The main hydro power plants under construction in Brazil in 2009 are located in the North region, on the Madeira River (Amazon River basin). One of these plants is Santo Antônio, whose license was auctioned in 2007, with an estimated capacity of 3,150MW. Despite difficulties in obtaining environmental permits that delayed the construction timetable, start-up is scheduled for 2012. Jirau is the second hydroelectric plant to be built on the Madeira River, with a generation capacity of 3,300 MW. The project was tendered in 2008 but construction was delayed for the same reason (delays in obtaining environmental permits). These two plants should increase Brazil's installed capacity by around 6%.

The cost of energy production at hydro power plants is around four times lower than the cost of production at thermo plants fired by diesel oil, and three times lower than the cost of plants fired by fuel oil (Exhibit 113). Despite this, the final average energy price in Brazil

is one of the highest in the world, for both industrial and residential users (Exhibit 114). Higher costs of transmission (6% of total cost), distribution (29%), and especially taxes (around 33%) raise the price of energy for final consumers.

**Exhibit 113: Energy production cost in Brazil**

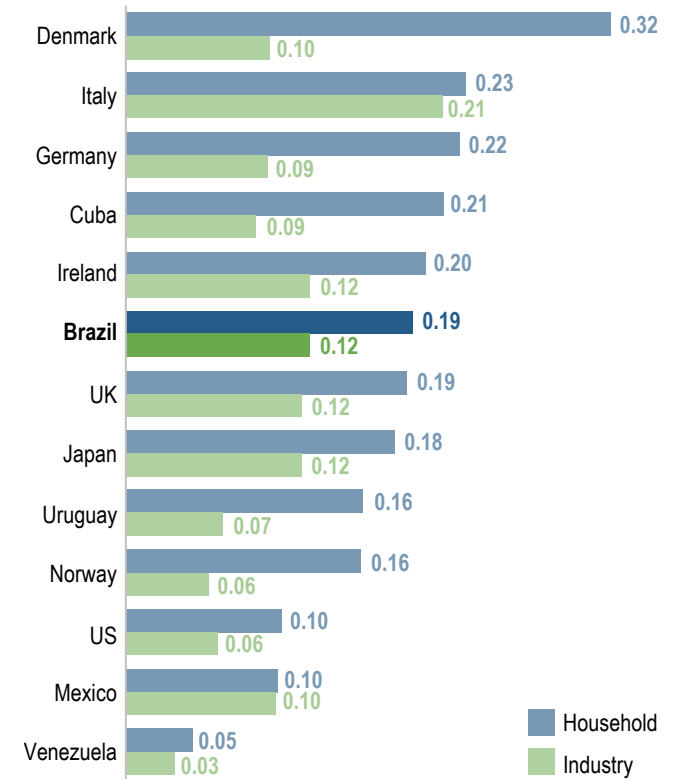
R\$/MWh, 2007



Source: Aneel, Credit Suisse

**Exhibit 114: Energy prices for selected countries**

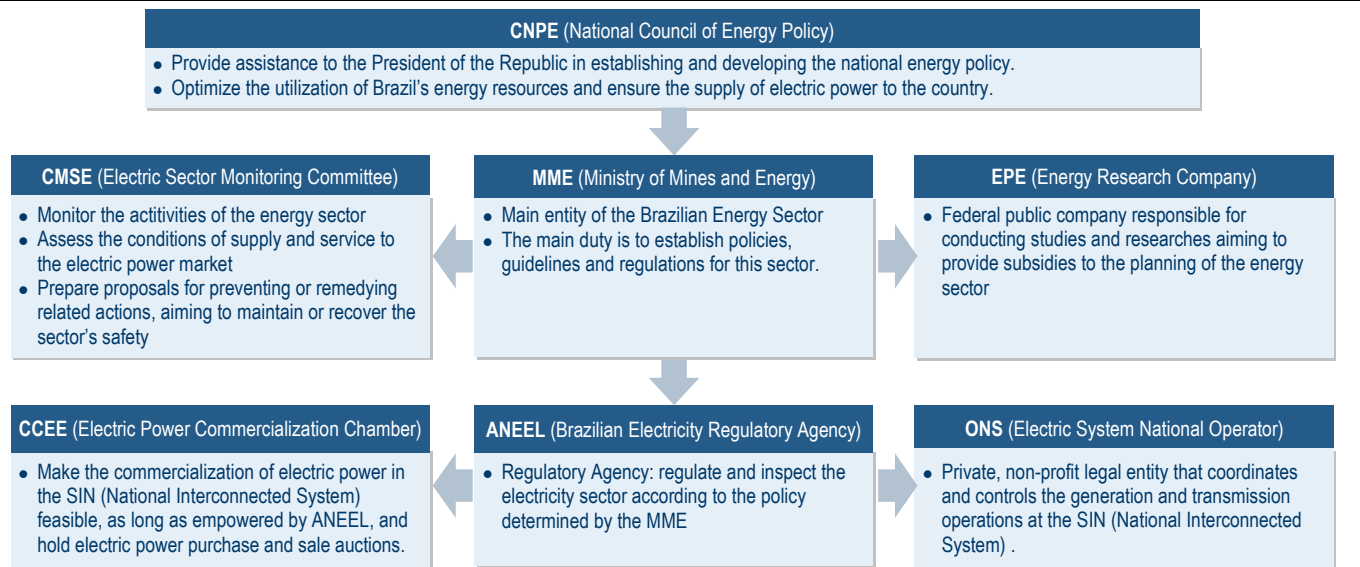
US\$/kWh, 2007



Source: EIA, Credit Suisse

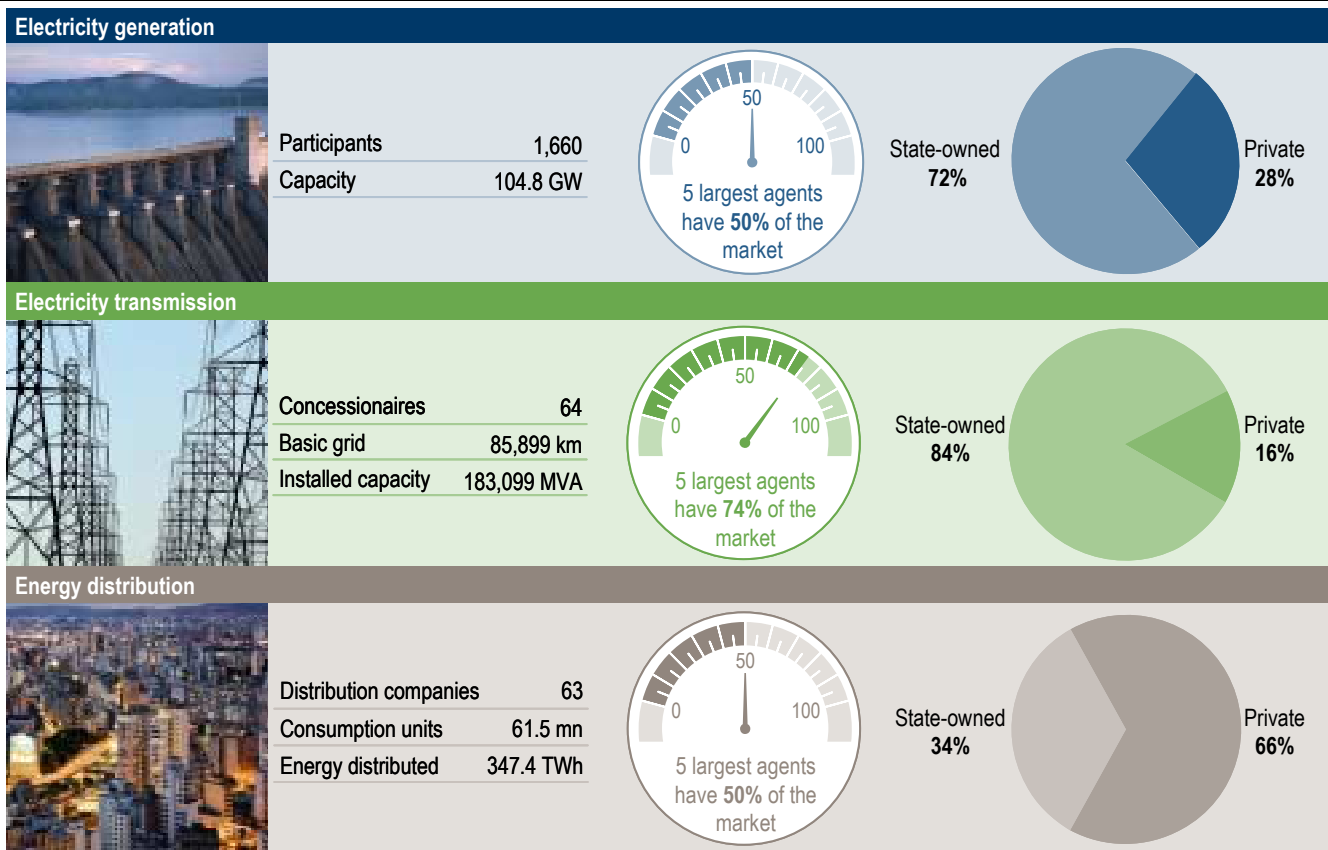
### 5.2.1. Industry organization - energy sector

Until the first half of the 1990s, most activities in the energy sector in Brazil were controlled by government-owned (federal and state) corporations, which handled generation, transmission and distribution. In the late 1990s, the energy sector went through a series of privatizations and deregulations, with the creation of a new sector regulatory framework and various agencies to regulate and supervise the industry, including the National Electric Energy Agency (Aneel). The seven main bodies of the Brazilian electricity sector are (Exhibit 115): National Council of Energy Policy; Ministry of Mines and Energy; Electricity Sector Monitoring Committee; Energy Research Company; Electric Power Commercialization Chamber; Electric System National Operator; and the Brazilian Electricity Regulatory Agency.

**Exhibit 115: Regulatory structure of the energy sector**

Source: Credit Suisse Equity Research

Despite the privatizations, the participation of government-controlled companies in the energy sector is still very high, especially for energy generation and transmission (Exhibit 116).

**Exhibit 116: Summary of the Brazilian energy sector in 2008**

Source: Aneel, Credit Suisse

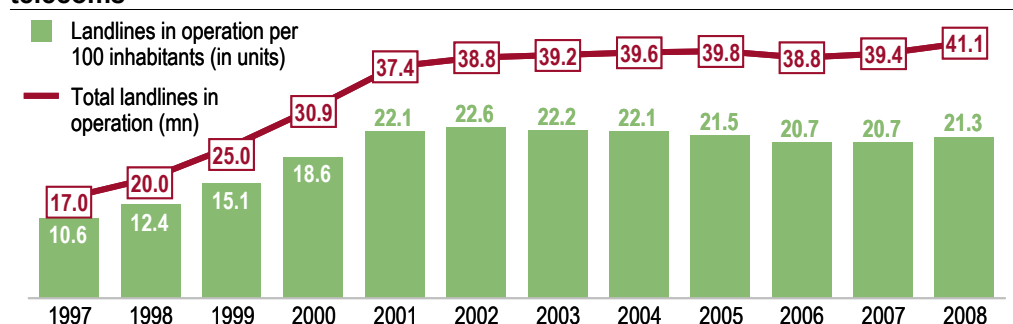
## 5.3. Telecommunications

A constitutional reform carried out in 1995 abolished state-owned company exclusivity on concessions for exploration of public utility services and established that concessions and authorizations are required for exploration of telephone and satellite transmission services. The new legal framework was established in 1997 with the advent of the General Telecommunications Act ("LGT"). In 1998, privatization of Brazil's fixed and mobile telephone network was complete. The system is currently operated by private Brazilian and foreign companies.

### 5.3.1. Landline services

The number of landline telephones has doubled from 20 million in 1998 to 41 million in 2008 (Exhibit 117). Service density, measured by the total number of lines installed per 100 inhabitants, rose from 12.4 to 21.3 in the period. Growth was higher between 1999 and 2001, when concessionaires had no competitors in concession areas and made sizeable investments to expand service infrastructure.

**Exhibit 117: Growth in landline telephone service after the privatization of telecoms**

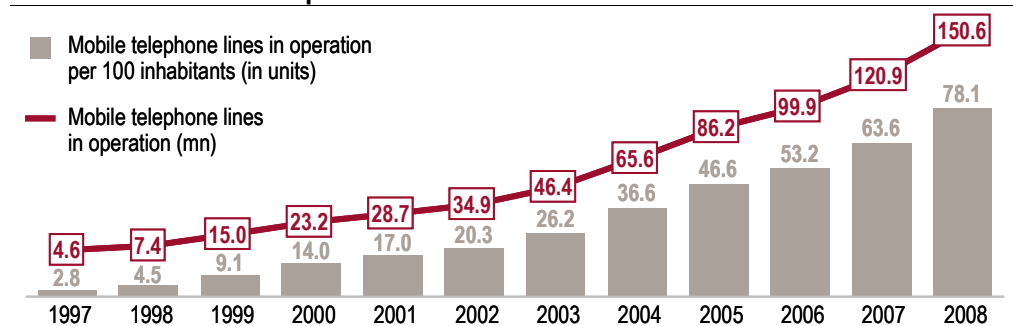


Source: Anatel, Credit Suisse

### 5.3.2. Mobile telephone services

Mobile telephone services were launched in 1990, still under the control of state-owned companies. This is the most successful privatization case in Brazil. In 1997, one year before the privatization, there were 4.6 million subscribers of mobile telephone services, a number that rose to 150.6 million in 2008, with a density of 78.1 mobile phones for each 100 inhabitants (Exhibit 118).

**Exhibit 118: Mobile telephone services**



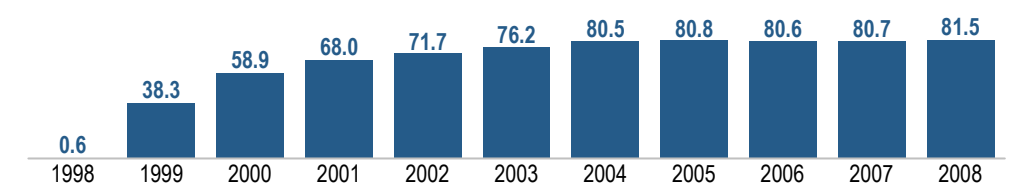
Source: Anatel, Credit Suisse

This swift growth in the number of mobile telephones was due to:

- A more competitive market structure – the law that opened up the telecommunications market established ten concession areas for mobile telephone services. As of 2001, with the authorization to explore several frequency bands, at least four different operators entered each geographic area.
- Launch of pre-paid mobile phone services – this service increased from 0.6% of total users in 1998 to 80.5% in 2004 and has remained relatively stable since then. In 2008, this type of service accounted for 122.7 million lines or 81.5% of the total (Exhibit 119).

#### Exhibit 119: Share of pre-paid mobile phones

% of total

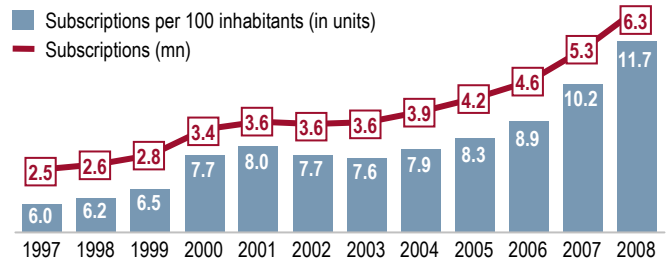


Source: Anatel, Credit Suisse

#### 5.3.3. Pay-TV

The total number of pay-TV subscribers rose from 2.5 million in 1997 to 6.3 million in 2008, while the density of subscribers grew from 6.0 subscribers for each 100 inhabitants in 1997 to 11.7 in 2008 (Exhibit 120). Around 63.3% of the consumers of this service are cable TV subscribers, followed by subscribers of terrestrial and satellite broadcasting services (Exhibit 121).

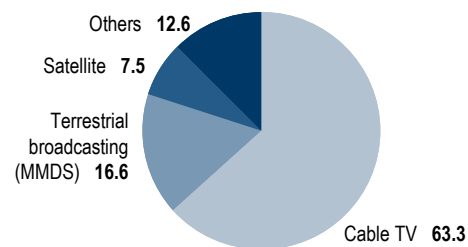
#### Exhibit 120: Pay-TV subscriptions



Source: Anatel, Credit Suisse

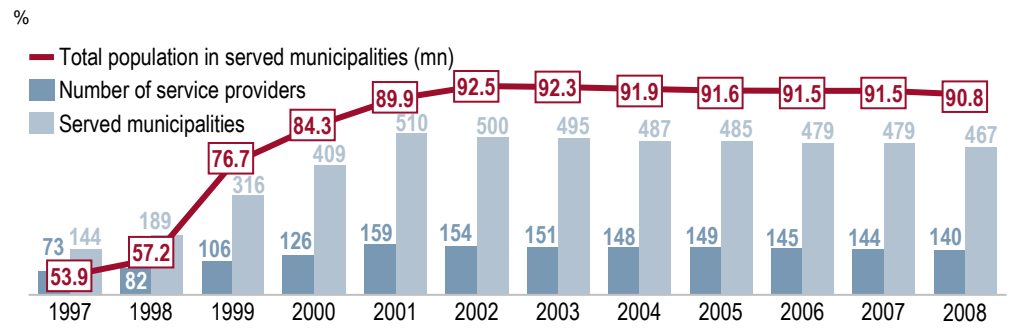
#### Exhibit 121: Pay-TV technology matrix

%, 2008



Source: Anatel, Credit Suisse

Excluding pay-TV services via satellite with national coverage, the number of municipalities served by pay-TV service increased from 189 in 1998, with a total served population of 57.2 million, to 409 in 2000, out of a population of 84.3 million. This significant expansion was due to a high number of service providers that entered the market (Exhibit 122). Growth in the number of served municipalities and population slowed as of 2008, which stood at 467 and 90.8 million, respectively.

**Exhibit 122: Pay-TV coverage and service providers (ex-satellite)**

Source: Anatel, Credit Suisse



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## 6. Agriculture



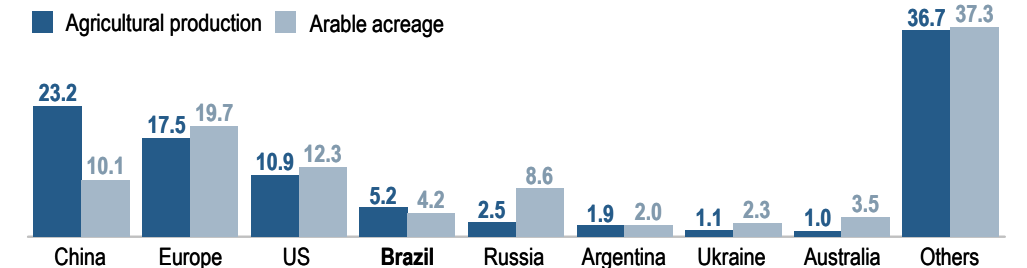
- Brazil is one of the largest agricultural producers in the world, accounting for 5.2% of global agricultural production and using 4.2% of the world's agricultural land. The agricultural sector has a strong growth potential, since the country has 106 million hectares (approximately 261.9 million acres) of unexploited agricultural land.
- Brazil is the largest global producer and exporter of coffee, orange and sugar; the largest exporter of soybean and tobacco; and the second largest corn exporter worldwide. In recent years, Brazil's agricultural production has grown, mainly in the Midwest region, although the South region continues to be the primary agricultural region in the country.
- Abundant plains and pastures have made Brazil a major meat producer. Globally, Brazil is the second largest producer and exporter of beef; the third largest producer and the largest exporter of chicken; and the fourth largest producer and third largest exporter of pork.

## 6.1. Agricultural potential

Brazil has high agricultural potential and a large share of global production of several commodities (Exhibit 123).

### Exhibit 123: Breakdown of global agricultural production

% of world, 2008

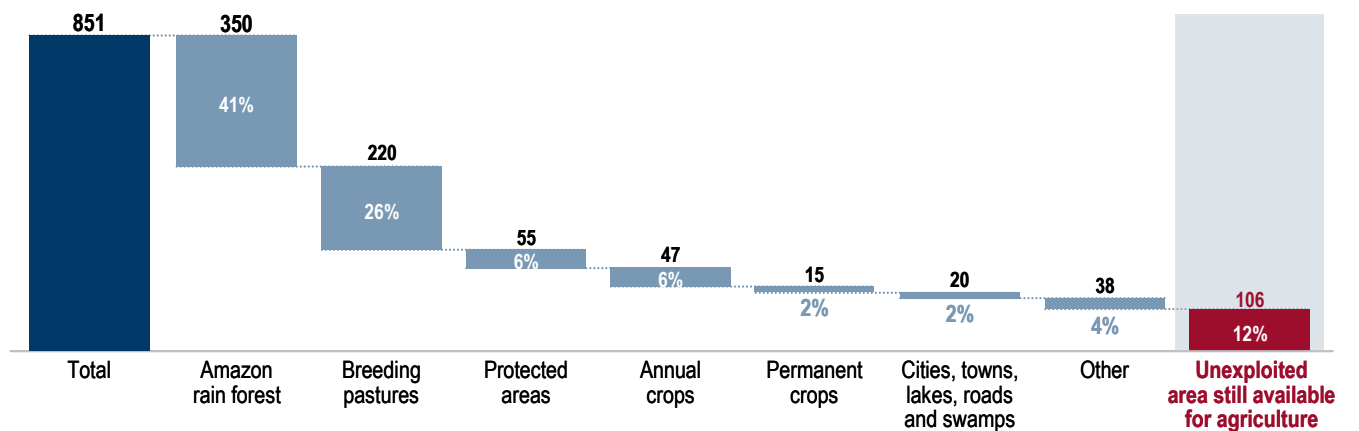


Source: FAO, USDA, Conab, Credit Suisse

Brazil is one of the largest agricultural producers in the world but still has around 106mn hectares (approximately 261.9 million acres) of unexploited farmland. The increase in planted area has been an important driver of agricultural expansion in the past few years (Exhibit 124).

### Exhibit 124: Use of land in Brazil

millions of hectares, 2008



Source: Conab, Credit Suisse

Brazil's competitive advantage in agriculture is attributable to:

- Low cost of land
- Appropriate soil for the production of various crops
- Regular rainfall
- Appropriate weather conditions
- Non-occurrence of major natural disasters, such as earthquakes, hurricanes, etc.

Soy is the crop with the largest planted area in Brazil, with over 21mn hectares (approximately 51.9 million acres). Its cultivated land expanded 178% from 1996 to 2008 in view of high international prices and Brazil's natural competitive advantages. The second largest crop is corn, with 9.6mn hectares (approximately 23.7 million acres), followed by sugarcane with 9.4mn hectares or 23.2 million acres (Exhibit 125).

**Exhibit 125: Main crops (2008)**

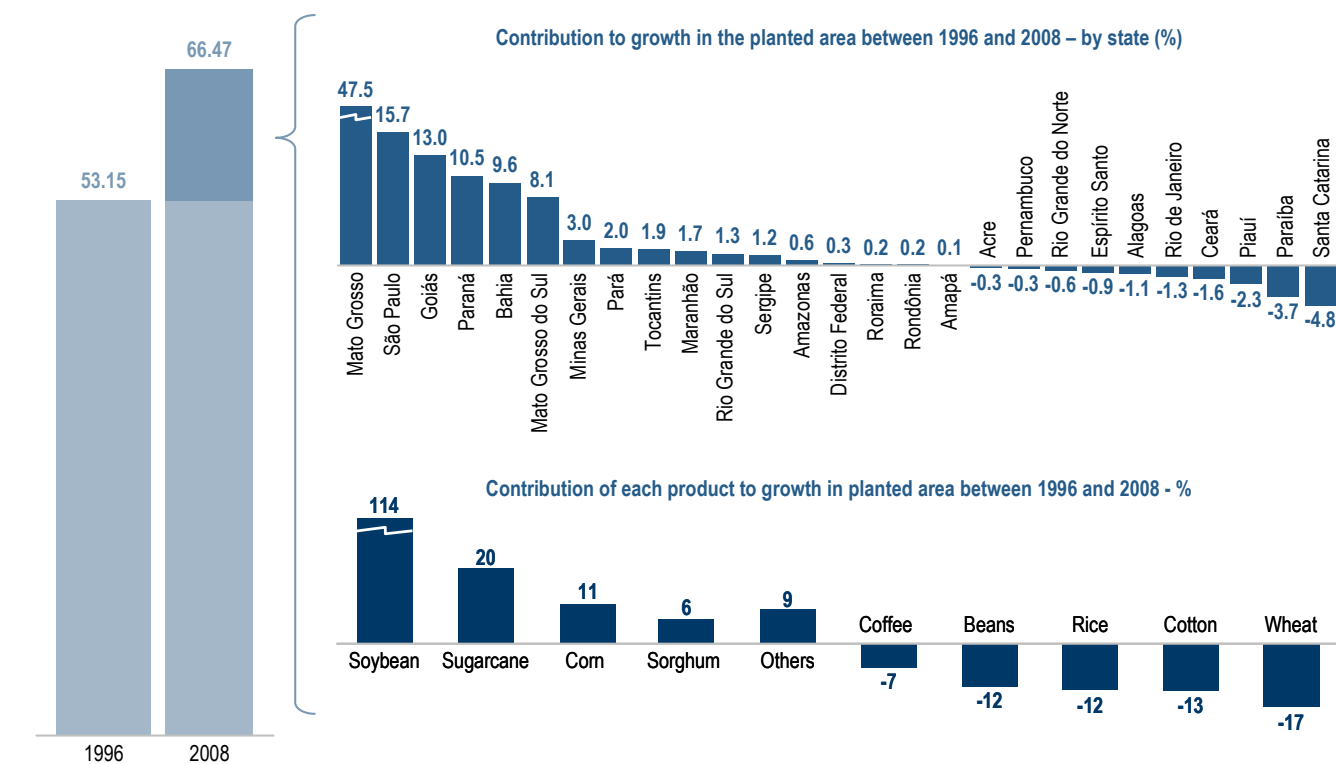
	1996				2008			
	Hectares (millions)	Rank	Production ('000 tons)	Productivity (ton/ha)	Hectares (millions)	Rank	Production ('000 tons)	Productivity (ton/ha)
Soybean	9.5	2	21,564	2.3	21.2	1	59,916	2.8
Corn	10.6	1	25,511	2.4	9.6	2	39,962	4.2
Sugarcane	4.2	3	259,807	61.6	9.4	3	648,973	69.0
Rice	3.0	5	8,048	2.7	2.8	4	12,100	4.32
Coffee	1.9	6	2,738	1.4	2.4	5	2,790	1.16
Wheat	0.9	9	1,433	1.6	2.4	6	5,886	2.45
Manioc	1.2	7	9,099	7.4	2.3	7	26,336	11.45
Beans	3.2	4	29,148	5.9	2.2	8	1,641	0.73
Cotton	0.7	10	814	0.9	1.0	9	3,971	3.9
Oranges	1.0	8	17,200	17.2	0.9	10	18,394	20.4

Source: IBGE, Credit Suisse

The country's planted area expanded approximately 25% from 1996 to 2008. Mato Grosso accounts for 47.5% of the expansion in planted area, followed by São Paulo (15.7%) and Goiás (13.0%) (Exhibit 126). Soybean accounts for the bulk of this increase in planted area, followed by sugarcane and corn. The planted area for several important crops, such as wheat, cotton, coffee and rice, has declined.

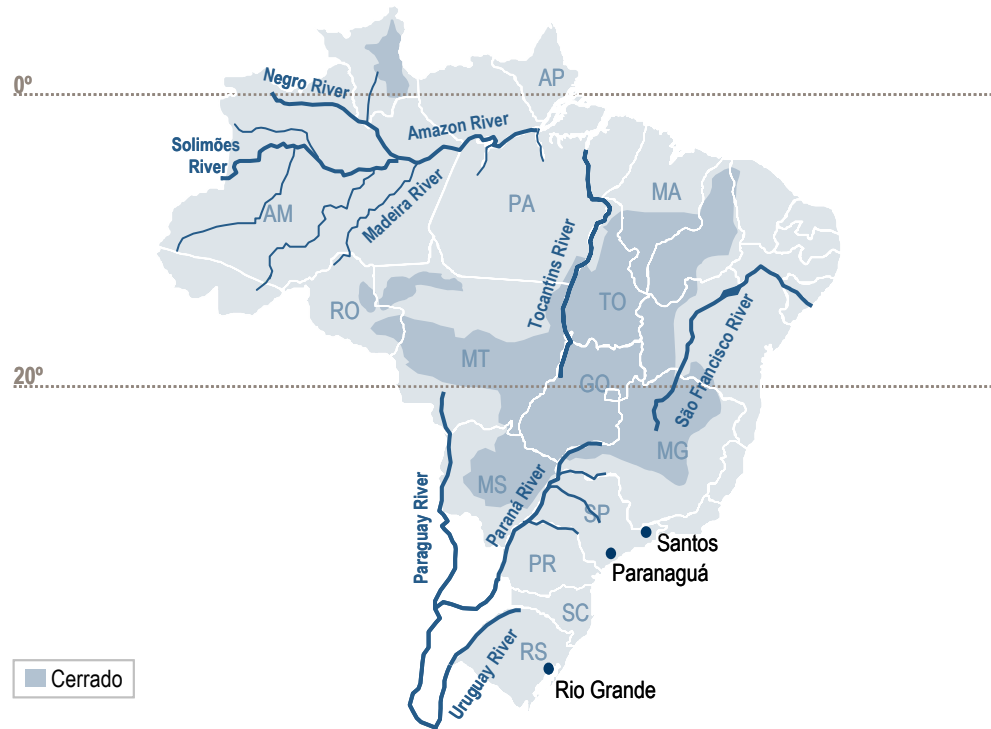
**Exhibit 126: Planted area in Brazil**

Millions of hectares, 1996 and 2008



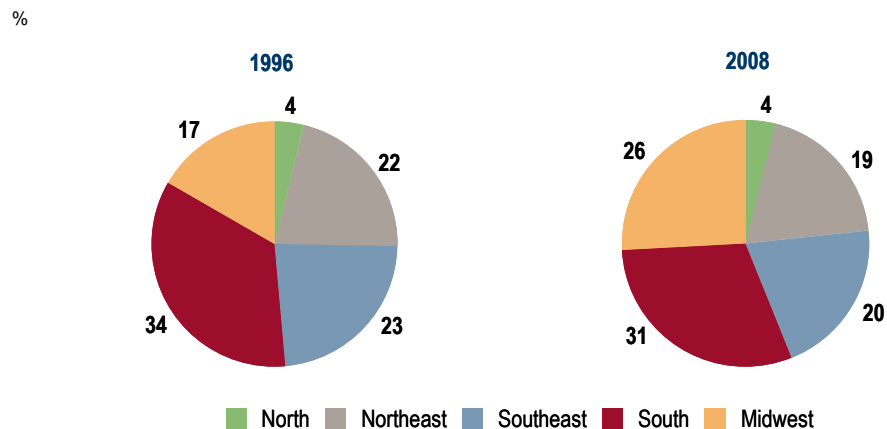
Source: IBGE, Credit Suisse

Agricultural production in the Midwest grew in the Cerrados, a type of wooded savanna with high rainfall levels (Exhibit 127). Production in these areas was possible due to the development of new types of seeds and fertilizers, given the poor soil conditions there. The land requires several years of treatment to deliver good harvest yields.

**Exhibit 127: Agricultural boundaries of the Cerrados**

Source: Conab, Credit Suisse

Despite the major contribution of the Midwest region to growth in agricultural production, the South still accounts for the largest planted area, with 31% of the total (Exhibit 128). The share of the Midwest region in Brazil's total planted area increased from 17% in 1996 to 26% in 2008.

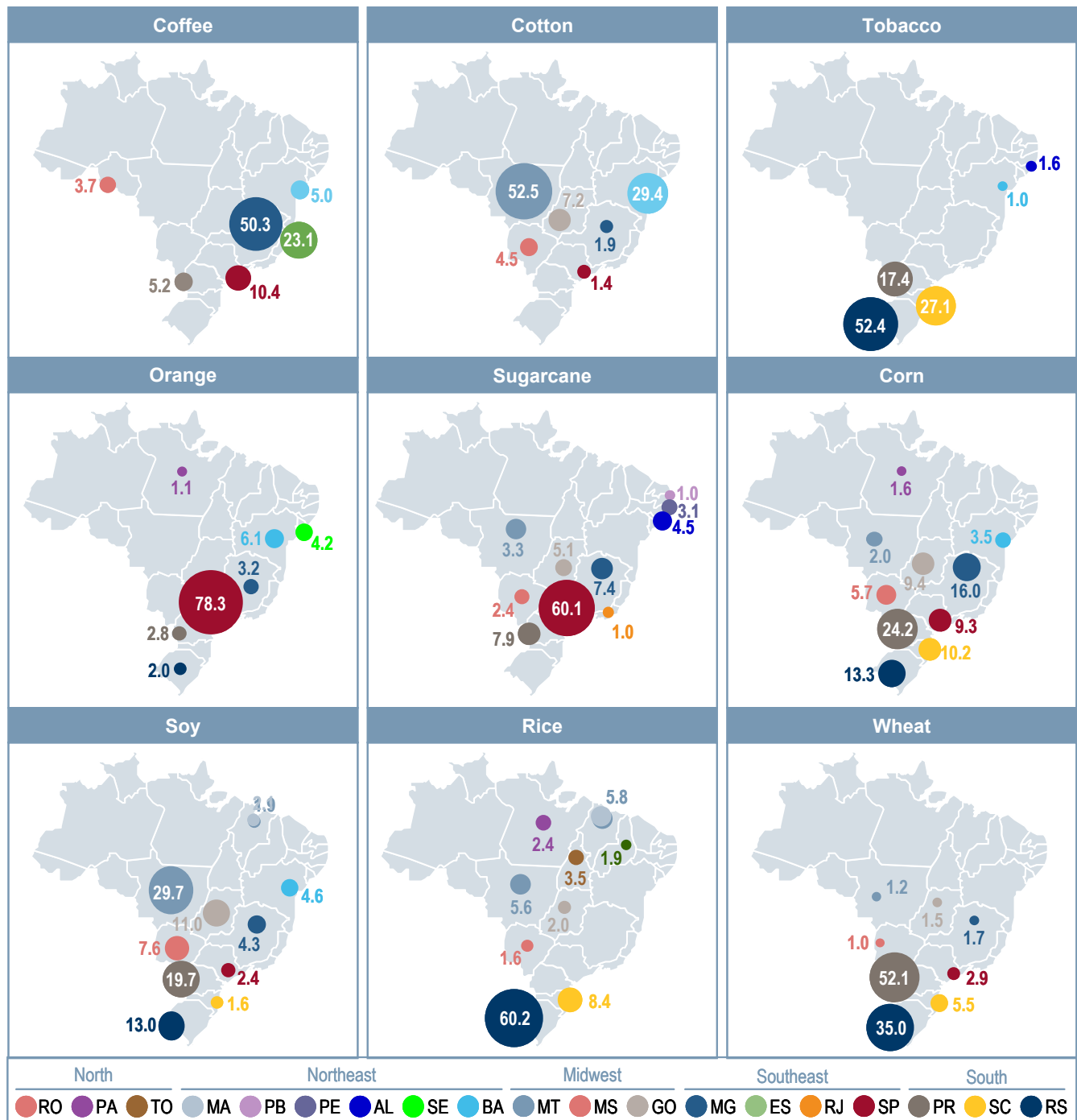
**Exhibit 128: Regional agricultural production by total harvested area**

Source: IBGE, Credit Suisse

The South region is the largest producer of corn, tobacco, rice and wheat. The Midwest region is the largest producer of soybean and cotton (Exhibit 129). The Southeast region accounts for the bulk of coffee, orange and sugarcane production, with orange and sugarcane production concentrated in São Paulo and coffee production in Minas Gerais.

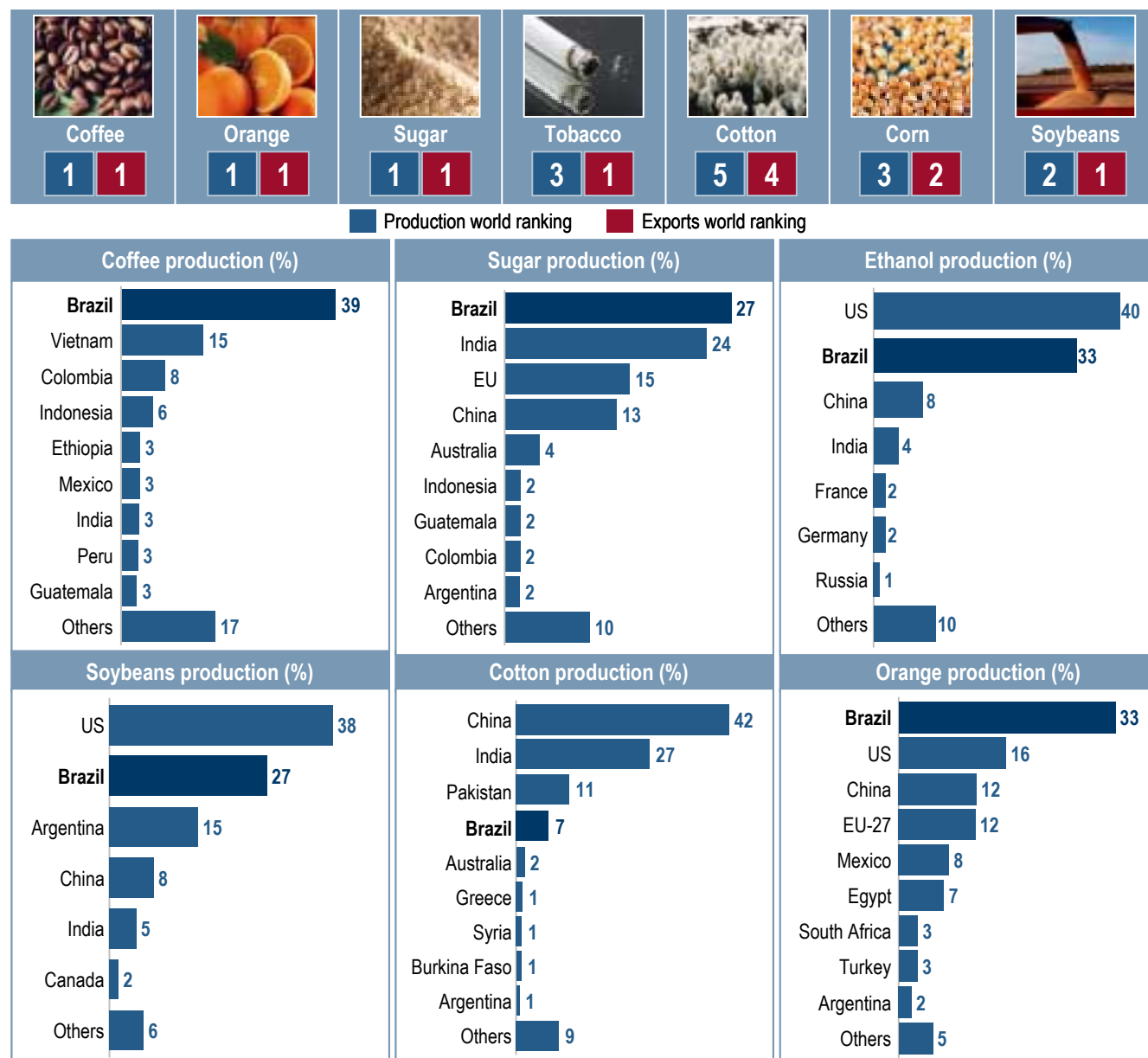
**Exhibit 129: Regional distribution of Brazilian crops - 2007/08 crop**

% of total production



Source: Conab, IBGE, Credit Suisse

Brazilian exports of farming products totaled US\$59.4bn in 2008, representing growth of 298% from 2000 to 2008. Brazil is one of the global leaders in the production and export of several agricultural products. It is the leading producer and exporter of coffee, sugar and orange and second in ethanol and soy (Exhibit 130). Exports of farming products represent around 33% of Brazil's total exports. The main destinations for agricultural exports are China, EU, Japan, and Canada.

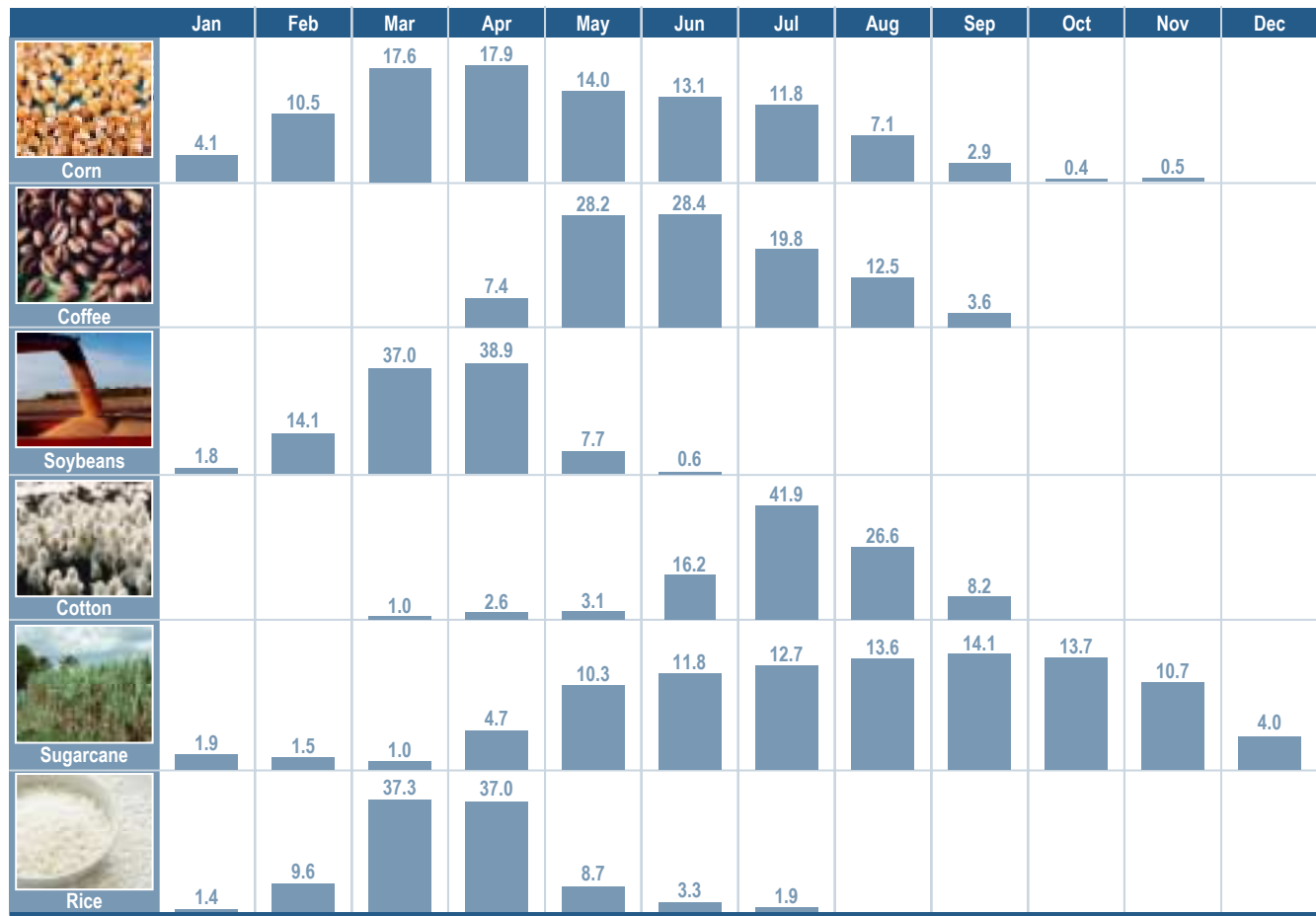
**Exhibit 130: Ranking of Brazilian agricultural production (2008)**

Source: USDA, Conab, Credit Suisse

Most agricultural crops are harvested in the second and third quarters of each year, which is the dry season in most regions of Brazil. Some crops, such as corn and sugarcane, are harvested during several months, while others, such as soybean, rice and cotton, are harvested in only a few months (Exhibit 131).

**Exhibit 131: Monthly distribution of Brazilian harvests - Crop 2007/08**

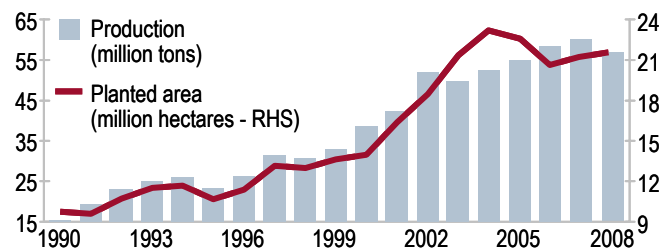
% of total annual crop



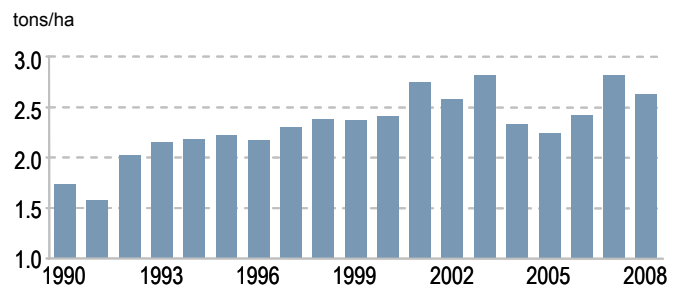
Source: Conab, Credit Suisse

**6.2. Soybean**

Soybean production has grown rapidly in Brazil. It grew 216% from 1996 to 2008, an average annual growth rate of 17.9%. Soybean planted area has also grown significantly (Exhibits 132 and 133). Soy is the crop with the largest planted area in Brazil, with over 20mn hectares. Brazil was the second largest producer in the world in 2008. It has been the largest soybean exporter in the world since 2003, accounting for 25% of total exports in 2007.

**Exhibit 132: Soybean production and planted area**

Source: Conab, Credit Suisse

**Exhibit 133: Soybean productivity**

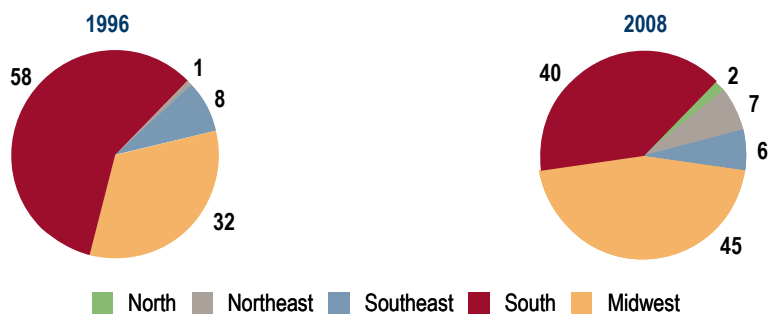
Source: Conab, Credit Suisse



Soybean oil and meal are the by-products of the crushing process and are used in the food, animal feed and biofuel industries. Soybean production is concentrated in the Midwest and South regions (Exhibit 134). Cultivated land has grown particularly in the Midwest due to lower land prices and technical developments (e.g., fertilizers, mechanization). Technological progress has enabled soybeans to grow in regions with different climates and soils, as in the North.

#### Exhibit 134: Brazil's soybean production by region

% of total



Source: IBGE, Credit Suisse

### 6.3. Sugar

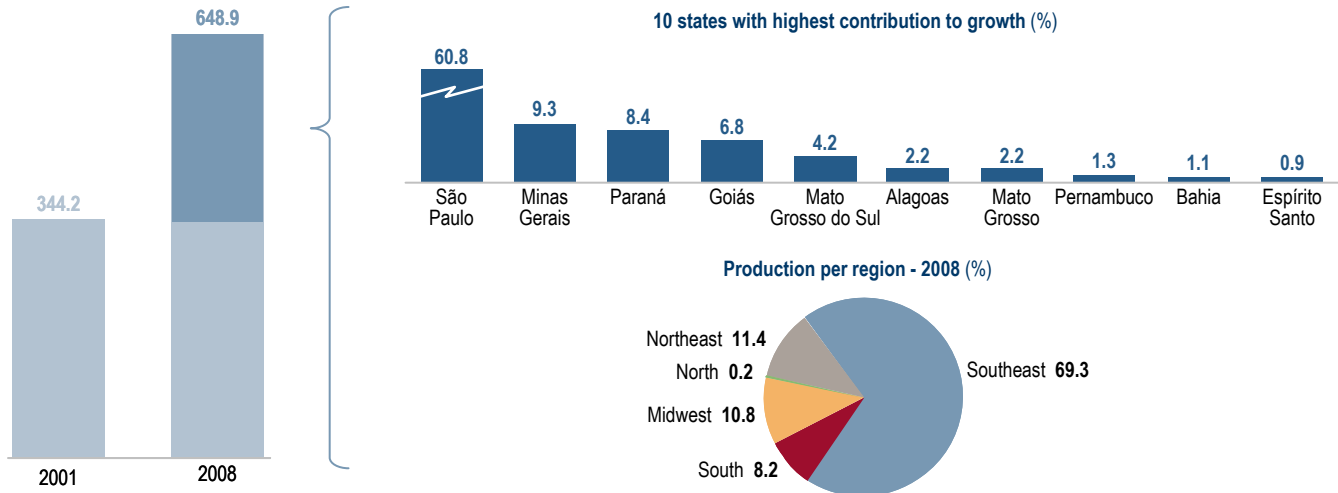
Brazil is the largest global producer of sugarcane (26.7% of global production) with a planted area of 9.4mn hectares in 2008. Sugarcane represents the third largest crop production in the country. Brazil is the world's main exporter (42% of total), with total production of 648.9mn tons. Approximately 55% of the sugarcane produced in Brazil was channeled into ethanol production, 44% into sugar production and 1% into alcoholic beverages.

Brazil's sugarcane production began to grow more steadily in 2001, driven mostly by growth in the local fleet<sup>9</sup> of flex-fuel vehicles and rising external demand for ethanol. São Paulo accounts for 60% of total production (Exhibit 135), although crops have expanded increasingly into neighboring states, notably Paraná, Mato Grosso do Sul, Minas Gerais and Goiás. This expansion has been made possible through the injection of private-sector capital (both foreign and local).

<sup>9</sup> For further details, please refer to Chapter 5 of this report.

**Exhibit 135: Brazilian sugarcane production area by region**

Hectares, million tons



Source: IBGE, Credit Suisse

## 6.4. Biofuels

The global demand for biofuels has been growing in light of higher oil prices and increasing environmental concerns. Brazil benefits from a lower production cost of biofuels than its main competitors because of land availability and alternative feedstock with higher productivity than soybean oil. Currently, there are two main types of biofuels: bioethanol (ethanol) and biodiesel.

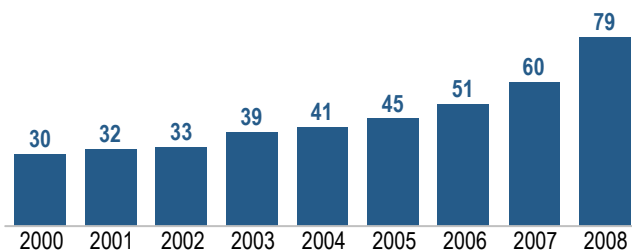
### 6.4.1. Ethanol

Ethanol is pure ethyl alcohol produced by fermenting and distilling different crops (corn in the U.S., sugarcane in Brazil, wheat in Europe). In Brazil, it is currently blended into the conventional gasoline pool and may also serve as an alternative fuel in modified vehicle engines.

Brazil is the second largest ethanol producer in the world, accounting for 28.5% of global production, with 22.7bn liters in 2008 (Exhibit 136). The largest global ethanol producers are: United States (46.6% of global production), Brazil (28.5%), China (6.4%), European Union (5.6%), and India (3.7%), which together account for 90.7% of global output – 79bn liters in 2008 (Exhibit 137).

**Exhibit 136: Global production of ethanol**

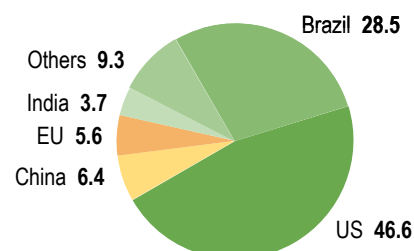
Billions of liters



Source: UNICA, Credit Suisse

**Exhibit 137: Main producers of ethanol – 2008**

%



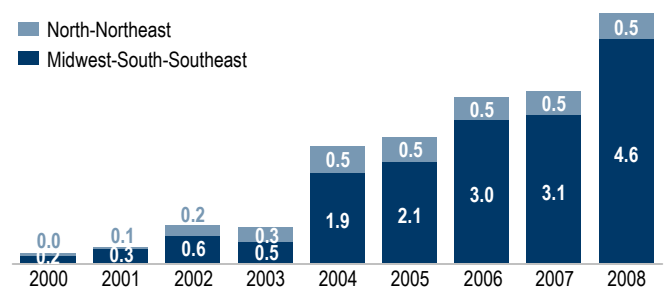
Source: UNICA, Credit Suisse

Brazil is the world's largest ethanol exporter, accounting for almost 50% of global exports versus only 6% for the U.S. Brazil exported 5.1bn liters in 2008, representing almost 20% of its production. Brazil's ethanol exports have grown by about 60% in the past nine years, and 90% of this volume came from the Midwest, South and Southeast regions (Exhibit 138). This growth in exports resulted primarily from imports by the United States and the European Union, which together import 55% of Brazil's total exported volume, followed by the Netherlands, Jamaica, El Salvador, Japan, Trinidad and Tobago, and the Virgin Islands (Exhibit 139)<sup>10</sup>.

#### Exhibit 138: Brazil's ethanol exports by region

Billions of liters

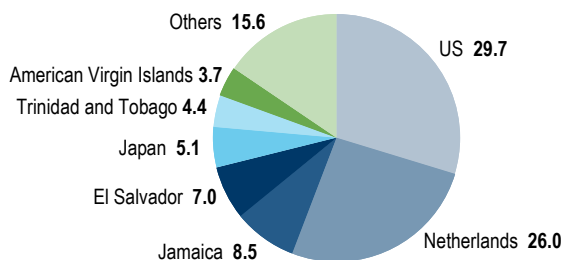
■ North-Northeast  
■ Midwest-South-Southeast



Source: UNICA, Credit Suisse

#### Exhibit 139: Main ethanol export destinations

%



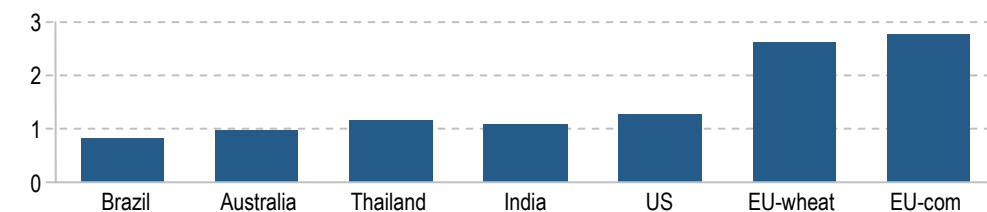
Source: Trade Ministry, Credit Suisse

Its very low sugarcane production costs and the favorable cost advantage that sugarcane has over corn and other feedstock for ethanol production (Exhibit 140) set Brazil apart from other countries. Productivity in Brazil's planted areas (in terms of liters of ethanol produced in a given area) is two times higher than in the United States. Other competitive advantages are:

- Reduction of nearly 88% in greenhouse gas emissions through the substitution of sugarcane ethanol for oil, versus 30% for corn ethanol.
- Brazil's ethanol production cost was US\$0.83 per gallon in 2007, versus US\$1.14 in the United States.

#### Exhibit 140: Selected global ethanol cost comparisons

US\$/gallon, 2007

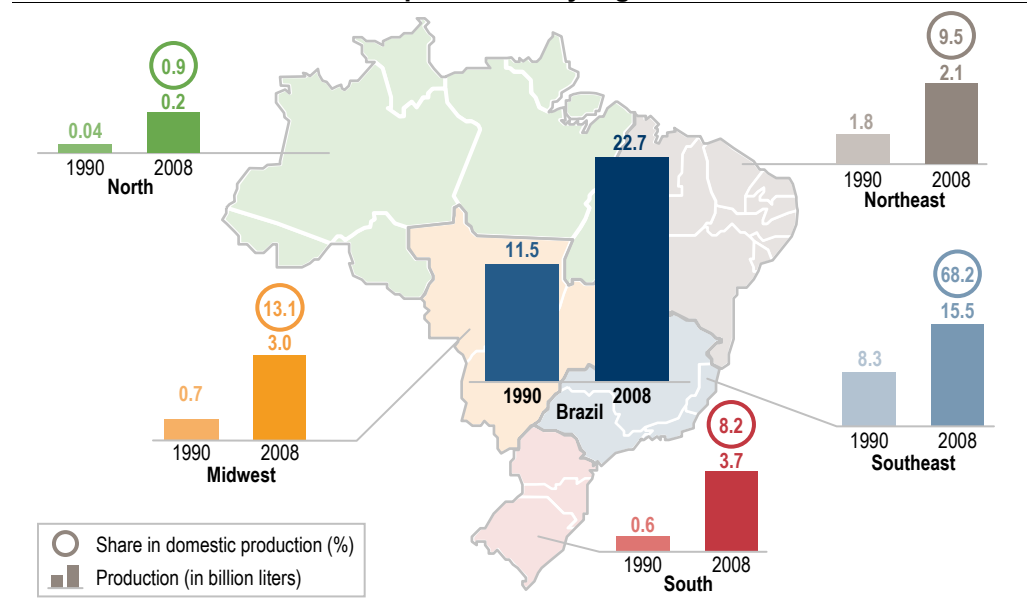


Source: Credit Suisse

São Paulo is the largest producer with around 60% of Brazil's total ethanol production. Paraná (8%), Minas Gerais (8%) and Goiás (5%) also stand out as important ethanol producers. The sugarcane harvest season in these states begins in April and usually ends in November. The Northeast region is responsible for the remaining 10% of ethanol production. Sugarcane harvest season in the Northwest region runs from November to March.

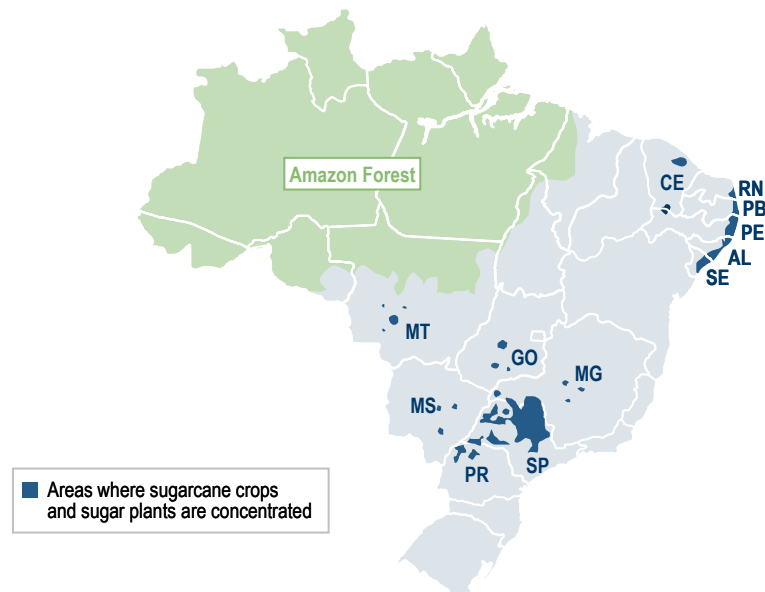
Since 1990, Brazil's ethanol production has grown 76.2%, mostly in the Southeast (68.7%) and Midwest (142.7%) regions (Exhibit 141).

<sup>10</sup> The countries in the Caribbean Basin import relatively high quantities of Brazilian ethanol, but not much is allocated to domestic consumption. These countries reprocess the product, usually by converting hydrated ethanol into anhydrous ethanol, and then re-export it to the United States. This value-added ethanol is exempt from the 2.5% duty and the USD 0.54 per gallon tariff, thanks to trade agreements and benefits under the Caribbean Basin Initiative (CBI).

**Exhibit 141: Growth in ethanol production by region**

Source: UNICA, Credit Suisse

There were 378 ethanol plants operating in Brazil in 2008, 126 dedicated to ethanol production and 252 producing both sugar and ethanol. There are another 15 plants dedicated exclusively to sugar production. These plants have an installed crushing capacity of 529mn tons of sugarcane per year. A typical plant costs approximately US\$150mn and requires a nearby sugarcane plantation of 30,000 hectares<sup>11</sup>. The bulk of ethanol plants are located in São Paulo and on the Northeast coast (Exhibit 142).

**Exhibit 142: Ethanol production in Brazil (2007)**

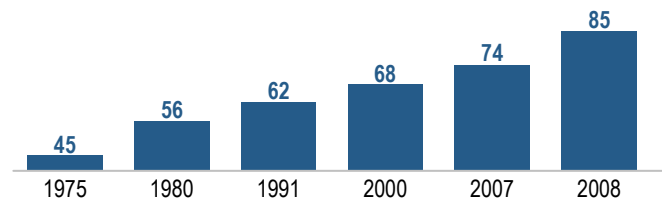
Source: UNICA, Credit Suisse

<sup>11</sup> New plants are expected to increase sugarcane production by 50mn tons in 2009.

Productivity in sugarcane has increased from 45 ton/ha in 1975 to 74 ton/ha in 2007 (Exhibits 143 and 144).

#### Exhibit 143: Sugarcane production yield

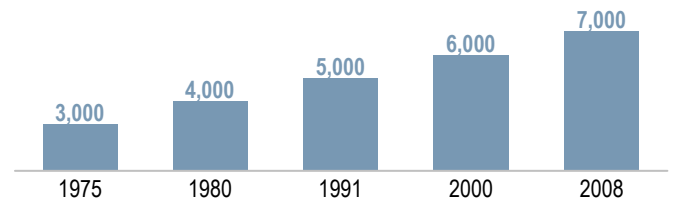
ton/ha



Source: UNICA, Credit Suisse

#### Exhibit 144: Ethanol production yield

liters/ha

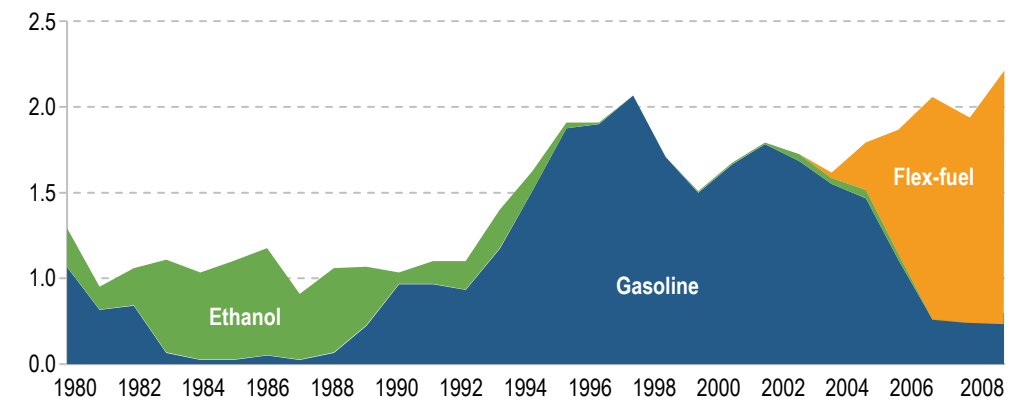


Source: UNICA, Credit Suisse

The two oil crises (1973 and 1978) resulted in major rises in fuel prices in Brazil, leading the government to invest in bioethanol as a fuel alternative. With the aim of substituting gasoline for ethanol, the government launched the National Ethanol Program (called *Pró-Álcool*) in 1975. High investments were made to develop ethanol-fueled cars. Additionally, the government established a mandatory blend of ethanol into gasoline in 1976, with the percentage of ethanol in gasoline sold to consumers ranging between 10% and 22% from 1976 to 1992. By the early 1980s, 85% of lightweight vehicles were running on ethanol. The sharp decline in international oil prices in 1985-86 prompted a significant decline in sales of ethanol-fueled cars (Exhibit 145). But a rebound in ethanol consumption was observed from 2003 onwards following the launch of flex-fuel vehicles powered by ethanol, gasoline or a mixture of both fuels. Currently, 85% of cars sold in Brazil are flex-fuel, and 70% of them use ethanol<sup>12</sup>.

#### Exhibit 145: Brazil's domestic vehicle sales

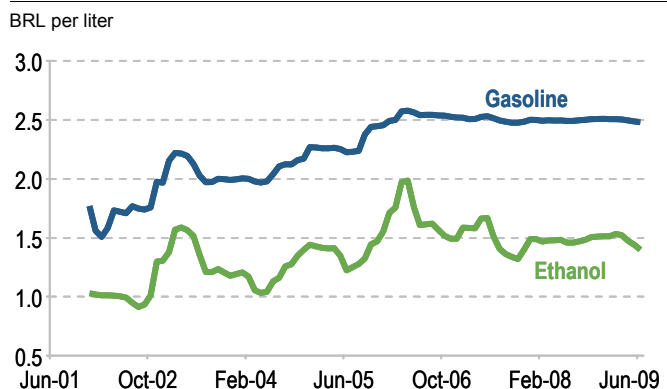
Units sold (millions)



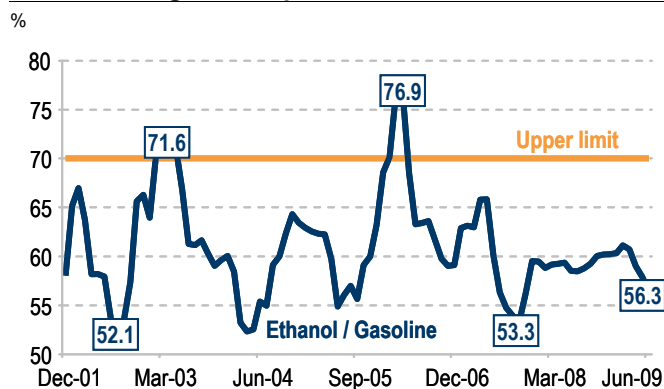
Source: ANFAVEA, Credit Suisse

Ethanol prices have become competitive in the domestic market in recent years. Due to ethanol's lower energy content, ethanol prices need to be around 70% lower than gasoline prices in order to be competitive (Exhibits 146 and 147).

<sup>12</sup> Since 2007, gasoline sold to consumers has had a 25% ethanol blend.

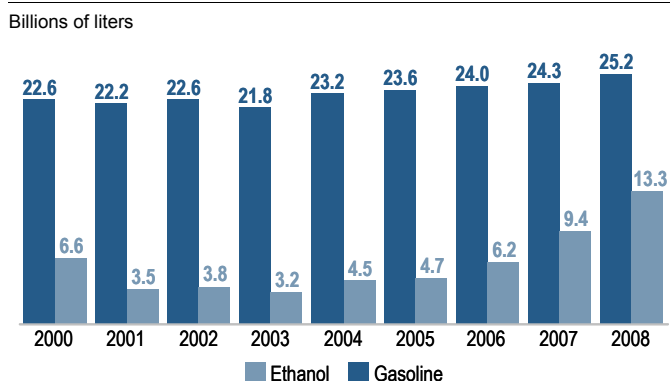
**Exhibit 146: Consumer ethanol and gasoline prices**

Source: ANP, Credit Suisse

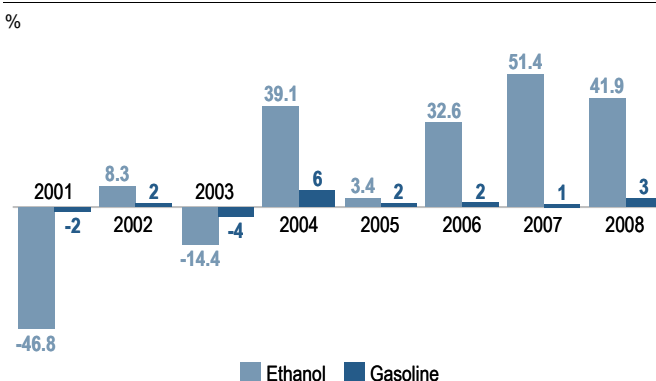
**Exhibit 147: Relationship between consumer ethanol and gasoline prices**

Source: ANP, Credit Suisse

Ethanol consumption grew from 6.6bn liters in 2000 to 13.3bn liters in 2008, while gasoline consumption rose from 22.6bn liters to 25.2bn liters in the period (Exhibit 148). In the same period, the average annual growth rates of ethanol and gasoline consumption were, respectively, 14.2% and 1% (Exhibit 149).

**Exhibit 148: Brazil's domestic fuel consumption**

Source: ANP, Credit Suisse

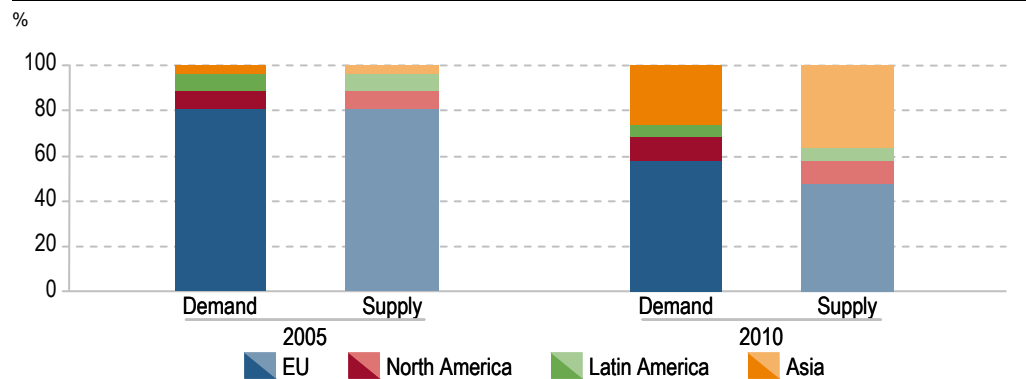
**Exhibit 149: Annual growth in distributors' ethanol and gasoline sales**

Source: ANP, Credit Suisse

### 6.4.2. Biodiesel

The Brazilian government launched the National Biodiesel Program in 2002. The objective of the initiative was to develop the biodiesel market for mass production, distribution and marketing (Exhibit 150) and to foster the use of biodiesel produced by farmers in poor areas<sup>13</sup>. The government hopes to gradually increase the share of biodiesel content in diesel fuel used all over the country. Increasing global concern about environmental issues has led to various worldwide initiatives, such as the Kyoto Protocol and the Energy Policy Act of 2005 (United States).

<sup>13</sup> Biodiesel is a car-ready alternative diesel fuel made by the reaction of vegetable (or animal) fats with alcohol to produce fatty acid alkyl ester, with glycerin as a by-product. On average, 100 pounds of most feedstock oils or fats plus 10 pounds of methanol will produce 100 pounds of biodiesel and 10 pounds of glycerin. Commercial production of biodiesel did not begin until the late 1990s, many decades after the world's first ethanol plants started operating. Since then, the biodiesel market has grown rapidly. Global production of biodiesel increased from 11.4 million liters (less than one thousand barrels of oil equivalent per day) in 1991 to 2.2 billion liters in 2005, an average annual growth rate of 46%. Europe currently dominates the global biodiesel market, with 80% of supply and demand. Biodiesel is typically sold as a blend with conventional diesel in Europe, as B5 (5% biodiesel), B10 (10% biodiesel), and so on. It can be operated in any diesel engine with little or no modification.

**Exhibit 150: Global biodiesel demand and supply**

Source: Credit Suisse

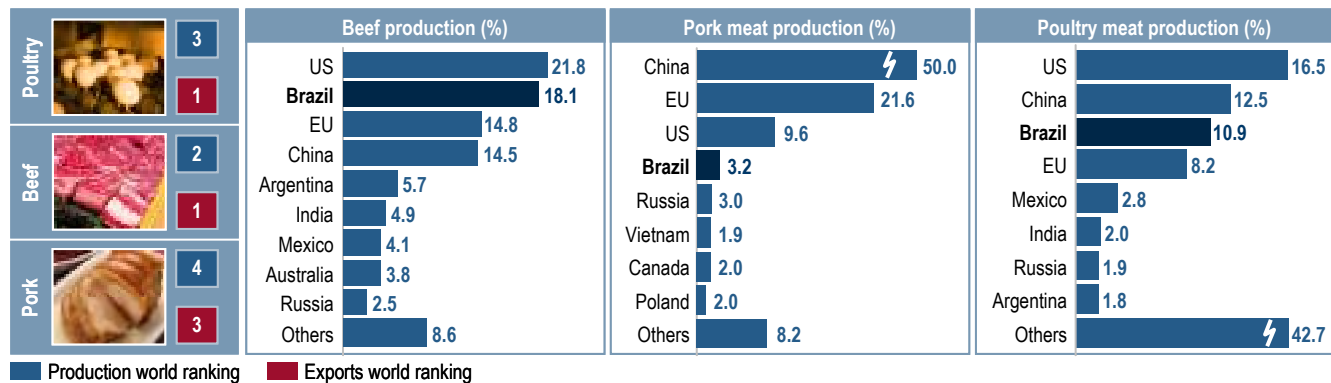
Although at an early stage, the biodiesel industry should become a key sector due to land availability. The biodiesel market measured close to 840,000 m<sup>3</sup> in 2007, with potential demand of at least 2.4mn m<sup>3</sup> from 2013 onwards.

## 6.5. Livestock and meat industry

In line with its prominent position regarding other agricultural products, Brazil is also a major livestock producer, especially in the beef, chicken, pork and dairy cattle sectors, and has several resources that provide it comparative advantages, such as the high availability of pastures and other inputs for animal nutrition (e.g., grains)<sup>14</sup>. It is the world's second-largest producer and exporter of beef, third-largest producer and exporter of chicken, and fourth-largest producer and exporter of pork (Exhibit 151).

**Exhibit 151: Brazilian agricultural production and its share in global production**

% of total, 2008



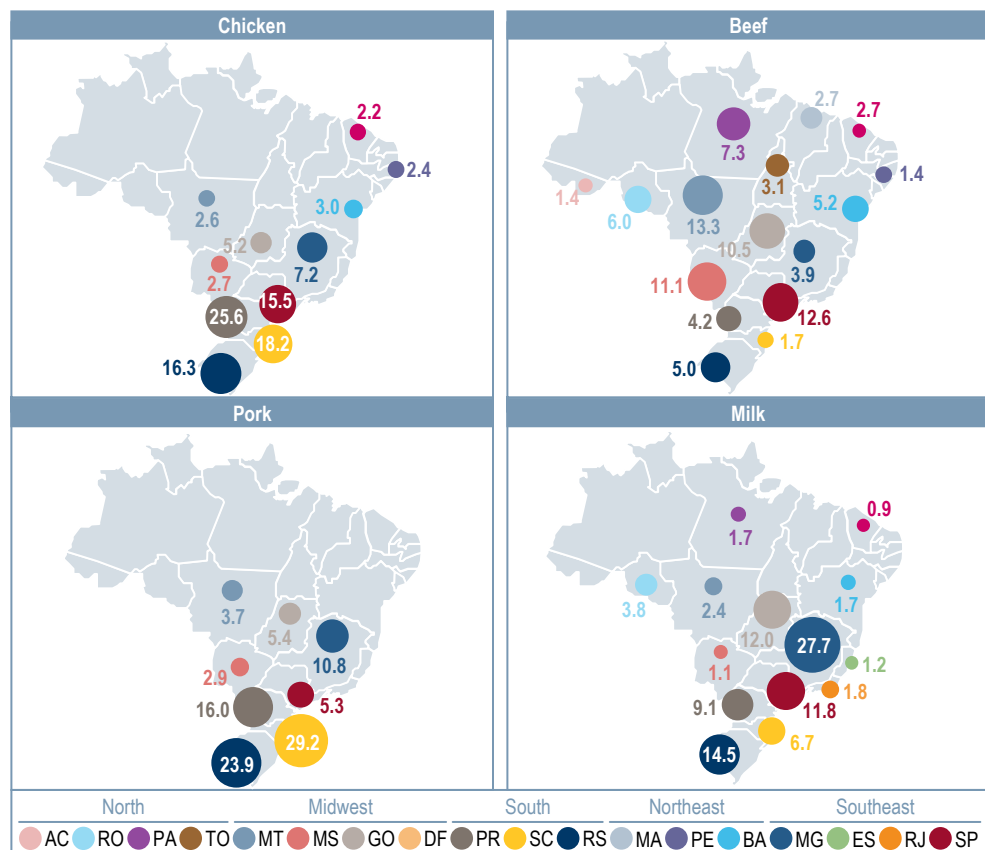
Source: USDA, Credit Suisse

In the geographic breakdown of production, the production of pork and chicken is concentrated in São Paulo and in the South region, while beef production is more spread across the North and the Midwest. In the case of dairy production, Minas Gerais is the main producer, followed by Rio Grande do Sul, São Paulo and Goiás (Exhibit 152).

<sup>14</sup> Cattle production in Brazil benefits from the availability of natural resources, especially land, water resources, and grains. For instance, 1.2 kg of grains are needed to produce 1 kg of chicken, and this ratio is even higher for the production of pork (2.9 kg of grains to produce 1 kg of pork) and beef (3.2 kg of grain to produce 1 kg of beef).

**Exhibit 152: Breakdown of national livestock production**

% of total, 2008



Source: IBGE, Credit Suisse

Brazil has one of the highest levels of meat consumption per capita in the world (Exhibit 153), with 86.8 kg/year, below Hong Kong (119.1 kg/year) and the United States (117.1 kg/year) and above the European Union (78.0 kg/year).

**Exhibit 153: World meat consumption per capita**

kg/year, 2008

	Beef	Pork	Broiler	Total
Hong Kong	15.3	65.3	38.5	119.1
US	43.2	28.9	45	117.1
Australia	35.7	20.6	35.2	91.5
Canada	33.8	26.5	29.8	90.1
<b>Brazil</b>	<b>37.5</b>	<b>12.0</b>	<b>37.3</b>	<b>86.8</b>
EU	18	43.6	16.4	78.0
Taiwan	4.5	40.8	29.5	74.8
Mexico	23.3	14.5	28.5	66.3
China	5.9	40.8	8.0	54.7
Russia	16.3	19.9	17.4	53.6
South Korea	10.2	29.6	13.3	53.1
Japan	9.5	19.7	15.0	44.2
Ukraine	11.5	12.4	11.8	35.7
Philippines	4	14.0	7.5	25.5
India	1.5	-	2.0	3.5

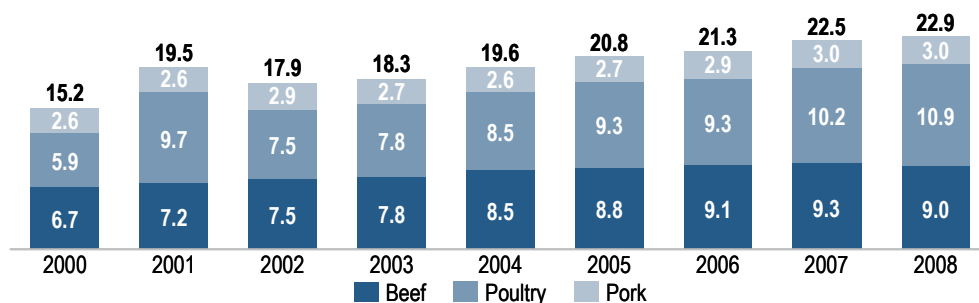
Source: USDA, Credit Suisse



Improved distribution of income and increased meat exports (pork, chicken and beef) drove meat production higher (53%) from 2000 to 2008. This rise occurred mainly in the chicken segment (+85% in the period) and in the beef segment (+34%, Exhibit 154). Pork production grew only 15% in the period.

#### Exhibit 154: Brazilian meat production

Millions of tons



Source: ABEF, CNPC, Abipecs, Credit Suisse

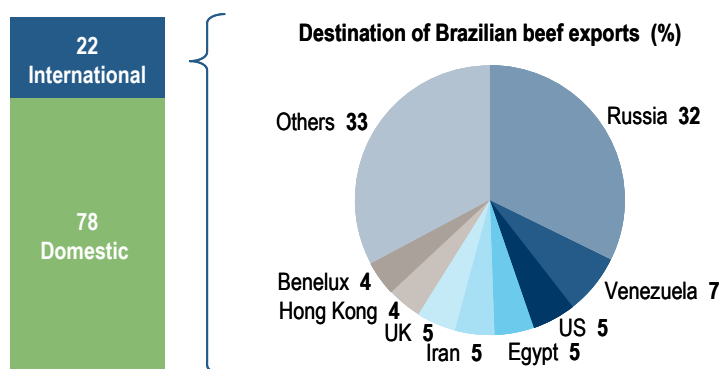
#### 6.5.1. Beef

The Brazilian cattle herd in 2008 numbered 200mn head of cattle, with a slaughter rate of 21.7%. The country has the world's second largest cattle herd, behind only India. Brazil is the largest global producer (14% of total) and the second largest consumer (13%) of beef. Of a total production of 9.4mn tons in 2008, 7.6mn (78%) are consumed locally and 2.1mn (22%) are exported. Slaughtering is highly decentralized in Brazil, with 38% of the market in the hands of the five largest producers. Exports are more concentrated than production (five largest producers account for 51% of the exports) mainly due to non-tariff barriers in export destinations.

The bulk of Brazil's production is channeled to the domestic market (78%). In 2008, although it exported only 22% of production, Brazil was the largest beef exporter in the world, accounting for 27% of global exports, followed by Australia (17%) and the United States (11%). The main destination of Brazilian beef exports is Russia, which buys 32% of Brazil's total exports. The second main destination is Venezuela, with 7%. The eight largest consumers of beef exports account for 67% of the total (Exhibit 155). Fresh beef accounts for the bulk of exports (74%), and the share of processed beef is significantly lower (16%).

#### Exhibit 155: Destination of Brazilian beef production

% of total, 2008



Source: MDIC, Credit Suisse

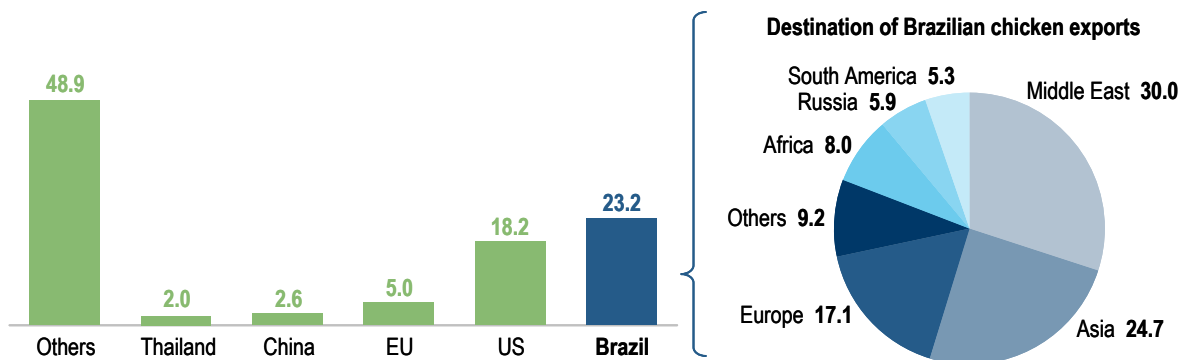
### 6.5.2. Chicken

Brazil is the world's third-largest chicken producer, with 11% of the world's total output, behind the U.S. and China, and is the fourth-largest consumer of chicken meat in the world. Of the total production, 67% is consumed domestically and 33% is exported.

The country is also the world's largest chicken exporter, with 23.2% of global exports. The U.S. is the second largest exporter, accounting for 18.2% of total exports. The main destination of Brazilian chicken exports is the Middle East, which corresponds to 30%, followed by Asia with 24.7% (Exhibit 156).

#### Exhibit 156: World's chicken exports

% of total, 2008



Source: ABEF, Credit Suisse

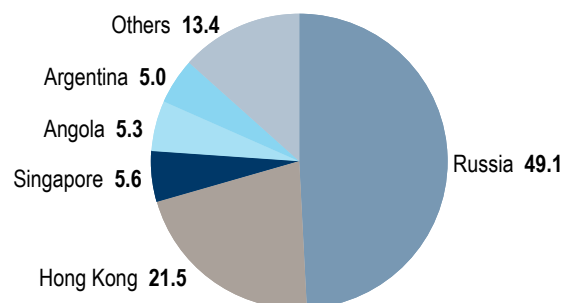
The five largest chicken producers account for 48% of the market and hold a much higher share (62.3%) of chicken exports.

### 6.5.3. Pork

Brazil is the world's fourth-largest pork meat producer, behind China, the U.S. and the European Union. Total production was 3.02mn tons in 2008. Around 2.5mn tons (82% of total production) are channeled to the local market and the remainder to the export market, mostly to Russia (49%) and Hong Kong (21%) (Exhibit 157).

#### Exhibit 157: Destination of Brazilian pork exports

% of total, 2008



Source: Abecs, Credit Suisse

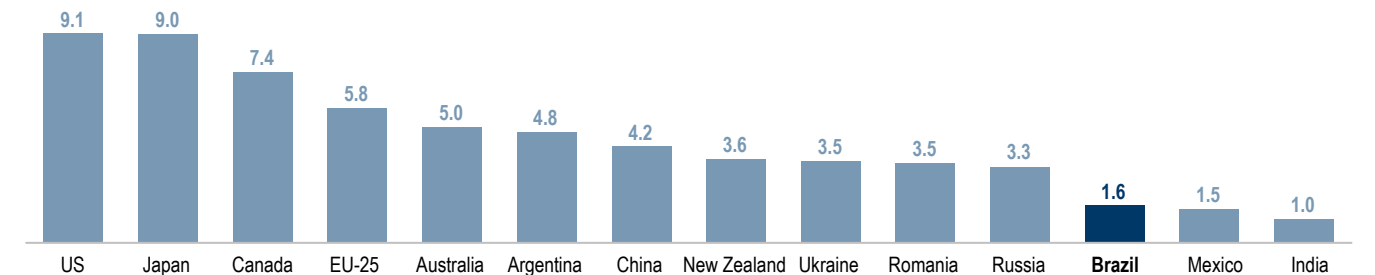
The concentration level of the pork meat industry in Brazil is similar to that of the chicken meat industry. The six largest companies in the sector account for 82.3% of Brazil's total production, and four of them are among the country's largest exporters. The six largest exporters account for 69% of exports.

### 6.5.4. Dairy products

Brazil is the sixth-largest milk producer, accounting for 4.5% of global production, which totaled 560mn tons in 2007. The largest milk producers in the world in 2007 were: the U.S. (15% of global production), India (7.5%), China (5.9%), Russia (5.7%) and Germany (5.0%). Although Brazil has the second largest cattle herd in the world (with around 20.7mn animals), its sixth-place ranking is explained by its low average milk productivity. Production in Brazil totaled nearly 19.3 billions of tons in 2008. Milk productivity in Brazil is 1,600 liters of milk per year per cow, significantly less than the main producing countries (Exhibit 158).

#### Exhibit 158: World milk productivity

1,000 liters per head per year, 2007

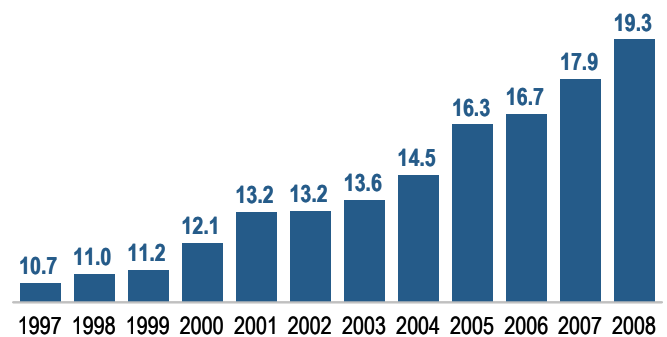


Source: USDA, Credit Suisse

Domestic production has grown from 10.7bn liters in 1997 to 19.3bn in 2008, with average annual growth of 14.3% in the period (Exhibit 159). The Southeast and South regions account for 72% of production (Exhibit 160). Minas Gerais is the largest producer (27.7%), followed by Rio Grande do Sul (14%), São Paulo (11.9%) and Paraná (9%).

#### Exhibit 159: Growth in milk production

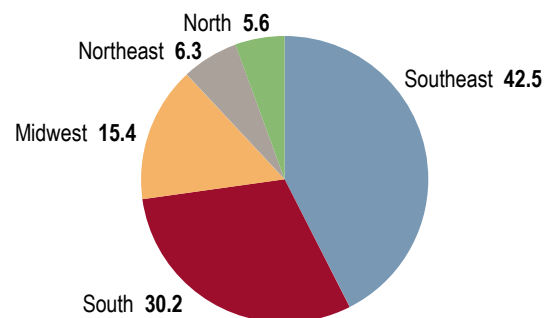
Billions of liters



Source: IBGE, Credit Suisse

#### Exhibit 160: Milk production by region

% of total, 2008

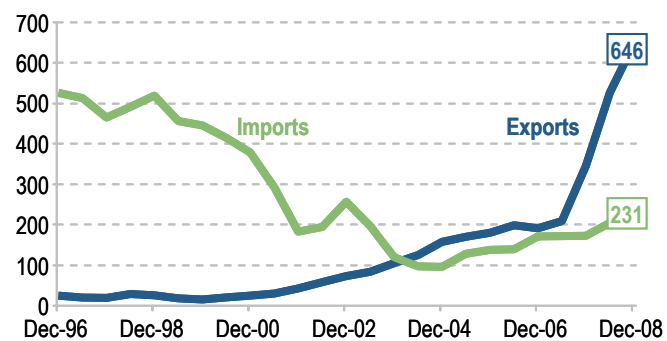


Source: IBGE, Credit Suisse

Milk production in Brazil is channeled to the domestic market. Until 2003, Brazil was a net importer of dairy products. However, due to strong growth in exports from 2003 onwards, the sector began to post a trade surplus. The trade surplus of the dairy sector totaled US\$415mn in 2008 (Exhibit 161). The largest global exporters are New Zealand (31%), European Union (25%), Australia (9%) and the U.S. (5.4%) (Exhibit 162).

**Exhibit 161: Brazil's trade balance of dairy products**

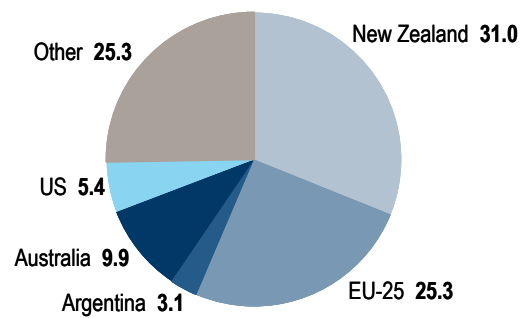
US\$mn



Source: MDIC, Credit Suisse

**Exhibit 162: Exporters of dairy products**

% of total, 2008



Source: USDA, Credit Suisse

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## 7. Industry



The industrial sector represented 24.6% of GDP in 2007. The main highlights of the industrial sector include:

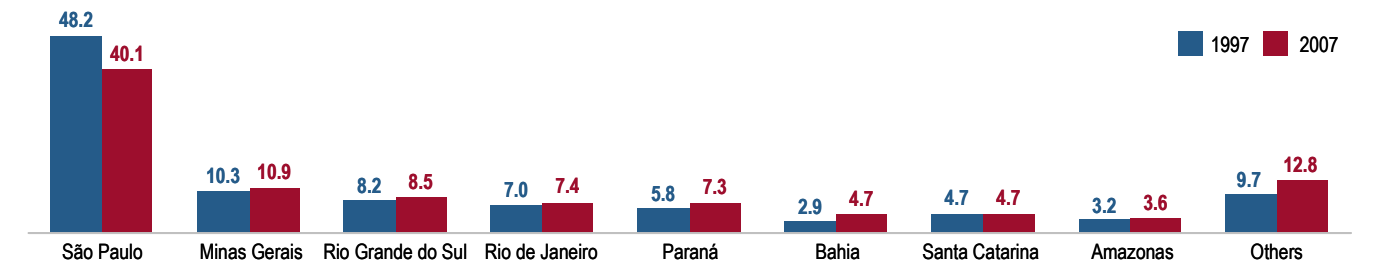
- Manufacturing (95% of total industrial production): activities that contribute the most to the GDP are food and beverages (17.9%), chemicals (11.8%), vehicles and transportation material (10.6%), and basic metalworking (8.3%).
- Mining industry (5% of total industrial production): the highlights are iron ore extraction (2.3%) and oil production (2.2%).
- The share of commodities extraction and processing in industrial production has increased in recent years. The industrial activities that posted the highest output growth rates were mining (from 2.4% in 1997 to 5.0% in 2007) – both iron ore extraction (from 1.2% to 2.3%) and oil production (from 0.6% to 2.2%), basic metalworking activities (from 6.1% to 8.3%), and oil and ethanol refining (from 5.0% to 7.8%).

## 7.1. Industrial production

Industrial production in Brazil has become less concentrated in the past few years. Manufacturing is strongest in the states of São Paulo (40%), Minas Gerais (11%) and Rio Grande do Sul (9%). São Paulo's manufacturing as a percentage of total production declined from 48% in 1997, to 40% in 2007, as Northeast states gained participation as a result, in particular, of fiscal incentives provided by state governments (Exhibit 163).

**Exhibit 163: Breakdown of industrial output**

% of total

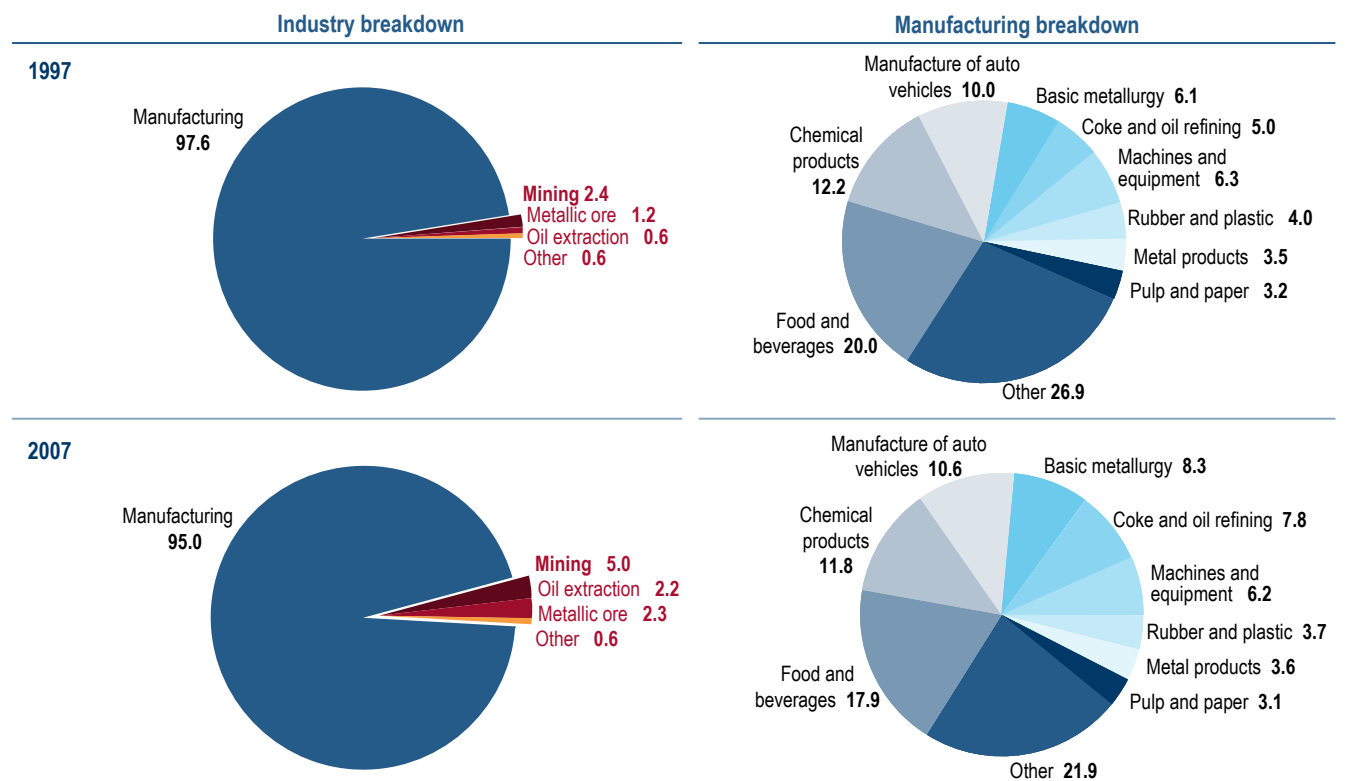


Source: IBGE, Credit Suisse

Seven out of the eight largest industrial sectors in 1997 still remained in this group in 2007. Despite a major redistribution of industrial production among states, changes were less significant with respect to the main industrial sectors (Exhibit 164).

**Exhibit 164: Industrial production and its components**

%



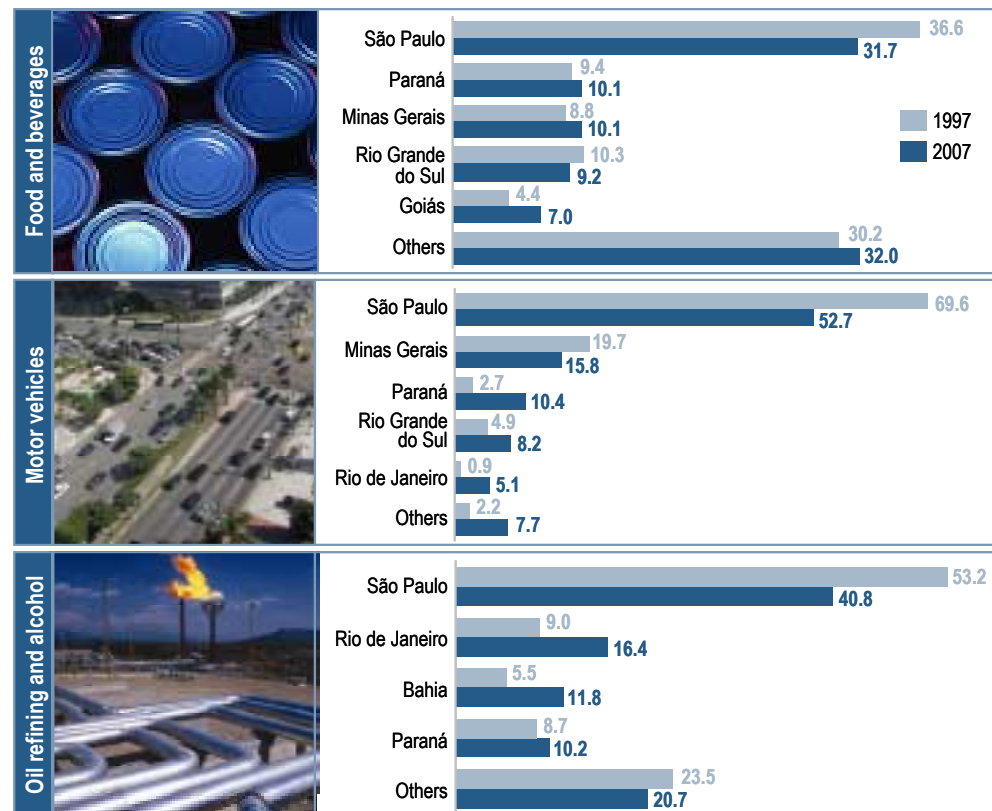
Source: IBGE, Credit Suisse

The main highlights in the industrial expansion from 1997 to 2007 were (Exhibit 165):

- Food products and beverages continued to be the sector with the greatest share in industry in 2007, despite a slight decline from 20.0% in 1997 to 17.9% in 2007. São Paulo accounts for 32% of total production.
- Coke, oil refining, nuclear fuels and ethanol production posted the highest increase in their share of total production (5.0% in 1997 to 7.8% in 2007). Growth was more significant in Rio de Janeiro and Bahia, with an increase in their total output contribution from 1997 to 2007, from 9% to 16% and from 5.5% to 12.0%, respectively.
- Vehicle manufacturing accounts for a significant portion of Brazil's industry. São Paulo's share of the total production declined from 70% in 1997 to 53% in 2007. Paraná, Rio de Janeiro, Bahia and Rio Grande do Sul increased their participation in total output.
- Mining increased its weight in overall output from 2.4% in 1997 to 5.0% in 2007. This increase was due to its two main sectors: metallic ore extraction and oil production, which rose from 1.2% to 2.3% and from 0.6% to 2.2%, respectively. Minas Gerais and Rio de Janeiro increased their share in the overall production, while São Paulo's share declined in the same period.

### Exhibit 165: Manufacturing - main sectors

% of total



Source: IBGE, Credit Suisse



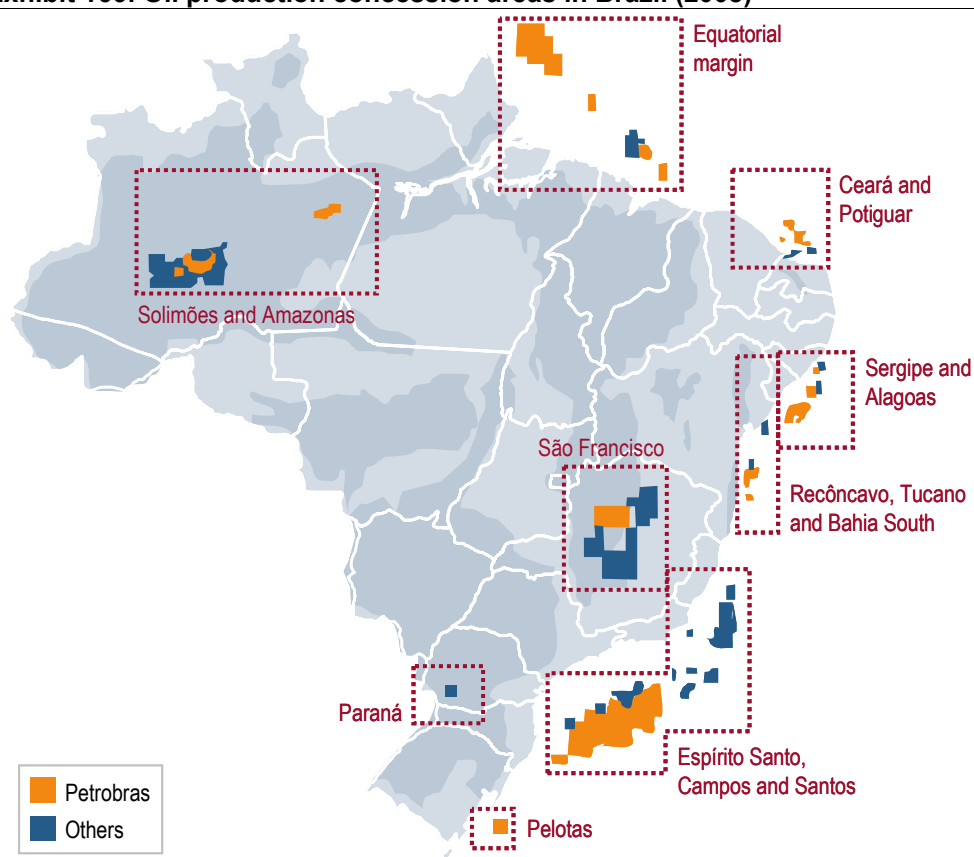
## 7.2. Oil and oil distillates

Brazilian oil production totaled 663 million barrels (1.8 million barrels per day) in 2008, 4.0% higher than in 2007. The country has confirmed reserves of 15 billion barrels. It is estimated that it can reach 100 billion barrels if the pre-salt basin is confirmed. The bulk of oil production is carried out by Petrobras, a state-owned corporation (government owns 56% of the voting shares).

Law No.9478 of 1997, also known as the Petroleum Act, brought the end of the state monopoly on oil. The first round of tenders for oil production concessions took place in June 1999. Since then, eight new tenders have been held. Although many companies have joined the oil production market since 2005, Petrobras is still the largest company, accounting for 96% of total production in 2007. The company is also responsible for 99% of the oil refined in Brazil.

Brazilian oil production is concentrated in deep waters, in 29 sedimentary basins, with 17 blocks under concession (Exhibit 166).

**Exhibit 166: Oil production concession areas in Brazil (2008)**



Source: Petrobras, Credit Suisse

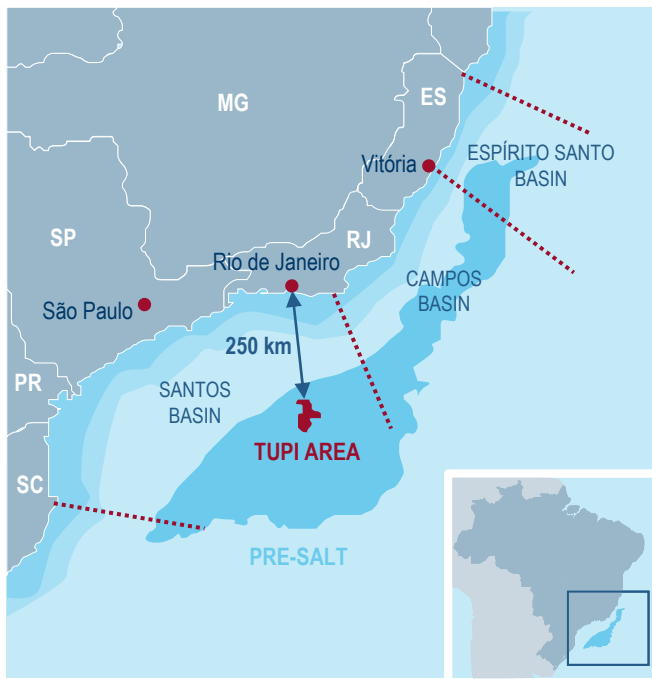
Of the confirmed reserves, 88% are concentrated in the following basins:

- **Campos** - largest production of oil and natural gas in Brazil, accounting for 84% of national oil production and 40% of natural gas production.
- **Espírito Santo** - this region accounts for less than 8% of total oil production, and the most recent finds were mainly of light oil and natural gas.

- **Santos** - region with high potential and the most promising region in terms of oil production in Brazil. There have been major oil and natural gas finds in the region since 2002, with the most recent finds taking place in the Tupi and Jupiter oil fields.

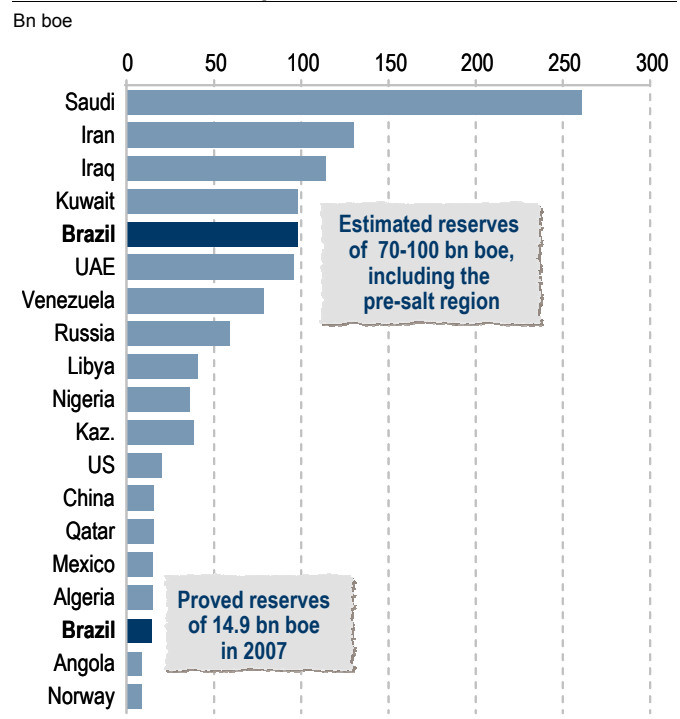
The pre-salt region extends from Santa Catarina to Espírito Santo, an area 800 Km long and 200 Km wide (Exhibit 167). Prospecting in the Tupi field shows estimated recoverable reserves of five to eight billion barrels. Also, it was estimated that the entire pre-salt region could give Brazil one of the ten largest reserves in the world (Exhibit 168).

**Exhibit 167: Location of pre-salt basin**



Source: Petrobras, Credit Suisse

**Exhibit 168: Global proven oil reserves**



Source: Petrobras, the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

Domestic prices of the main oil distillates, such as diesel oil, LPG and gasoline, are determined by the oil state-owned company at the refinery level. These prices do not follow any specific rule but seek to balance domestic prices with international prices in the medium term. Accordingly, the greater the gap between domestic and international prices, the greater the probability of an adjustment in prices.

Brazil holds a trade deficit in the oil sector, totaling US\$4.2bn in 2008 (Exhibit 169):

- **Crude oil** - Brazil holds a trade deficit of US\$2.7bn in 2008. Most imports are light oil (US\$16.4bn) due to the vast refining capacity of this type of oil. Brazil heavy oil exports totaled US\$13.7bn in 2008.
- **Oil distillates** - Brazil posted net imports of US\$1.5bn in 2008, especially fuels and lubricants for aircraft and ships (US\$2.4bn), gasoline (US\$1.8bn) and fuel oil (US\$1.7bn). However, Brazil is a net importer of diesel oil (US\$2.5bn) and naphtha (US\$1.9bn). The diesel oil trade deficit is due to the high demand for this product, despite the national production of oil distillates being concentrated in diesel oil – around 37% of total production (Exhibit 170).

**Exhibit 169: Brazil oil trade balance**

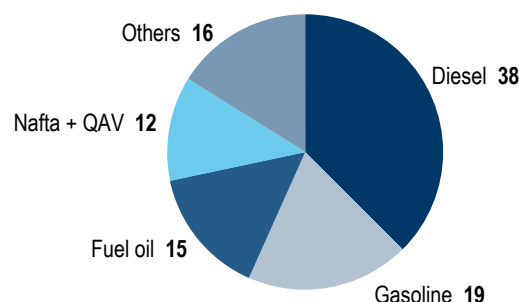
US\$ bn, 2008

	Imports	Exports	Exports – Imports
<b>Oil and distillates</b>	<b>18.9</b>	<b>16.6</b>	<b>-2.3</b>
Crude oil	12.0	8.9	-3.1
All distillates	6.9	7.7	0.7
Fuels for aircraft and ships	0.5	2.9	2.4
Gasoline	0.0	1.8	1.8
Fuel oil	0.0	1.8	1.7
Diesel	3.0	0.5	-2.5
Nafta	1.9	0.0	-1.9
LPG	0.6	0.0	-0.6
Others	0.8	0.6	-0.2

Source: Trade Ministry, Credit Suisse

**Exhibit 170: Brazil production of oil distillates**

% of total, 2008


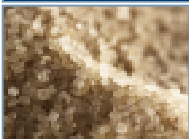



Source: ANP, Credit Suisse

## 7.3. Petrochemical industry

The petrochemical industry can be classified according to the transformation phase of the petrochemical inputs (Exhibit 171).

**Exhibit 171: Characteristics of the Brazilian petrochemical industry**

Generation	Characteristics	Products
 <b>First 2 producers</b>	Crackers split naphthene or natural gas molecules and transform them into basic petrochemical products.	<ol style="list-style-type: none"> <li>1. Olefins, mainly ethylene, propane and butadiene; and</li> <li>2. Aromatic products, such as benzene, toluene and xylenes.</li> </ol>
 <b>Second 43 producers</b>	Second-generation producers transform basic petrochemical products bought from Naphtha crackers into intermediate petrochemical products.	<ol style="list-style-type: none"> <li>1. Polyethylene, polystyrene and PVC (ethylene);</li> <li>2. Polypropylene and acrylonitrile (propane);</li> <li>3. Caprolactame (benzene); and</li> <li>4. Polybutadiene (butadiene).</li> </ol>
 <b>Third &gt; 8,500 producers</b>	The so-called "transformers" buy intermediate petrochemical products from 2 <sup>nd</sup> generation producers and transform them into final products.	<ol style="list-style-type: none"> <li>1. Plastics produced from polyethylene, polypropylene and PVC.</li> <li>2. Acrylic fibers (acrylonitrile);</li> <li>3. Nylon (caprolactame);</li> <li>4. Elastomers (butadiene);</li> <li>5. Disposable packages (polystyrene, polypropylene).</li> </ol>

Source: Abiquim, Credit Suisse

The main components of the petrochemical industry (second generation) are polyethylene, polystyrene and PVC (produced from ethane). In 2008, the production of these items was handled by two producers, which account for 100% of production of polypropylene and PVC and virtually the entire production of polyethylene.

### 7.3.1. Petrochemical hubs

The production of the first- and second-generation petrochemicals in Brazil is concentrated in four main petrochemical hubs. Each hub has a single first generation producer, also called a raw materials center, and several second-generation producers, which purchase the petrochemical inputs (Exhibit 172).

**Exhibit 172: Petrochemical hubs**

Petrochemical pole	Number of 2 <sup>nd</sup> generation producers	Annual capacity of ethylene production*
Camaçari (Bahia)	14	1.6
Triunfo (Rio Grande do Sul)	7	1.2
São Paulo	20	0.5
Rio de Janeiro	2	0.5

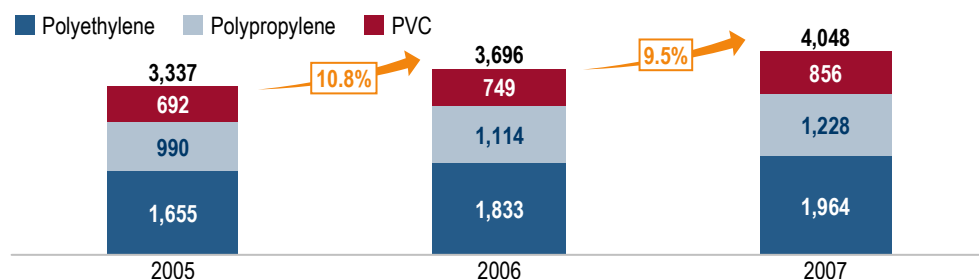
\* As of 31 December, 2006 - mn tons

Source: Abiquim, Credit Suisse

Petrochemical production is geared mainly for the domestic market and other Mercosur countries, especially Argentina. Domestic petrochemical prices are benchmarked on international prices. Domestic demand for polyethylene, polypropylene and PVC rose more than 9% in 2006 and 2007, confirming its high elasticity to GDP growth (Exhibit 173).

**Exhibit 173: Domestic demand for resins**

'000 tons

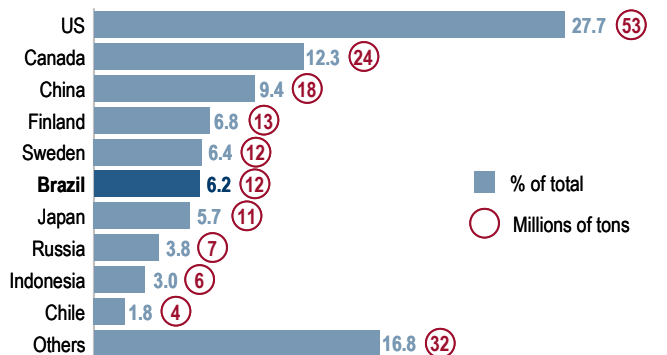


Source: Abiquim, Credit Suisse

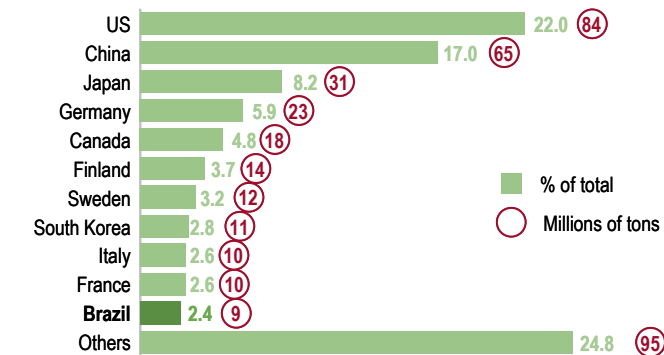
Sales in the petrochemical sector peak in the second and third quarters. Producers of consumer goods increase their seasonal demand for petrochemicals to serve the end of year seasonal shopping needs.

**7.4. Pulp and paper**

Brazil is the sixth largest pulp producer and the eleventh largest paper producer in the world (Exhibits 174 and 175). In terms of paper and pulp production, Brazil is the leading producer in the Southern Hemisphere and among countries with an intertropical climate. Brazil trails Scandinavian countries (Finland and Sweden), North America (United States and Canada), and China.

**Exhibit 174: Global pulp production (2007)**

Source: Bracelpa, Credit Suisse

**Exhibit 175: Global paper production (2007)**

Source: Bracelpa, Credit Suisse

Countries where pulp is produced from pines and acacias, which are temperate-climate trees, produce long fiber pulp. Brazil stands out for its production of pulp from eucalyptus, which is a typical tropical-climate tree that produces hardwood pulp. This type of pulp is used to produce high-absorption paper (tissues and napkins) and in printing. The demand for this type of pulp has grown at significant rates in recent years, leading to an increase in its share in the global pulp market from 20% in 2000 to 30% in 2007. In 2007, the bulk of the pulp produced in Brazil was hardwood pulp destined for the external market (Exhibit 176).

#### Exhibit 176: Brazil's pulp sales in 2007

Millions of tons

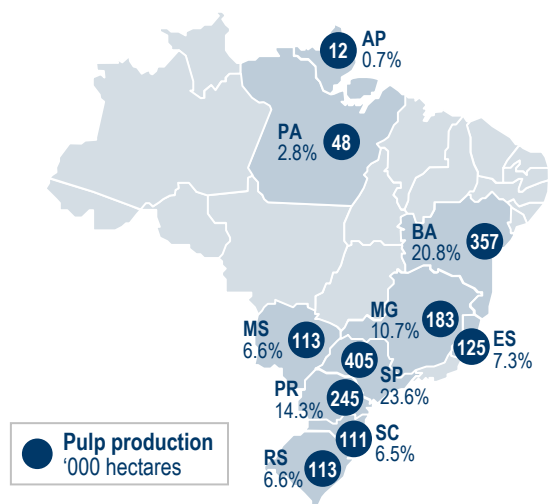
	Own paper production	Domestic market	Export	Total	% of total
<b>Pulp</b>	<b>4.3</b>	<b>1.1</b>	<b>6.5</b>	<b>12.0</b>	<b>100</b>
Hardwood pulp	2.6	0.9	6.5	10.0	83
Long fiber	1.4	0.1	0	1.5	12
High-yield pulp	0.4	0.1	0	0.5	4
<b>% of total</b>	<b>36</b>	<b>9</b>	<b>54</b>	<b>100</b>	

Source: Bracelpa, Credit Suisse

The largest forest reserves in Brazil are in São Paulo, Bahia and Paraná (Exhibit 177). In terms of paper production, most industrial plants and volume produced are concentrated in the states of São Paulo, Santa Catarina and Paraná (Exhibit 178).

#### Exhibit 177: Brazilian States with forest activities related to the pulp sector

'000 hectares and % of total, 2007



Source: Bracelpa, Credit Suisse

#### Exhibit 178: Annual production capacity of the paper sector

By state, 2007

	Number of plants	Production	
		Total ('000 tons)	% of total
São Paulo	58	4,399	42.3
Paraná	33	2,321	22.3
Santa Catarina	33	1,801	17.3
Minas Gerais	15	462	4.4
Bahia	5	384	3.7
Rio de Janeiro	9	287	2.8
Rio Grande do Sul	13	246	2.4
Pernambuco	4	177	1.7
Others	14	330	3.2
<b>Total</b>	<b>184</b>	<b>10,406</b>	<b>100.0</b>

Source: Bracelpa, Credit Suisse

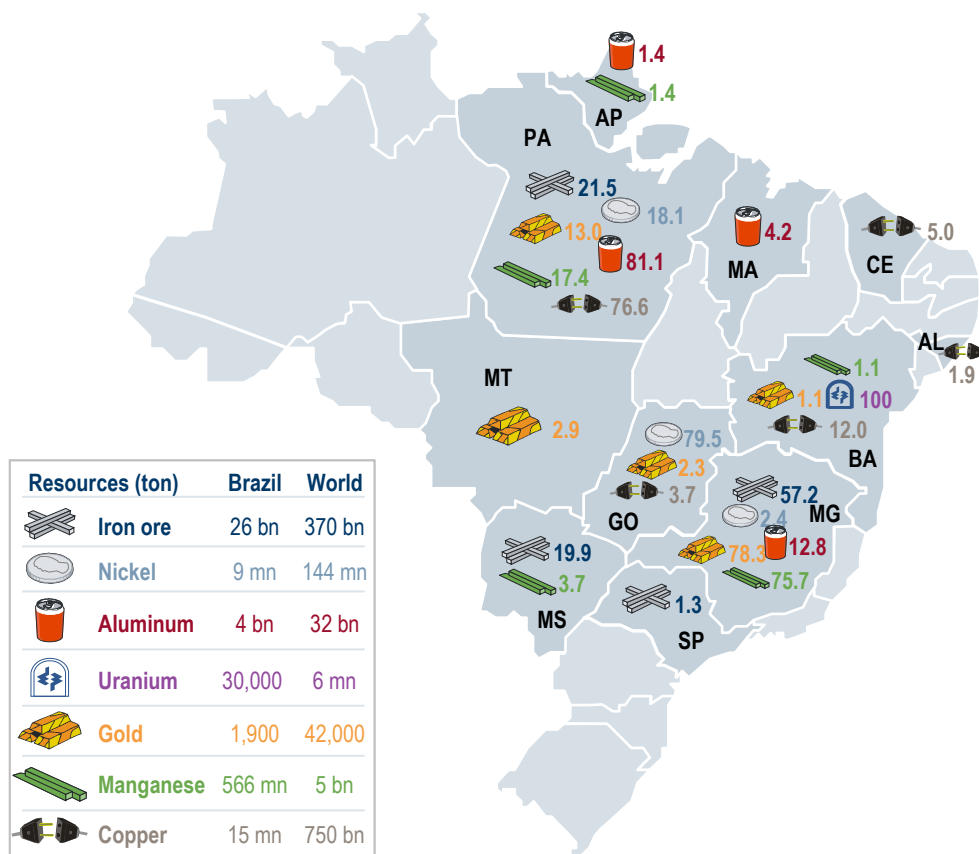
Pulp production in Brazil is highly concentrated in a few companies: the four largest companies account for around 60% of production and the eight largest companies produce 84% of the total. Production in the paper sector is also concentrated, but less than for the pulp sector. The eight largest companies accounted for a little over half of Brazil's paper production in 2007.

## 7.5. Mining

The main mineral reserves are located in the so-called “Quadrilátero Ferrífero” area (Ferroferous Quadrangle in Minas Gerais) and the Carajás Mineral Province in Pará, where most of Brazil’s iron ore, gold, manganese and aluminum reserves are concentrated (Exhibit 179).

### Exhibit 179: Regional distribution of main mineral reserves

% of total

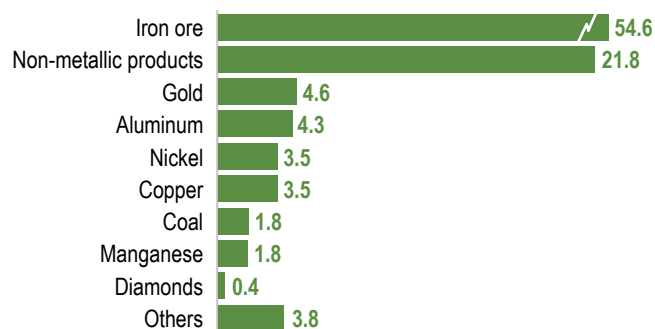


Source: DNPM, IBRAM, ANEEL Credit Suisse

Iron ore accounts for over half of the value of Brazilian mineral production, according to 2006 data from the National Department of Mineral Production (DNPM). Brazil is also an important producer of non-metallic minerals (e.g., limestone, slate, marble, etc., which are mostly used as construction inputs) and of gold, aluminum, copper, nickel and manganese (Exhibit 180). Most of the iron ore, gold and manganese extracted from Brazilian mines is exported, while most of the aluminum (bauxite) and nickel extracted is channeled to the domestic market (Exhibit 181).

**Exhibit 180: Value of mineral production**

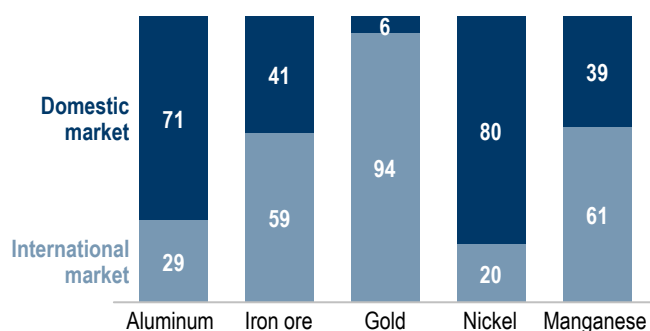
% of total, 2005



Source: DNPM, Credit Suisse

**Exhibit 181: Destination of mineral production**

% of total, main minerals

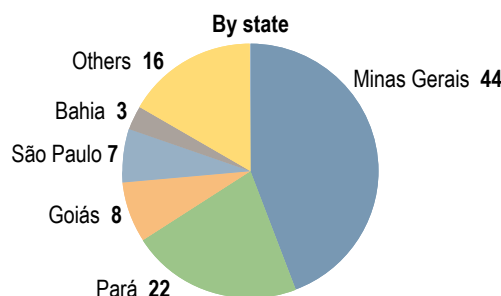
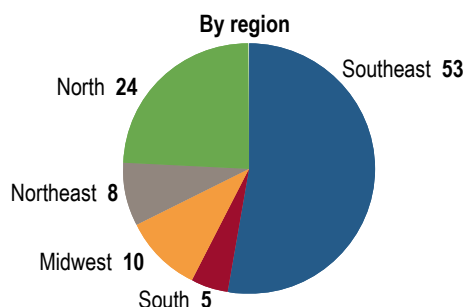


Source: DNPM, Credit Suisse

Due to the concentration of mineral resources in the States of Minas Gerais and Pará, the Southeast and North regions earn the bulk of revenues from mineral production in Brazil (Exhibit 182). These two states account for around two-thirds of the value of Brazil's mineral production.

**Exhibit 182: Breakdown of the value of Brazilian mineral production (2006)**

% of total



Source: DNPM, Credit Suisse

Vale and its subsidiaries represent a significant portion of Brazil's mineral production (around 60% of the value generated by the sector in 2006). Other companies are significantly smaller than Vale, and only six had a share of over 1% in the value of Brazil's mineral production in 2006 (Exhibit 183).

**Exhibit 183: Main producers in the Brazilian mining sector**

Share of the value of production in 2006

Companies	Main substances produced	Share (%)	
		Individual	Accumulated
Vale*	Iron ore, Copper, Gold, Kaolin and others	57.8	57.8
Mineração Rio do Norte	Aluminum (Bauxite)	3.67	61.4
Votorantim Metais	Nickel and Zink	3.41	64.8
Anglo American Brasil	Nickel and Niobium	1.52	66.4
Companhia Siderúrgica Nacional	Iron ore	1.33	67.7
AngloGold Ashanti Mineração	Sulfur, Gold and Silver	1.04	68.7
Imersys Rio Capim Caulim	Kaolin	1.01	69.7
Others		30.3	100.0

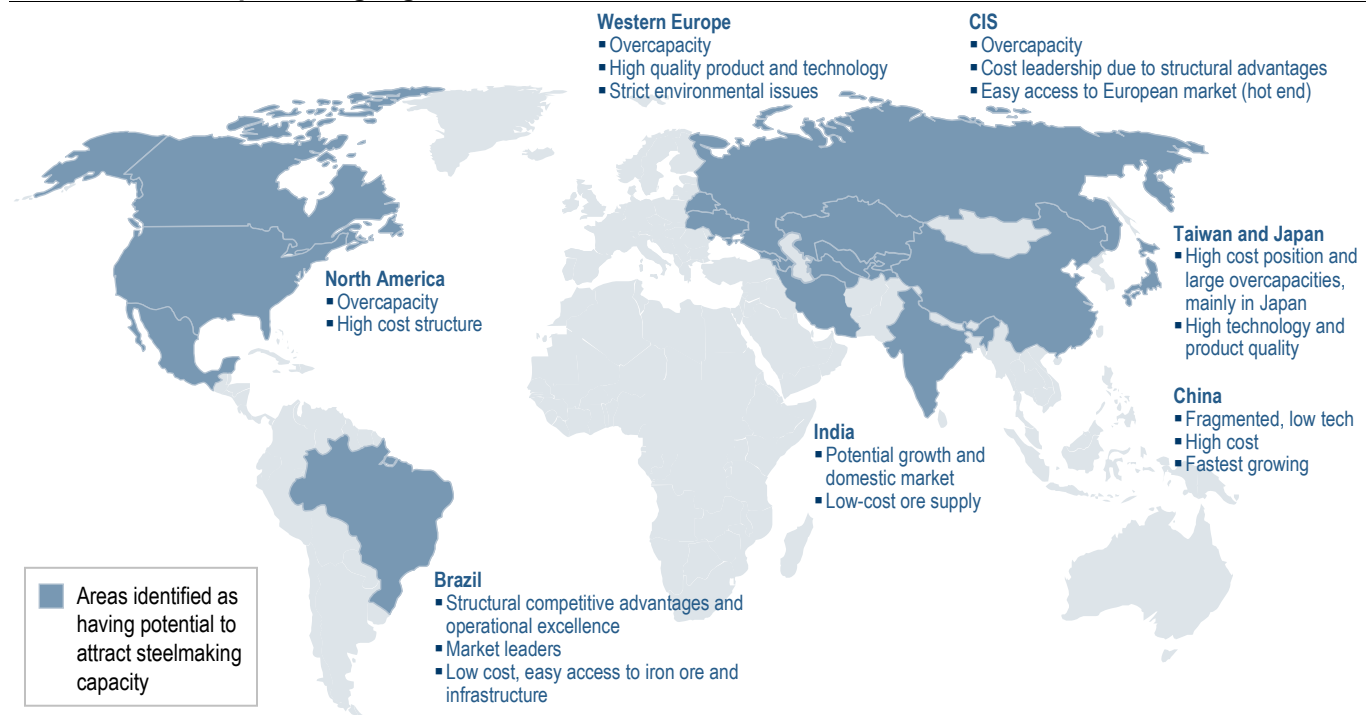
\* Including MBR, Cadam, Samarco, Urucum, Pará Pigmentos and Rio Doce Manganês

Source: DNPM, Credit Suisse

## 7.6. Steel and metals

Brazil's competitive advantage in steelmaking is its low production costs. Global consolidated players have been shutting down and transferring high-cost, obsolete semi-finished steel facilities to low-cost producing regions, from which existing rolling mills would be supplied. Brazil, India and CIS (Commonwealth of Independent States, composed of Russia, Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Ukraine and Uzbekistan) enjoy competitive advantages in steelmaking and should attract investments in the coming years (Exhibit 184).

**Exhibit 184: Steel producing regions**



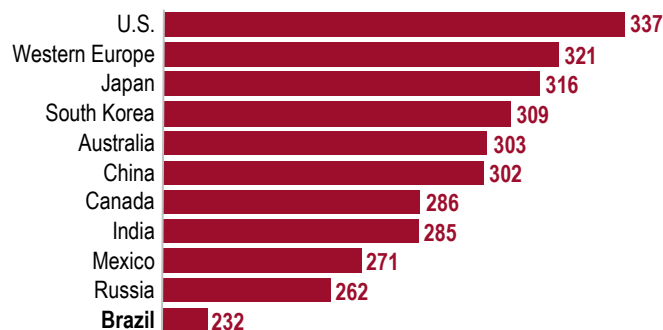
Source: Credit Suisse

Brazil has been at the low end of the cost curve for many years. Brazilian steelmakers enjoy competitive advantages derived mainly from low-cost iron ore (due to geographical proximity and despite ore being sold at FOB prices), low-cost scrap and low-cost labor with respect to developed countries. Manufacturing costs in Brazil are lower than in other traditional steelmaking countries. Brazil is still a small player in the global steel scenario, representing only 3% of global production (Exhibits 185 and 186).



**Exhibit 185: Semi-finished steel (slab) production costs**

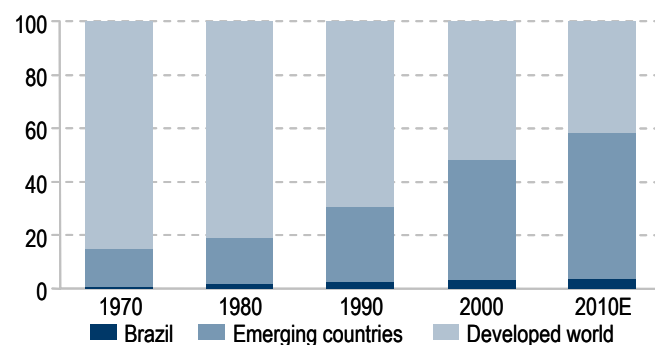
US\$ per ton, 2007



Source: Credit Suisse

**Exhibit 186: World crude steel production**

% of world crude steel production



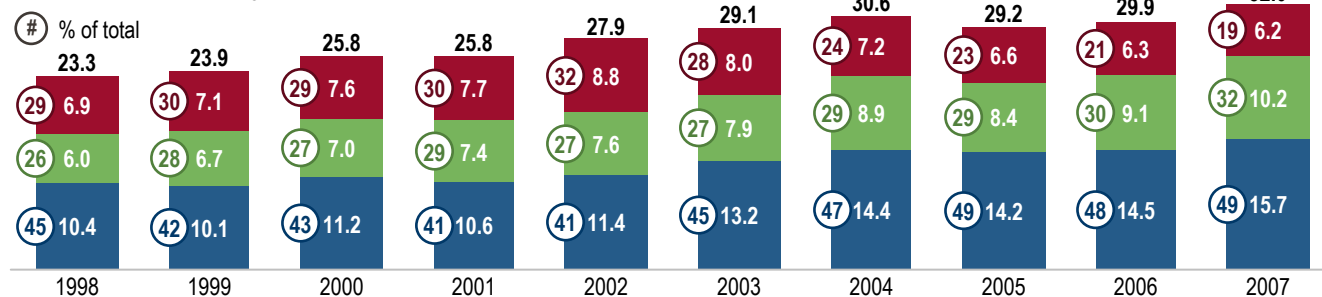
Source: IISI, Credit Suisse

Brazilian steelmaking capacity rose from 30.6mn tons in 1998 to 38.9mn tons in 2007, growing 27.1% in the period. In the breakdown by type of product, rolled and semi-finished products rose from 23.3mn tons in 1998 to 32.0mn tons in 2007, growing on average 4.2% per annum in the period. Growth was more pronounced in rolled products, which increased their share in total output from 71% in 1998 to 81% in 2008 (Exhibit 187).

**Exhibit 187: Brazil's steel production**

Millions of tons

■ Semi-finished ■ Long flat rolled products ■ Flat rolled products

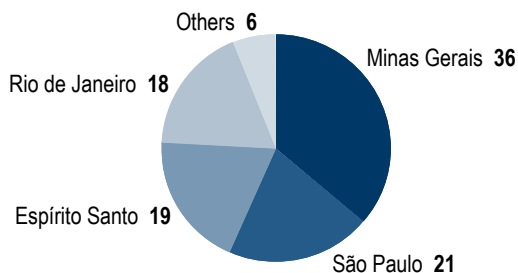


Source: Brazilian Steel Institute, Credit Suisse

The Brazilian steel industry is very concentrated in terms of regions and in a few corporate groups. Almost all Brazilian crude steel production (94%) comes from the Southeast region (Exhibit 188).

**Exhibit 188: Steel production by state**

% of total, 2007



Source: Brazilian Steel Institute, Credit Suisse

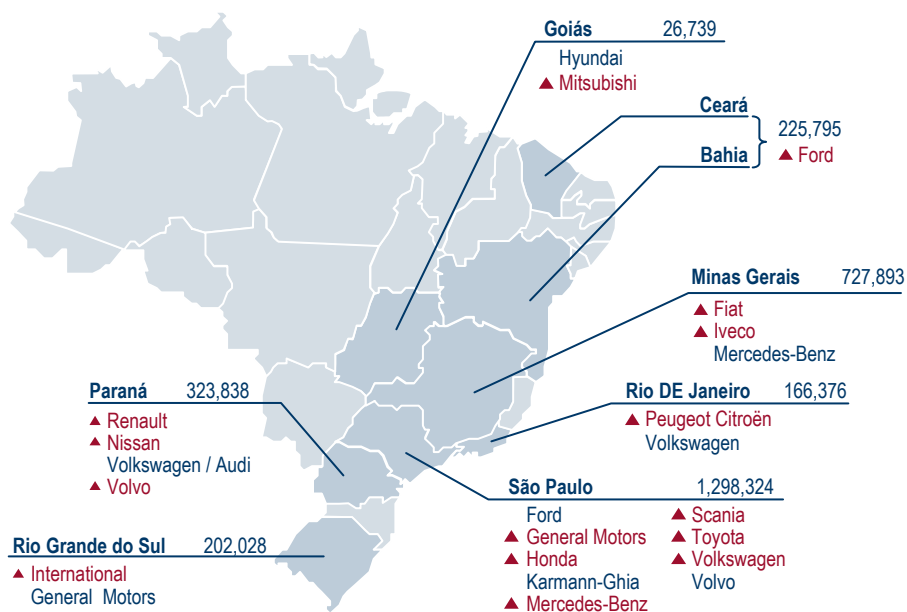
## 7.7. Vehicle industry

According to the Motor Vehicle Manufacturer's Association (Anfavea) and the National Union of the Industry of Vehicle Components (Sindipeças), there are 19 automakers, over 500 auto parts companies and 3,129 dealers operating in Brazil. Automakers have 27 plants in eight states (Exhibit 189).

### Exhibit 189: Vehicle manufacturer plant locations and production

Units, 2007

Production by company in 2007	
<b>Total</b>	<b>2,970,993</b>
Volkswagen	844,178
Fiat	717,839
General Motors	576,952
Ford	313,237
Peugeot Citroën	119,439
Honda	106,027
Renault	97,458
Mercedes-Benz	67,360
Toyota	55,974
Mitsubishi	25,844
Scania	18,406
Volvo	11,810
Nissan	9,111
Iveco	6,214
International	1,144
▲ Concentration of production	



Source: Anfavea, Sindipeças, Credit Suisse

In 2007, Brazil produced almost 3mn vehicles, ranking seventh globally. In the same year, domestic vehicle sales totaled 2.5mn units, ranking Brazil as the eighth largest car buyer in the world (Exhibit 190).

### Exhibit 190: Rankings of the vehicle industry

Millions of units

Production (2007)		Sales (2007 - '000 units)		Fleet (2006)	
1 Japan	11,596	1 US	16,460	1 US	244,166
2 US	10,781	2 China	8,850	2 Japan	75,859
3 China	8,882	3 Japan	5,354	3 Germany	49,742
4 Germany	6,213	4 Germany	3,482	4 Italy	39,877
5 South Korea	4,086	5 UK	2,800	5 France	36,661
6 France	3,019	6 Italy	2,762	6 UK	35,139
7 Brazil	2,977	7 France	2,584	7 China	31,597*
8 Spain	2,890	8 Brazil	2,463	8 Russia	31,212
9 Canada	2,578	9 India	1,989	9 Spain	26,055
10 India	2,307	10 Spain	1,939	10 Brazil	24,069

\*Data of 2005.

Source: Anfavea, Sindipeças, Credit Suisse

In terms of geographic distribution, 44% of production in 2007 came from São Paulo, 25% from Minas Gerais and 11% from Paraná. This concentration in São Paulo was more significant in the past. In 1990, it accounted for 75% of domestic vehicle production.




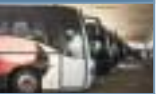

In the auto parts sector, foreigners own around 80% of the companies' equity. In the case of automakers, this percentage is 100%. Therefore, this sector ranks among those with the largest participation of foreign capital within Brazil.

As of 2008, the installed capacity stood at 3.85mn vehicles. Automakers and their suppliers forecast an increase in production capacity to 6mn units by 2012.

The fleet of vehicles totaled 25.8mn units in 2007 (Exhibit 191), with an average age of nine years and two months (similar to that of NAFTA countries and slightly above the average of eight years and eight months in European countries). At least two characteristics differentiate the Brazilian fleet from that of other countries: (i) large share of cars with 1.0 L engines or less (around 39% as of 2007); and (ii) flex-fuel cars (4.5mn as of 2007). Since flex-fuel cars account for over 85% of domestic vehicle sales, more than 2mn flex-fuel cars are added to the domestic fleet each year.

#### Exhibit 191: Estimated fleet and domestic sales

'000, 2007

	Vehicles 	Light commercial 	Trucks 	Buses 	TOTAL 
Estimated fleet	20,722	3,557	1,240	288	25,807
Flex-fuel	4,500	-	-	-	5,000
Domestic sales	1,976	366	98	23	2,463
Flex-fuel*	1,780	214	-	-	1,994

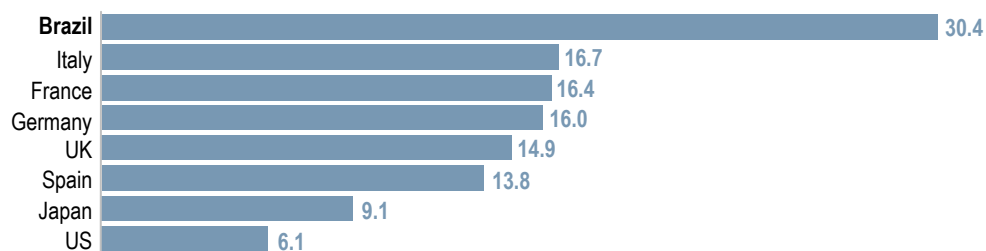
\*Flex-fuel: bi-fuel vehicles that use either ethanol or gasoline.

Source: Sindipeças, Anfavea, Credit Suisse

Most of the increases in vehicle production are channeled to the domestic market, as the share of imported products is still low: the share of imported vehicles in total sales was slightly above 12% in 2007. The average share of imported vehicles in total car sales in seven out of the eight largest vehicle consumer markets in the world was 45% in 2006. In addition to the low share of imported vehicles in the Brazilian market, there are relatively few cars in Brazil. The average number of inhabitants per car is close to 7.4, placing Brazil at 18 in the global ranking. This density is 4.9 inhabitants/unit in the South region, 5.6 inhabitants/unit in the Southeast region, 20.6 inhabitants/unit in the North region and 18.8 inhabitants/unit in the Northeast region. One of the main obstacles to growth in the domestic vehicle market is the high tax burden, which accounts for, on average, more than 30% of the price of a vehicle (Exhibit 192).

#### Exhibit 192: Tax burden on cars in selected countries

% of consumer prices, 2007



Source: Anfavea, Sindipeças, Credit Suisse

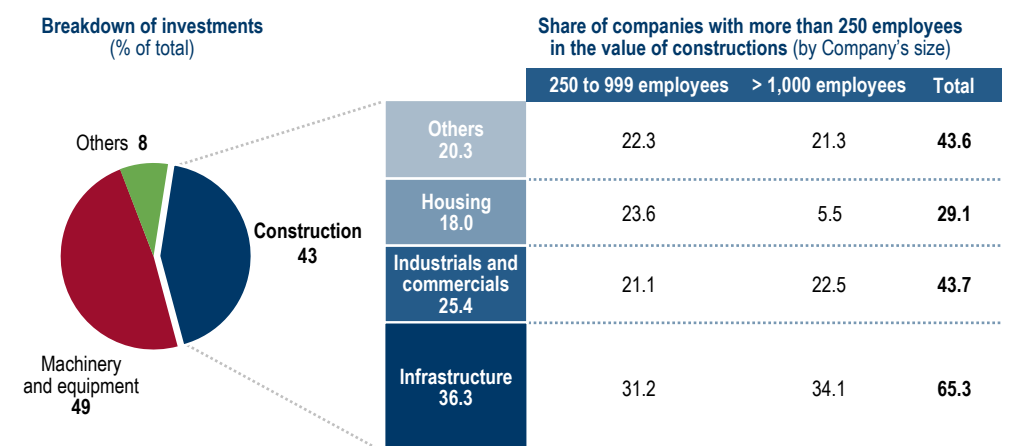
## 7.8. Civil construction

Civil construction products and services account for a little less than half of the investments (43% in 2005) made in Brazil (Exhibit 193). The 2007 Annual Construction Industry Survey classifies construction works and/or services into four large groups:

- residential works and services (18.0% of the total): more fragmented segment, in which companies with 1,000 or more occupied people accounted for only 5.5% of the value of constructions.
- industrial, commercial and other non-residential buildings (25.4%).
- infrastructure works (36.3%): segment with higher concentration, in which the largest companies (1,000 or more occupied persons) performed 34% of the works.
- other construction works (e.g., works performed prior to construction, such as land preparation, representing 20.3% of the total).

### Exhibit 193: Value added in construction, by company size

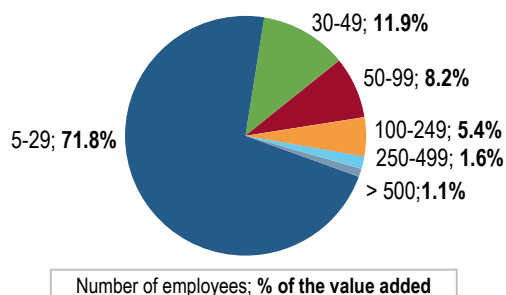
2007



The 2007 Annual Construction Industry Survey counted 110,000 companies in the sector, of which 71.8% are companies with up to 29 employees. Only 354 companies had more than 500 employees, accounting for 38.7% of the value added in construction in 2007 (Exhibit 194).

### Exhibit 194: Breakdown of the construction industry value added by company size

%, 2007

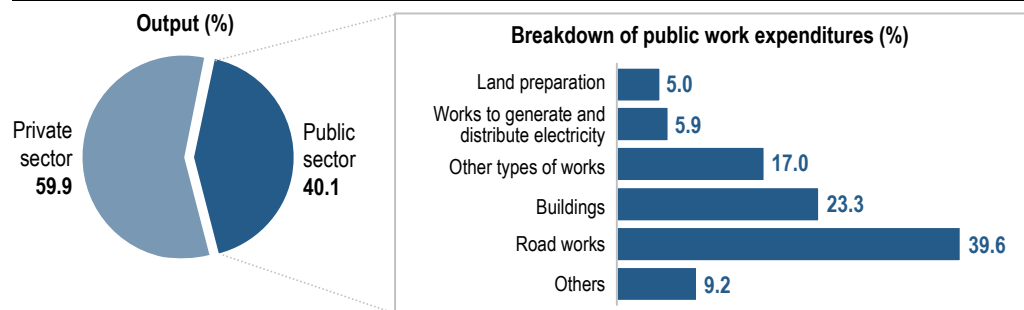


Source: IBGE, Credit Suisse

The sector is labor-intensive in comparison with other industrial sectors. While the share of wages and benefits in the value added by the construction sector was 42% in 2006, the overall industry average was close to 30%.

The public sector accounted for 40.1% of the output of construction works and services of R\$113.9bn in 2007. The public sector share on construction was even higher in infrastructure projects, e.g., roads and other electricity generation and distribution works (Exhibit 195).

#### Exhibit 195: Breakdown of construction works and services output (2007)

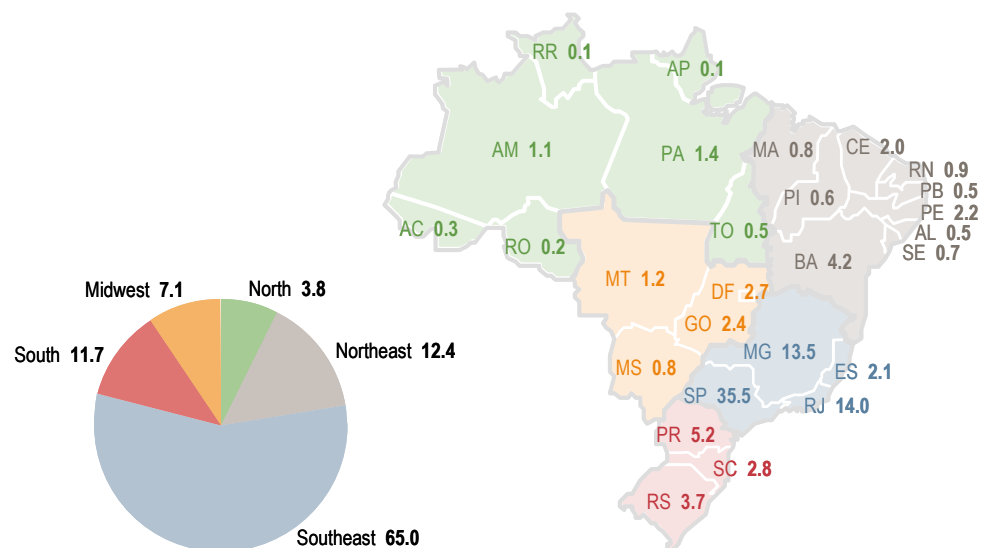


Source: IBGE, Credit Suisse

In terms of geographic distribution, 65% of the value of construction works was concentrated in the Southeast, 12.4% in the Northeast, 11.7% in the South, 7.1% in the Midwest and 3.8% in the North in 2007 (Exhibit 196). The Southeast region lost ten percentage points of its share between 1996 and 2006. Other regions have benefited from this movement of construction decentralization, particularly the North region and Pará (due to heavy investments in mining).

#### Exhibit 196: Percentage share of construction output

% of total, 2006



Source: IBGE, Credit Suisse

The construction sector has a strong growth potential, with lower interest rates, better labor market conditions and an improving regulatory framework. The regulatory measures approved in the past few years were: legally separated accounting for each development (*patrimônio de afetação*), establishment of the value of matter in controversy (*valor controverso*), and creation of the Real Estate Financing System.

The scenario for investments in infrastructure has also improved due to:

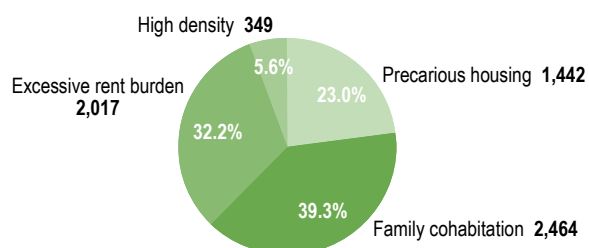
- a rise in the number of public-sector concessions granted to the private sector, mainly in the transportation sector (e.g., roads, ports and airports) and energy.
- a rise in private infrastructure investments (e.g., companies in the steelmaking, iron ore, ethanol, pulp, oil and gas sectors) in light of logistics and energy needs.

### 7.8.1. Housing deficit

Brazil's housing deficit (estimated number of homes needed to replace housing in precarious condition or shared by two or more families) has fallen from 7.3 million in 2006 to 6.3 million in 2007 (Exhibits 197 and 198). This estimate includes low-income families in forced cohabitation, families spending over 30% of their income to pay rent, and families living in residences with a high density of people.

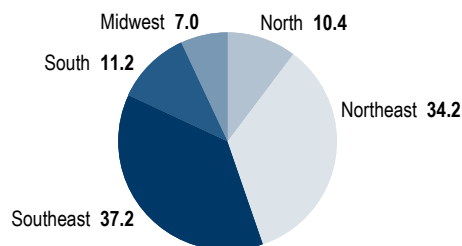
#### Exhibit 197: Breakdown of housing deficit

% of total housing deficit, thousands of households



#### Exhibit 198: Breakdown of housing deficit by region

% of households



Source: IBGE, João Pinheiro Foundation, Credit Suisse

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## 8. Services



- The trade sector's weight in the Brazilian economy has risen steadily, with revenues from trade activities increasing from 35% of GDP in 1997 to 50% of GDP in 2007. Growth was stronger from 2005 onwards, when domestic demand growth exceeded GDP growth. The wholesale sector employs 15% of the population employed in the trade sector and accounts for 44% of trade-related revenues.
- Brazil has a lightly leveraged financial system, and capital ratios for local banks are kept well above the Basel requirements. Concentration in the banking industry is high, as the number of financial institutions has declined considerably in the last decade as a result of corporate reorganizations and financial restructuring as well as privatizations of public banks. The five largest banks hold nearly 80% of the system's assets, whereas private banks concentrate the bulk of net equity and assets, and government-owned banks account for a higher proportion of deposits and credit operations.
- The bullish global market and significant improvements in Brazilian fundamentals have boosted equity transactions in recent years. From 2004 to May 2008, when it hit its all-time high, the Ibovespa index rose an impressive 223%. In the same period, 111 companies went public, generated total volume of R\$49.3bn.
- Revenues from tourism accounted for 3.6% of Brazil's GDP in 2006 and nearly 6.1% of jobs created in Brazil that year. Brazil was the second most visited country in Latin America in 2008, having received around 5.2mn foreign visitors.

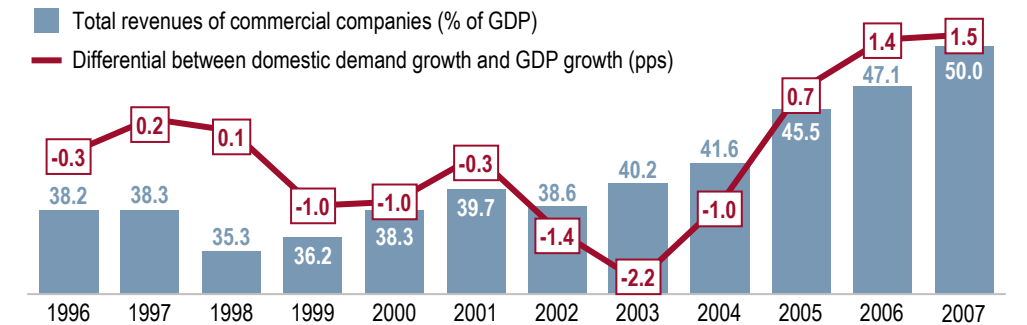


## 8.1. Commerce

The share of commerce in GDP has grown more significantly from 2005 onwards, when domestic demand growth outpaced GDP growth, and the external sector (exports – imports) posted a negative contribution to GDP. The wholesale and retail market weightings in the Brazilian economy have increased considerably from 2002 to 2008. Revenues of commercial companies have reached R\$1.3trn in 2007 or 50% of GDP (Exhibit 199).

### Exhibit 199: Total revenues of commerce companies

% of GDP, percentage points



Source: IBGE, Credit Suisse

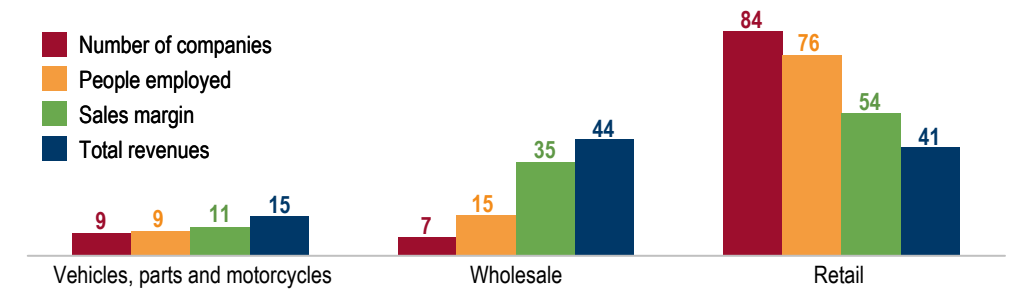
Brazilian commerce breaks down as follows (Exhibit 200):

- **Wholesale market** - revenues totaled R\$571.4bn in 2007 (44.0% of the total). This trade segment accounts for the bulk of revenues in the Brazilian trade sector, despite its concentration in only 7.0% of all companies and 15% of the employed population.
- **Retail market** - with total revenues of R\$533.1bn in 2007 (41.0% of the total), this segment is concentrated in the highest number of companies (84%). It has the highest sales margin and is the largest employer in the trade sector (76%).
- **Vehicles, parts and motorcycles<sup>15</sup>** - sales totaled R\$194.7bn in 2007 (15.0% of the total). This segment has more companies than the wholesale segment (9% versus 7% of the total), while its sales margin is smaller (11% versus 35%).

<sup>15</sup> Vehicles and parts trade is treated separately, since the companies in this sector may perform wholesaling and retailing activities simultaneously and may also offer services. Also, these companies sell high value added durable goods, which differentiate them from other segments.

**Exhibit 200: Commerce indicators**

% of total, 2007

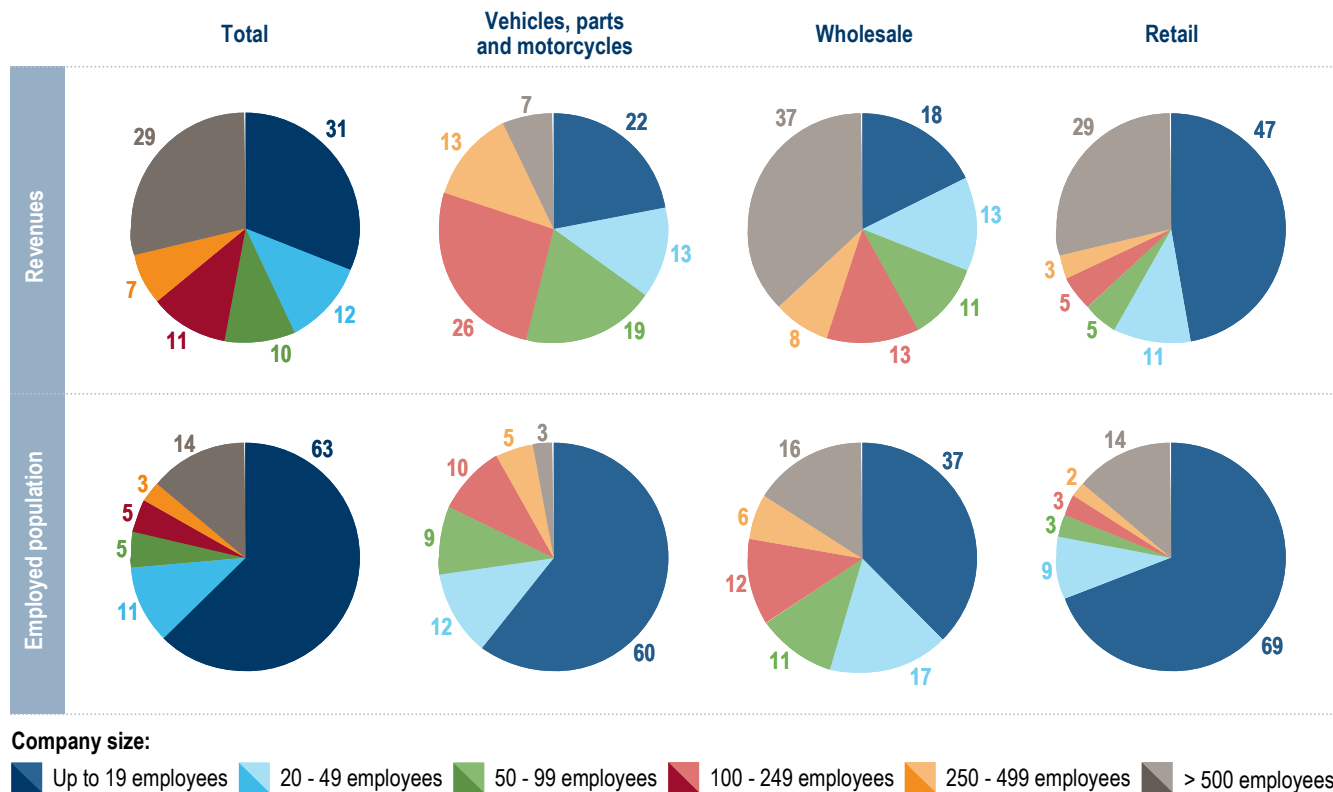


Source: IBGE, Credit Suisse

While most revenues in the retail segment are generated at small- and medium-sized companies with up to 50 employees, most of the revenues in the wholesale segment are generated by large companies with over 500 employees. Most of the jobs in the wholesale segment are concentrated in large companies, while around 70% of workers in the retail sector are employed at small companies with up to 19 employees (Exhibit 201).

**Exhibit 201: Breakdown of commerce by company size**

%, 2007



Source: IBGE, Credit Suisse

Sales of fuels and lubricants and food in the wholesale and retail segments are most important within the trade sector (Exhibit 202). Additionally, the vehicle segment individually accounted for 10% of trade-sector revenues in 2007.

**Exhibit 202: Breakdown of commerce**

% of commerce, 2007

	Total revenues	People employed	Companies	Margin (%)
<b>Wholesale 44%</b>	<b>44.0</b>	<b>15.2</b>	<b>6.9</b>	<b>21</b>
Fuels and lubricants	12.9	0.5	0.1	9
Foods, beverages and tobacco	7.1	4.1	2.0	19
Goods in general	5.8	2.1	0.6	19
Machinery and equipment	4.2	1.9	1.0	34
Pharmaceutical, medical and veterinarian products	4.0	1.3	0.5	48
Farming products and animal nutrition	3.1	0.9	0.4	15
Logging and building material	1.6	1.3	0.6	28
Chemical products, manure and fertilizers	1.6	0.4	0.2	24
Waste and scrap	1.4	1.0	0.6	31
Textiles, fabrics, apparel and footwear	0.8	0.7	0.5	38
Other personal and domestic use items	0.7	0.5	0.3	60
Paper, reading and office items	0.4	0.3	0.2	41
Household appliances and personal and domestic use devices	0.3	0.1	0.1	31
Mining	0.1	0.0	0.0	41
<b>Retail 41%</b>	<b>41.0</b>	<b>75.7</b>	<b>84.4</b>	<b>37</b>
Hypermarkets and supermarkets	9.2	9.5	0.7	24
Fuels and lubricants	8.6	3.6	1.9	16
Fabrics, apparel and footwear	4.4	13.1	18.2	74
Logging and building material	3.7	8.8	9.3	51
Pharmac., medical, veterinarian and personal hygiene products	2.7	6.2	6.7	47
Domestic and personal use machines and devices	2.6	3.7	2.2	35
Other products	1.8	6.5	9.2	87
Other types, with predominance of food	1.7	7.8	14.9	37
Furniture and other household items	1.5	3.2	3.6	57
Foods, beverages and tobacco	1.4	6.6	8.8	61
Office equipment and materials	1.2	2.7	4.0	51
Other types, without predominance of food	1.0	1.2	0.1	46
Books, newspapers, magazines and stationery	0.7	2.2	3.6	69
Liquefied petroleum gas (LPG)	0.6	0.6	0.9	33
Trade of used items	0.0	0.1	0.2	94
<b>Vehicles, parts and Motor- cycles 15%</b>	<b>15.0</b>	<b>9.1</b>	<b>8.7</b>	<b>18</b>
Vehicles	10.7	2.9	1.7	12
Vehicle parts	3.2	5.3	6.1	41
Motorcycles and accessories	1.1	0.9	0.9	25

Source: IBGE, Credit Suisse

Geographical concentration of the commerce activity in Brazil has decreased in recent years, with a decline in the sector's gross revenues from the Southeast (mainly in Rio de Janeiro) and the South region (mainly in Paraná and Rio Grande do Sul) (Exhibit 203). The Southeast region accounts for more than half of the trade sector's gross revenues, followed by the South, Northeast, Midwest and North regions. São Paulo generates

around one-third of trade sector revenues, followed by Minas Gerais (9.8%) and Rio de Janeiro (8.6%).

### Exhibit 203: Breakdown of gross revenues in commerce by state and region

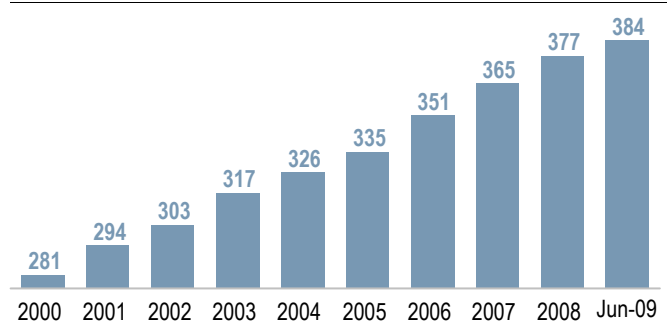
	R\$bn		% of total	
	2003	2007	2003	2007
<b>Brazil</b>	<b>736.3</b>	<b>1,359.6</b>	<b>100.0</b>	<b>100.0</b>
<b>Southeast</b>	<b>401.4</b>	<b>733.0</b>	<b>54.5</b>	<b>53.9</b>
São Paulo	244.3	447.2	33.2	32.9
Minas Gerais	70.9	132.6	9.6	9.8
Rio de Janeiro	69.5	116.7	9.4	8.6
Espírito Santo	16.8	36.4	2.3	2.7
<b>South</b>	<b>156.9</b>	<b>269.4</b>	<b>21.3</b>	<b>19.8</b>
Paraná	65.1	104.6	8.8	7.7
Rio Grande do Sul	60.4	102.2	8.2	7.5
Santa Catarina	31.4	62.6	4.3	4.6
<b>Northeast</b>	<b>92.9</b>	<b>192.0</b>	<b>12.6</b>	<b>14.1</b>
Bahia	27.5	57.5	3.7	4.2
Pernambuco	18.4	37.9	2.5	2.8
Ceará	14.6	31.0	2.0	2.3
Maranhão	8.0	15.7	1.1	1.2
Rio Grande do Norte	6.5	13.1	0.9	1.0
Paraíba	5.8	12.4	0.8	0.9
Alagoas	4.4	9.4	0.6	0.7
Piauí	4.3	8.4	0.6	0.6
Sergipe	3.5	6.6	0.5	0.5
<b>Midwest</b>	<b>63.8</b>	<b>119.5</b>	<b>8.7</b>	<b>8.8</b>
Goiás	23.3	42.8	3.2	3.2
Mato Grosso	14.6	29.3	2.0	2.2
Distrito Federal	15.0	28.6	2.0	2.1
Mato Grosso do Sul	10.9	18.8	1.5	1.4
<b>North</b>	<b>21.3</b>	<b>45.7</b>	<b>2.9</b>	<b>3.4</b>
Amazonas	8.7	18.6	1.2	1.4
Pará	7.4	15.2	1.0	1.1
Rondônia	2.0	4.5	0.3	0.3
Amapá	0.9	2.2	0.1	0.2
Tocantins	0.9	2.2	0.1	0.2
Acre	0.7	1.8	0.1	0.1
Roraima	0.6	1.3	0.1	0.1

Source: IBGE, Credit Suisse

The vast majority of sales (96%) are made at brick-and-mortar stores, with the remaining 4% represented by distance sales (e.g., mail, Internet, telesales). This is a pattern repeated by most sectors, with the exception of liquefied petroleum gas (LPG), with 38% of sales made door-to-door. Only 0.8% of sales are via the Internet, and these are mostly for machines and personal and household items.

## 8.2. Shopping Malls

According to the Brazilian Association of Malls (Abrasca), the number of malls in Brazil increased from 281 at the end of 2000 to 384 in June 2009 (Exhibit 204). The segment's revenues grew from R\$26.1bn in 2000 to R\$65.0bn in 2008. Despite higher growth in the sector over the past few years, mall revenues as a percentage of total national retail revenues fell from 22.3% in 2000 to 20.1% in 2007, after reaching 19.5% in 2006 (Exhibit 205).

**Exhibit 204: Number of malls in Brazil**

Source: Abrasce, Credit Suisse

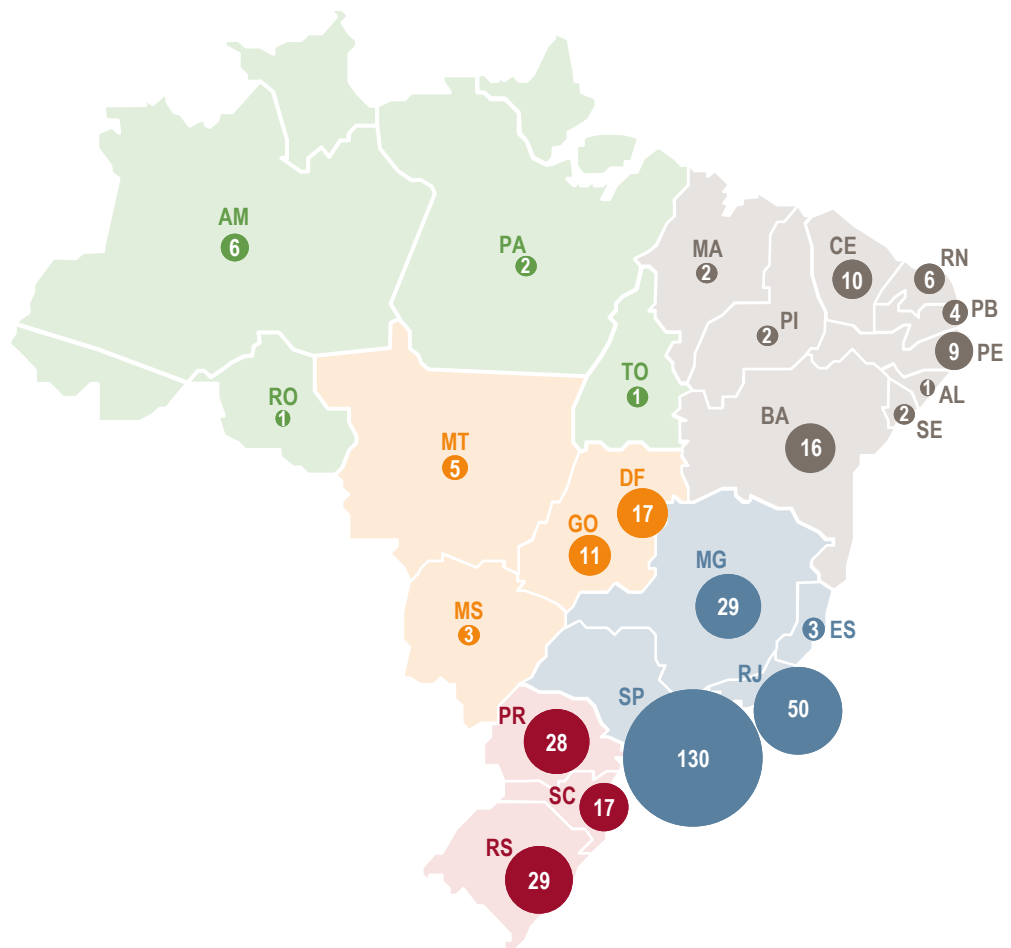
**Exhibit 205: Mall revenues**

Source: Abrasce, IBGE, Credit Suisse

The number of malls in Brazil was 384 in June 2009, of which 212 (55% of the total) were located in the Southeast region. São Paulo was the state with the highest number of malls (130, or 34% of the total, Exhibit 206), followed by Rio de Janeiro (50), Minas Gerais (29) and Rio Grande do Sul (29).

**Exhibit 206: Number of malls per state**

Units, June 2009



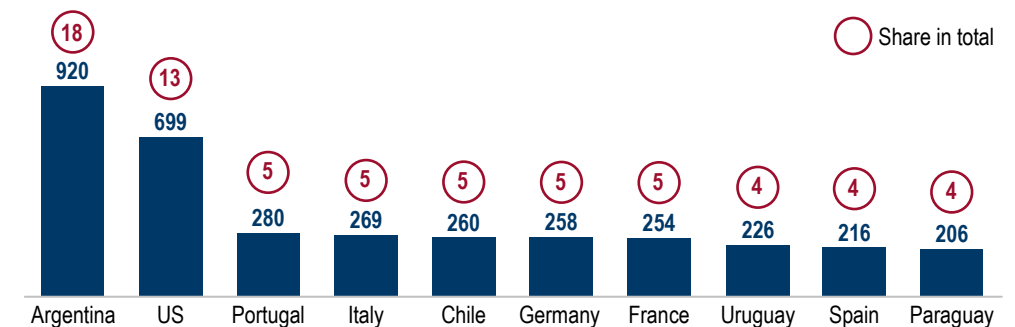
Source: Abrasce, Credit Suisse

### 8.3. Tourism

Brazil was the second most visited country in Latin America, after Mexico, receiving 5.2 million visitors. The most visited cities in Brazil in 2008 were Rio de Janeiro, São Paulo, Salvador and Florianópolis. Foreign tourists visiting Brazil in 2008 were mostly from Argentina, U.S. and Portugal (Exhibit 207). Embratur (Brazilian Tourism Institute) suggests that tourism-related activities represented 3.6% of GDP in 2006. These activities were responsible for 5.7 million jobs, 6.1% of total jobs in Brazil in 2008.

#### Exhibit 207: Tourists arrivals by country of origin

'000 people, 2008



Source: Embratur, Credit Suisse

Spending by foreign tourists totaled a record of US\$5.8bn in 2008, 17% higher than in 2007 (US\$5.0bn). Foreign currency inflows in 2008 from tourism grew more than twice the global average of 7.0%, according to Embratur. As indicated by the Brazilian Tourism Ministry, this sector posted 76% accumulated growth from 2000 to 2005, owing primarily to domestic tourists.

### 8.4. Banking system

Since 1995, the number of financial institutions (ex-credit union) has declined considerably in Brazil (Exhibit 208). This consolidation of the banking system is the direct effect of the economic stability achieved as a result of the Real Plan, implemented in 1994. Hyperinflation allowed banks to obtain very high earnings from non-interest bearing liabilities, such as cash deposits and funds in transit. Thus, the monetary stability exposed inefficiencies at these financial institutions by reducing their float revenues. The number of full-service, commercial, development, savings and investment banks fell from 265 institutions in 1995 to 179 in 2009.

The Brazilian financial system was restructured under the Program to Foster Restructuring and Strengthening of the Brazilian Financial System (Proer); implementing regulatory changes took two years for approval (from 1995 to 1997). The Proer program established credit lines and special tax exemptions in order to foster M&A initiatives, corporate reorganizations and financial restructuring in the private banking sector. At the same time, the federal government established the Incentive Program for the Reduction of State Government Participation in Bank Financial Activity and for the Privatization of State Financial Institutions (Proes). From 1997 to 2004, the Proes privatized 12 state-owned banks, closed 22, and financially restructured nine others. Privatizations generated revenues of R\$11.7bn, and federal government debt issues totaled R\$61.9bn in the same period.

**Exhibit 208: Breakdown of the Brazilian financial system**

Number of institutions

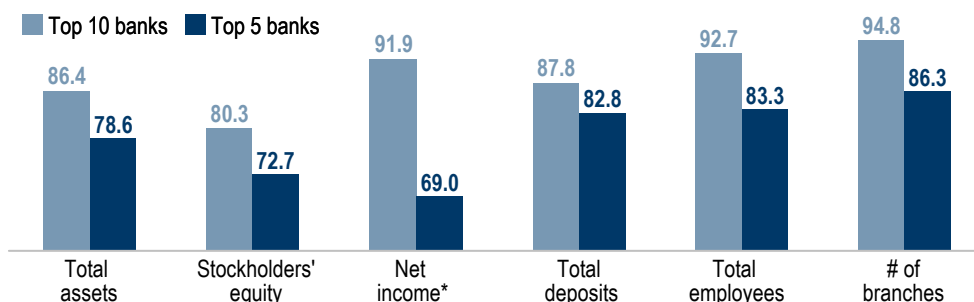
Segment	Dec-95	Dec-00	Jul-09
Multiple service bank	205	164	140
Commercial bank	35	28	18
Development bank	6	5	4
Savings bank	2	1	1
Investment bank	17	19	16
Loans for financing and investment	43	43	55
Securities broker	227	187	108
Exchange rate broker	48	41	45
Securities dealer	333	177	131
Leasing	80	78	35
Mortgage lending and savings and loans	23	18	16
Mortgage loan company	-	7	6
Development agency	-	8	14
<b>First sub-total</b>	<b>1019</b>	<b>776</b>	<b>589</b>
Credit cooperative	980	1311	1426
Micro credit	-	-	45
<b>Second sub-total</b>	<b>980</b>	<b>1311</b>	<b>2060</b>
Consortia	462	407	311
<b>Total</b>	<b>2461</b>	<b>2494</b>	<b>2371</b>

Source: Central Bank of Brazil, Credit Suisse

The five largest institutions have most of the assets, deposits, branches and employees of the National Financial System (SFN), while the ten largest institutions account for the bulk of the net income in the first semester of 2009 and net equity of the SFN (Exhibit 209).

**Exhibit 209: Five and ten largest banks - share in the total system**

% of total, March 2009



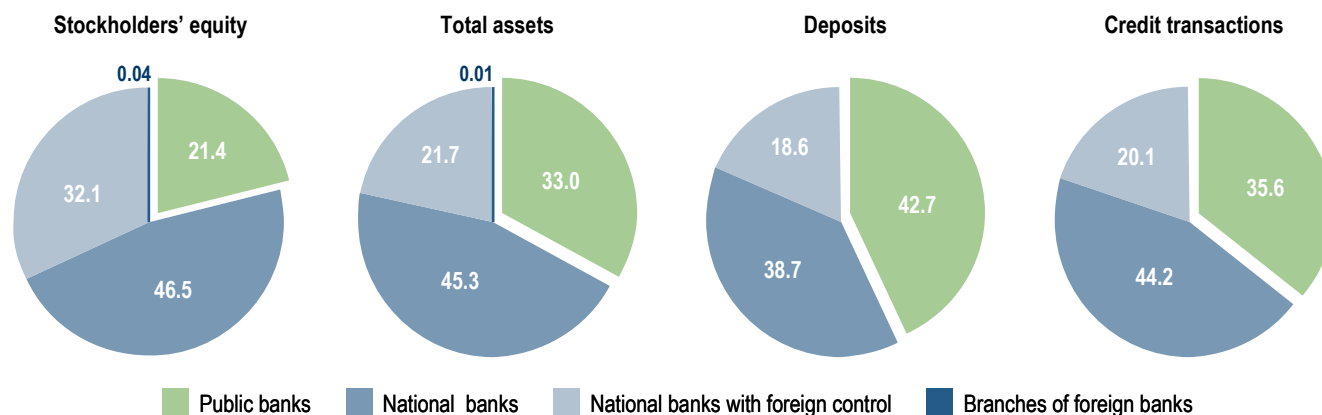
\*Accumulated in the first quarter of 2009

Source: Central Bank of Brazil, Credit Suisse

Using as a reference the group that includes full-service banks, commercial banks and Caixa Econômica Federal (Federal Savings and Loan Association), Brazil's private banks hold the lion's share of total net equity and assets, while government-owned banks account for a significant portion of deposits and credit operations (Exhibit 210).

**Exhibit 210: Financial institutions' share of the banking segment**

% of total, March 2009

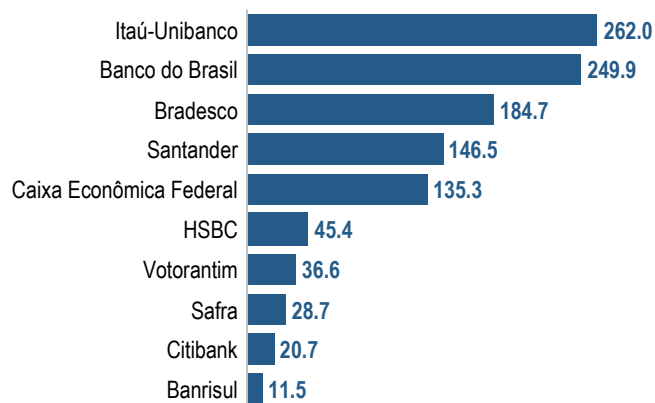


Source: Central Bank of Brazil, Credit Suisse

As of March 2009, the ten largest Brazilian banks (Exhibits 211 and 212) in terms of total assets included three government-owned institutions (Banco do Brasil, Caixa Econômica Federal and Banrisul), four private banks with Brazilian ownership control (Itaú-Unibanco, Bradesco, Votorantim and Safra) and three foreign institutions (Santander, HSBC and Citibank).

**Exhibit 211: Assets of the ten largest Brazilian banks**

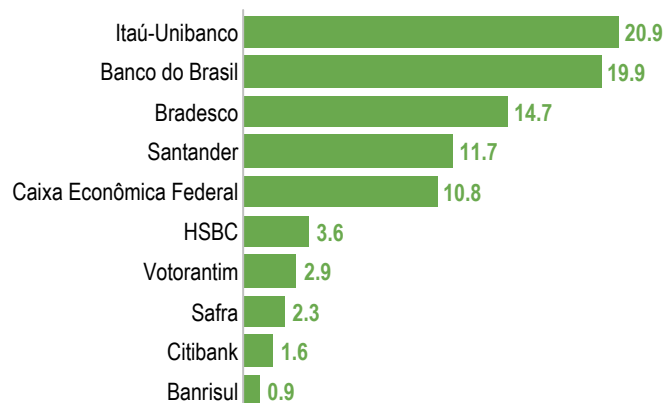
US\$ bn, March 2009



Source: Central Bank of Brazil, Credit Suisse

**Exhibit 212: Share of the ten largest Brazilian banks in total assets**

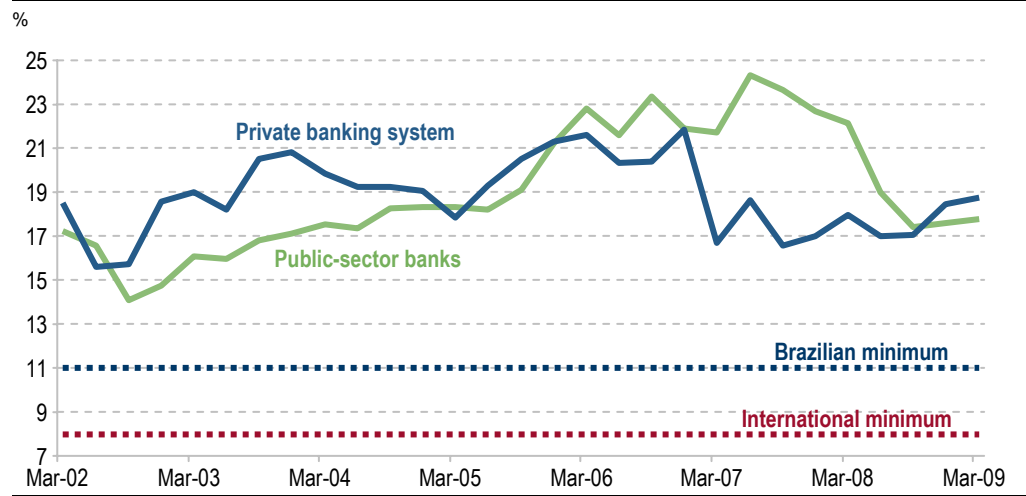
% of total assets



Source: Central Bank of Brazil, Credit Suisse

The minimum BIS capital ratio for Brazilian banks is 11.0%, versus the international benchmark of 8.0%. The average capital ratio (weighted by banks' assets) was 18.4% (18.2%, excluding the BNDES) in the first quarter of 2009, 17.8% for government-owned retail banks and 18.7% for private-sector banks (Exhibit 213). The lowest capital ratio was recorded in September 2002: 14.9%, but still well above the international benchmark.



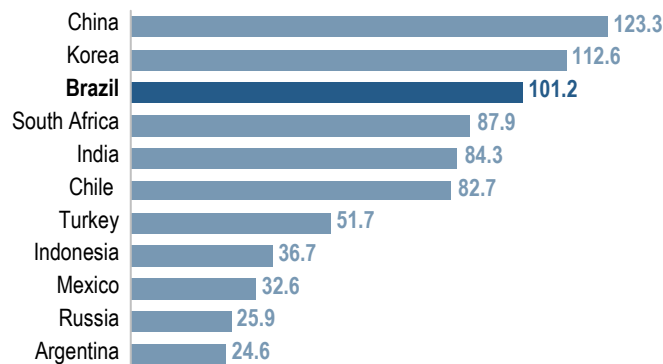
**Exhibit 213: Average BIS ratio of Brazilian banks**

## 8.5. Credit card

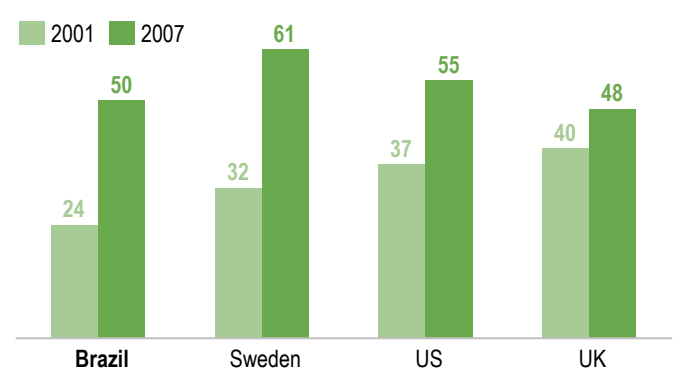
Domestic credit in Brazil totaled 101.2% of GDP in 2008, lower than the 123.3% of GDP for China but higher than the 81.3% of GDP for India (Exhibit 214). Credit card use has been growing steadily in recent years. Around 50% of total sales in Brazil were made by credit card in 2007 (close to the level of 55% in the United States and 48% in the United Kingdom), a sharp increase from the 24% level in 2001 (Exhibit 215).

**Exhibit 214: Domestic credit**

% of GDP, 2008

**Exhibit 215: Use of cards as means of payment**

% of total sales

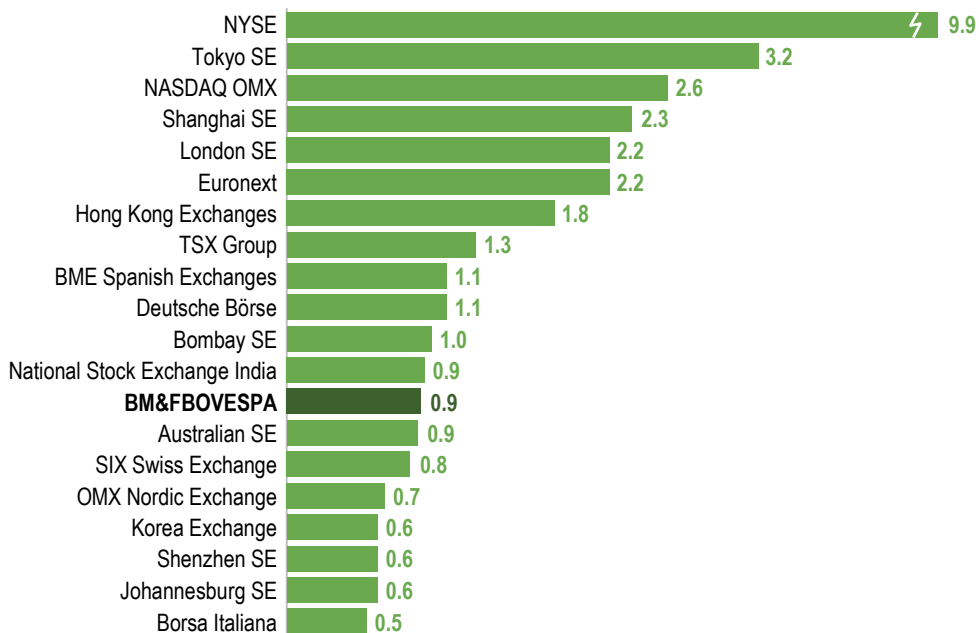


## 8.5. Stock and futures market exchange

The Securities, Commodities and Futures Exchange (BM&F-Bovespa) was the 13<sup>th</sup> largest exchange in the world in 2008 (Exhibit 216), having 409 companies listed with a market cap of US\$900bn. The exchange posts the highest trading volume in Latin America, concentrating nearly 75% of the entire daily equity trading volume in the region. The Exchange offers equities, securities, financial assets, indices, interest rates, agricultural commodities, and foreign exchange futures and spot contracts.

**Exhibit 216: Market cap of companies listed on the stock exchange**

US\$ trn, June 2009

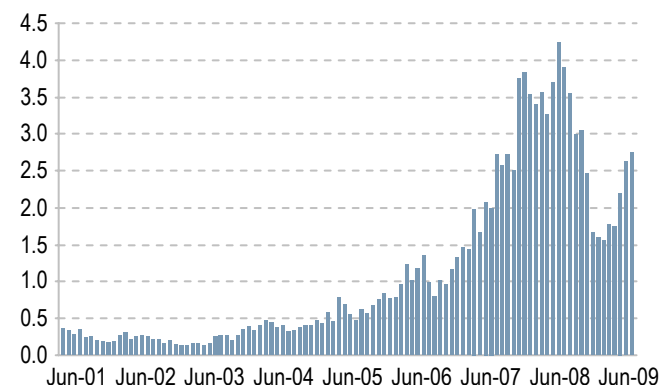


Source: World Federation of Exchanges, Credit Suisse

Since 2003, the number of trades and the market cap of the companies have risen due to better economic growth prospects and higher commodity prices (Exhibits 217 and 218).

**Exhibit 217: Trading values monthly average**

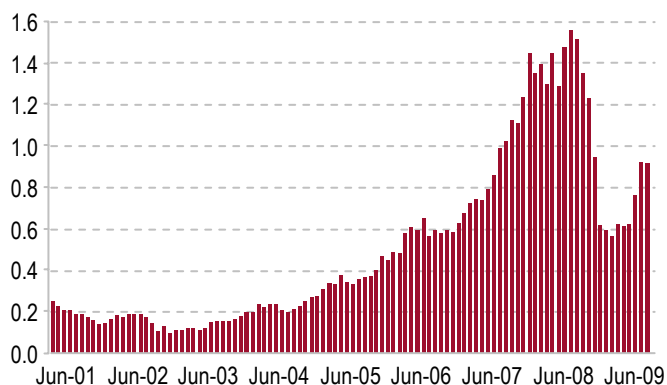
US\$ bn



Source: BM&amp;FBovespa, Credit Suisse

**Exhibit 218: Market cap of companies listed on BM&FBovespa**

US\$ trn

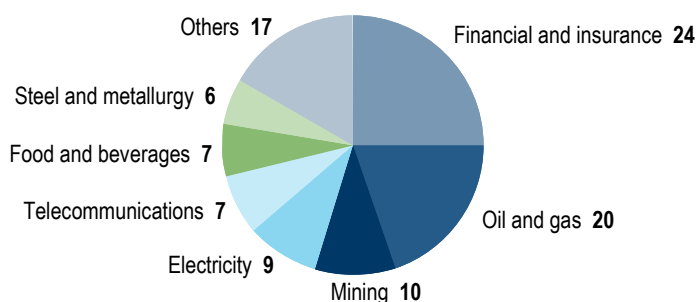


Source: BM&amp;FBovespa, Credit Suisse

In June 2009, the sectors with highest share of Bovespa's market cap were finance and insurance (24%), oil and gas (20%), mining (10%), electricity (9%) and telecommunications (7%, Exhibit 219).

**Exhibit 219: Breakdown of sectors in the stock market**

%, Share in total market cap, Jun-09



Source: BM&amp;FBovespa, Credit Suisse

The 20 largest companies represent 66.9% of the total market cap. Petrobras and Vale have more than 25% of the total market cap traded on the BM&F-Bovespa (Exhibit 220) in June 2009.

**Exhibit 220: 20 largest companies on the Stock Exchange (June 2009)**

Company	Sector	Market cap*	% of total	Accumulated (%)
Petrobras	Oil and gas	166	18.1	18.1
Vale	Mining	90	9.8	27.9
Itaú-Unibanco	Finance and insurance	60	6.6	34.5
Bradesco	Finance and insurance	42	4.5	39.0
Ambev	Food and beverage	36	4.0	43.0
Banco do Brasil	Finance and insurance	28	3.0	46.0
Santander Brasil	Finance and insurance	24	2.6	48.6
Itaúsa	Finance and insurance	20	2.2	50.9
Companhia Siderúrgica Nacional	Steel and metallurgy	18	1.9	52.8
OGX Petróleo	Oil and gas	17	1.8	54.6
Eletrobrás	Electricity	16	1.8	56.4
Gerdau	Steel and metallurgy	14	1.5	57.9
BM&F Bovespa	Finance and insurance	12	1.3	59.2
Visanet	Finance and insurance	12	1.3	60.5
Telesp	Telecommunications	11	1.2	61.8
Usiminas	Steel and metallurgy	11	1.2	62.9
Redecard	Finance and insurance	10	1.1	64.1
Brasil Telecom	Telecommunications	9	1.0	65.1
Souza Cruz	Tobacco	9	1.0	66.0
CPFL Energia	Electricity	8	0.9	66.9

\* R\$bn as of Jun-09

Source: the BLOOMBERG PROFESSIONAL™ service, BM&amp;FBovespa, Credit Suisse

**8.5.1. Governance levels**

Corporations can be listed on the Brazilian stock market under one of four governance levels. *Novo Mercado* provides creditors with the highest level of assurance and includes corporations that have only voting shares (common shares, or “ON”) and 100% tag-along rights. The “traditional level” affords shareholders the least rights. It includes companies with any proportion of voting and non-voting shares (preferred shares, or “PNs”). Under Brazilian law, common shares must represent at least one third of the corporation’s total stock. Governance levels 1 and 2 are between these two extremes and provide partial guarantees to minority shareholders (Exhibit 221).

**Exhibit 221: BM&FBovespa's governance levels**

	Novo Mercado	Level 2	Level 1	Traditional
Characteristics of shares issued	only ON	ON and PN (with additional rights) <sup>(1)</sup>	ON and PN	ON and PN
Minimum percentage of outstanding shares	25%	25%	25%	-
Accounting standard	US GAAP or IFRS	US GAAP or IFRS	-	-
Board of Directors	Minimum of 5 members and 20% independent members	Minimum of 5 members and 20% independent members	Minimum of 3 members	Minimum of 3 members
Tag along coverage	100% ON	100% ON 80% PN	100% ON 80% PN	80% ON
Cover share repurchases <sup>(2)</sup>	YES	YES	NO	NO

<sup>(1)</sup> Preferred shares will have voting rights in the following situations:

- conversion, incorporation, merger or spin-off of the Company.
- contracts between the Company and its controlling stockholder or companies in which the controlling stockholder has an interest, in cases when they are on the stockholders' meeting agenda.
- Analysis of assets for capital increase.
- Choice of specialized company to determine the economic value of the Company.

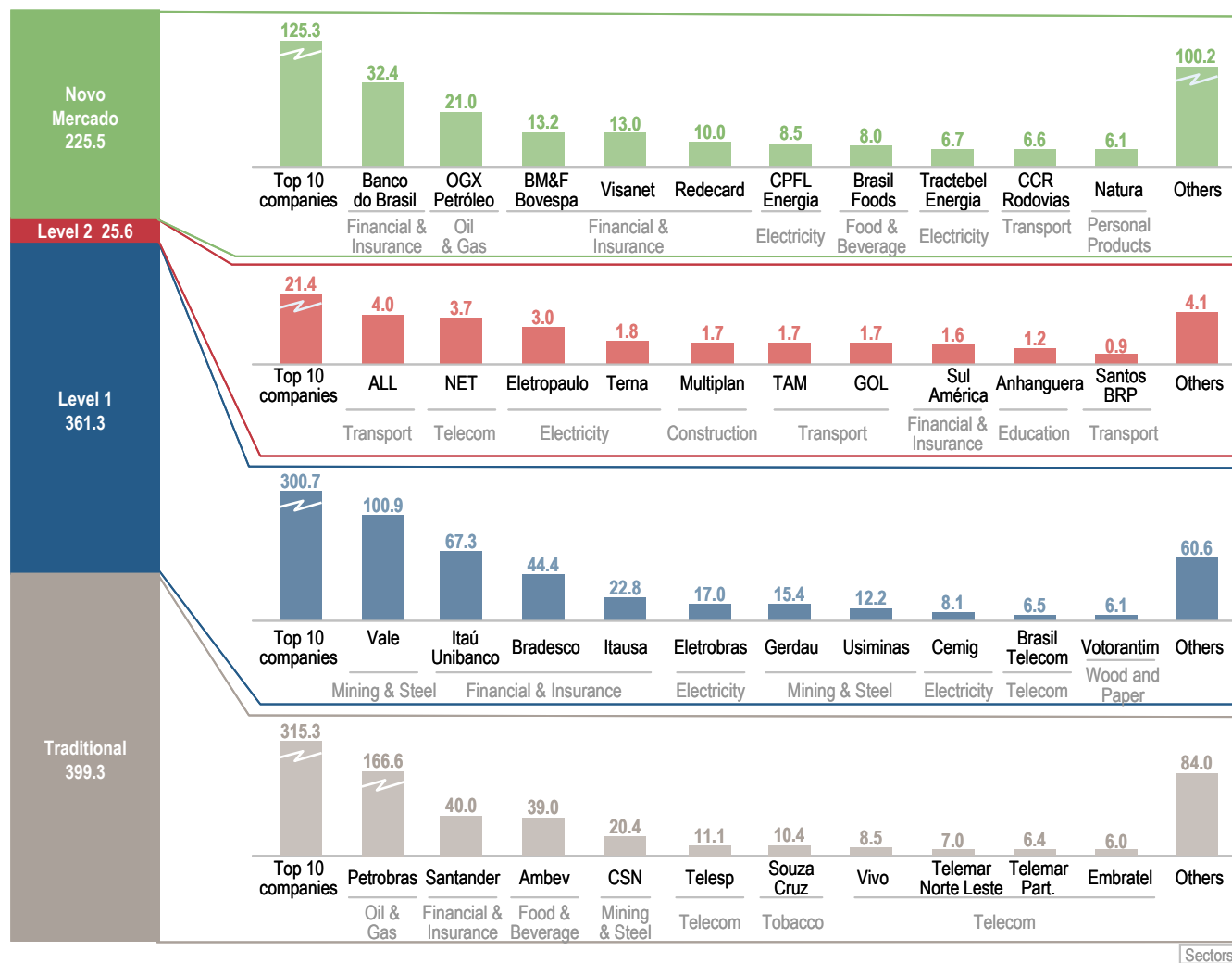
<sup>(2)</sup> If the corporation is delisted, its outstanding shares will be valued according to the corporation's economic appraisal then in effect.

Source: BM&FBovespa, Credit Suisse

The traditional Level concentrates the bulk of Bovespa's market cap (39% of the total), followed by Level 1 (36%), Novo Mercado (22%) and Level 2 (3% - Exhibit 222).

**Exhibit 222: Breakdown of BM&FBovespa by governance level**

US\$ bn, July 2009

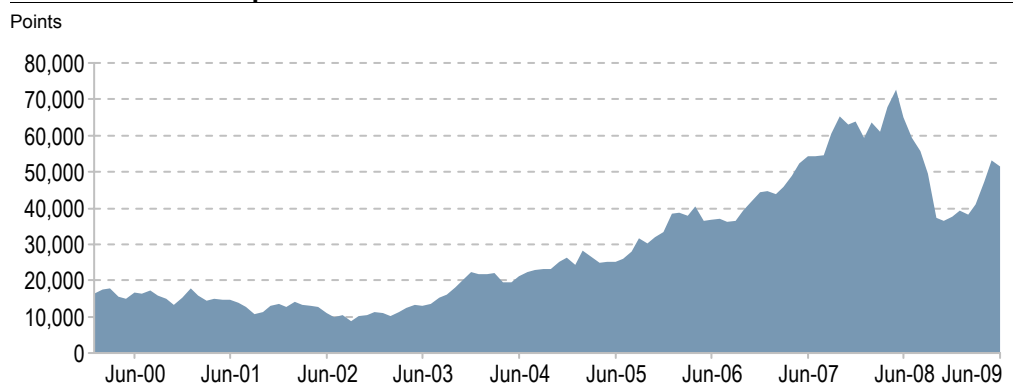


Source: BM&FBovespa, Credit Suisse

### 8.5.2. Ibovespa index

The Ibovespa index is the main stock market index in Brazil. Its portfolio includes 60 stocks, which jointly account for over 80% of the Bovespa's spot trading volume. Each stock in the portfolio is weighted according to its liquidity, and the portfolio's stocks represent, on average, approximately 70% of Bovespa's market cap. The two largest companies in the index (Petrobras and Vale) represented 36% of the total as of August 2009. In January 2000, the Ibovespa was at 16,400 points. The index hit its all-time high of 72,600 points in May 2008, soon after Brazil achieved its investment grade rating from Standard and Poor's (Exhibit 223).

#### Exhibit 223: Ibovespa index



Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

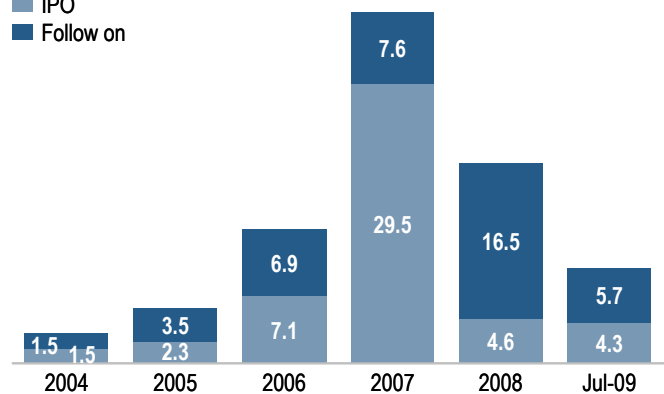
### 8.5.3. Stock offerings

The volume of stock offerings grew significantly from 2004 to 2007 (Exhibit 224). In this period, 111 companies went public, generating total offerings of US\$49.3bn. In 2007, 64 companies went public (turnover of US\$29.5bn), versus 7 companies in 2004 (turnover of US\$1.5bn). IPOs in the period were mostly primary and mixed offerings, with secondary offerings representing only a small part (Exhibit 225). There has been a significant decline in the number of issuances in 2008, mainly due to the global liquidity crisis and increased risk aversion by international investors. The improvement in market conditions should support a significant resumption in equity offerings from mid-2009 onwards.

#### Exhibit 224: Volume of stock offerings

US\$ bn

■ IPO  
■ Follow on

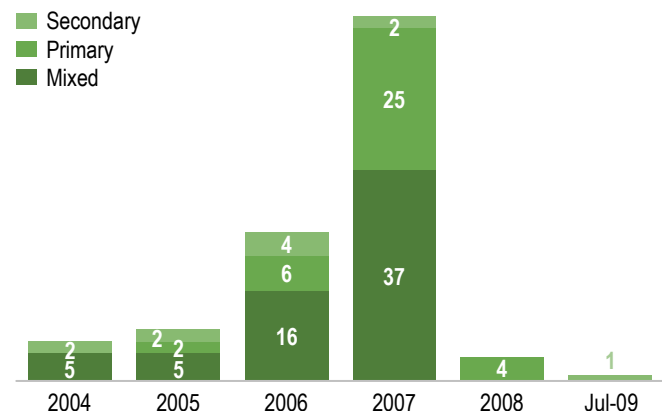


Source: BM&FBovespa, Credit Suisse

#### Exhibit 225: Number of IPOs by type of offering

Number of offerings

■ Secondary  
■ Primary  
■ Mixed

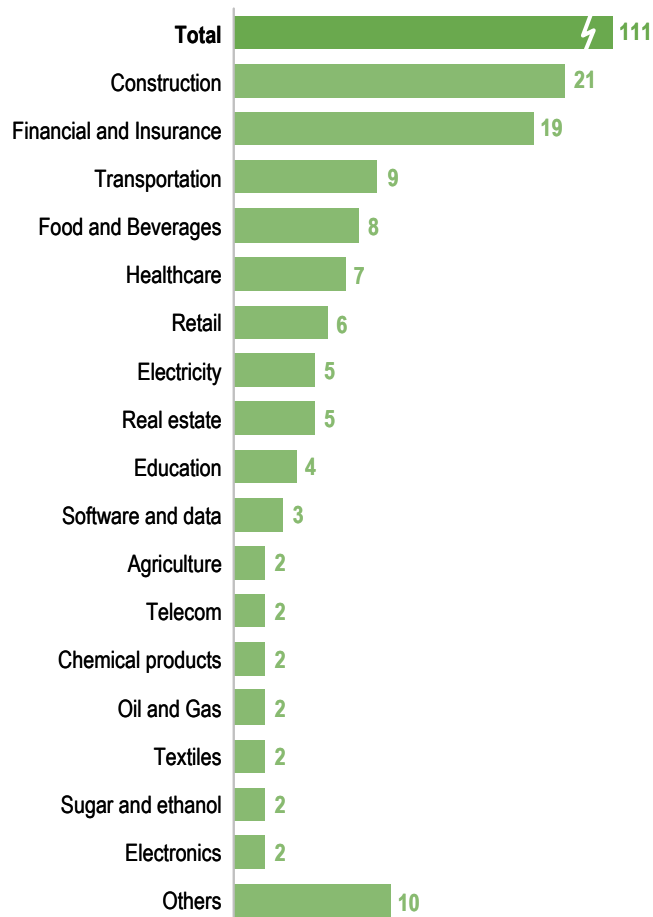


Source: BM&FBovespa, Credit Suisse

The IPOs occurred within several sectors of the economy (Exhibit 226), including certain sectors that were not represented on stock markets, such as construction and meat packing. The sector with the highest dollar transaction volume was the financial and insurance sector (US\$18.4bn in 19 IPOs). These transactions were concentrated in the second semester of 2007 (US\$11.4bn in nine operations) and first semester of 2009 (US\$4.3bn in one operation) (Exhibit 227).

### Exhibit 226: IPOs per sector

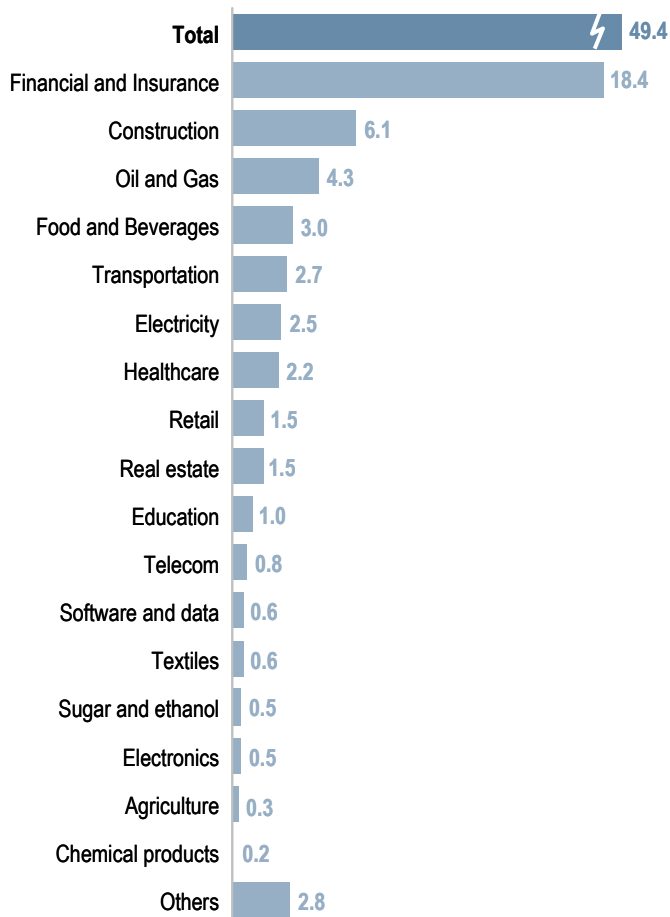
Number of offerings (from 2004 to July 2009)



Source: CVM, Credit Suisse

### Exhibit 227: Offerings per sector

US\$ bn (from 2004 to July 2009)



Source: CVM, Credit Suisse

The 10 largest IPOs (all in the *Novo Mercado* segment) generated financial volume of US\$21.8bn from 2004 to 2009 (Exhibit 228) of a total US\$49.3bn (111 companies). The Financial & Insurance sector included four corporations, which accounted for financial volume of US\$13.9bn.

**Exhibit 228: Largest IPOs in terms of financial volume offered**

Number of companies

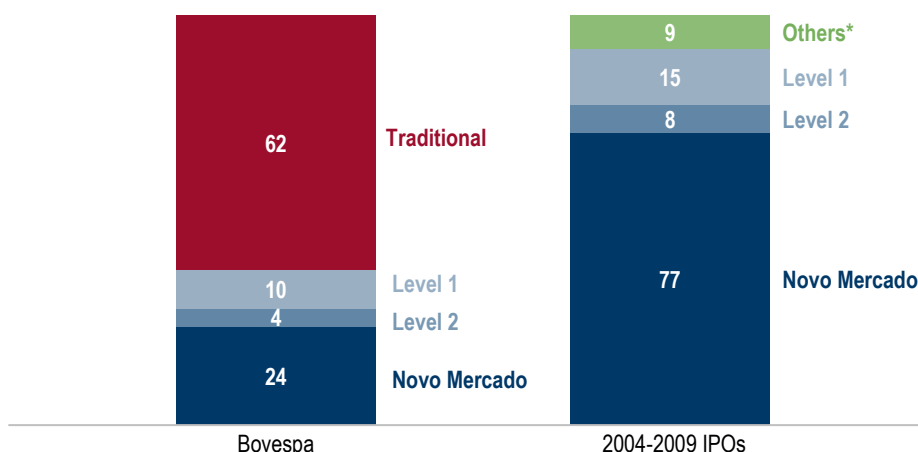
Company	Registration date	Sector	Value offered (US\$ bn)
Visanet	29-Jun-09	Financial and insurance	4.3
OGX Petróleo e Gás	13-Jun-08	Oil & gas	4.1
Bovespa Holding	26-Oct-07	Financial and insurance	3.7
BM&F	30-Nov-07	Financial and insurance	3.4
Redecard	13-Jul-07	Financial and insurance	2.5
MPX Energia	14-Dec-07	Electricity	1.1
JBS	29-Mar-07	Food and beverages	0.8
Amil	29-Oct-07	Healthcare	0.8
MRV Engenharia	23-Jul-07	Construction	0.6
Brascan	23-Oct-06	Construction	0.6
<b>Top 10 IPOs</b>			<b>21.8</b>
<b>All IPOs since 2004 (172)</b>			<b>49.3</b>

Source: BM&amp;FBovespa, Credit Suisse

The IPOs from 2004 to 2008 occurred mainly in the *Novo Mercado* segment (77% of total), versus 24% of Bovespa companies in this level of governance (Exhibit 229).

**Exhibit 229: Breakdown of stocks by level of governance**

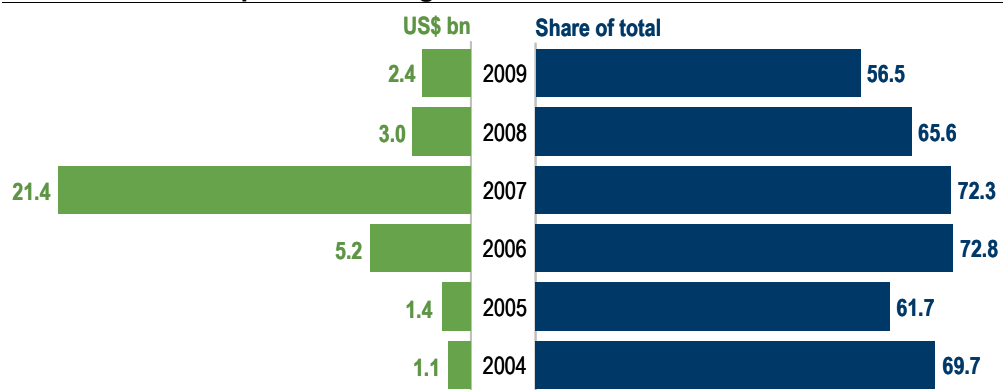
% of total



\* In the category "Others", there are 8 offerings between 2004 and July 2008, out of which 7 were executed through the issuance of receipts and 1 (Nutriplant, volume of US\$11.8 mn) with Bovespa Mais governance level, for low-capital companies.

Source: BM&amp;FBovespa, Credit Suisse

The participation of foreign investors was crucial to the significant volume of IPOs from 2004 to the first semester of 2008. These investors acquired 70% of the securities offered in the IPOs launched in this period, versus 33% foreign investor participation in overall stock market activity (Exhibit 230).

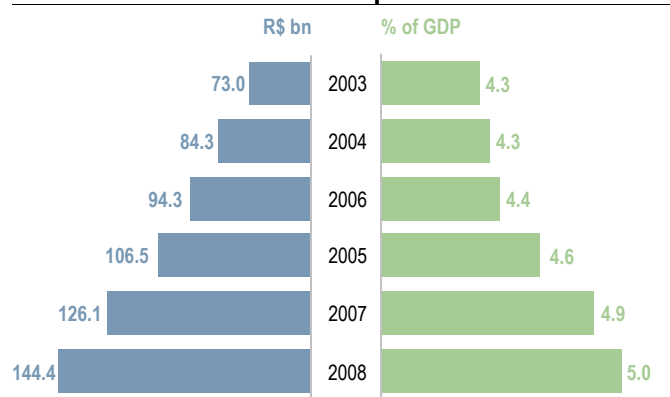
**Exhibit 230: Participation of foreign investors in IPOs**

Source: BM&amp;FBovespa, Credit Suisse

**8.6. Insurance market****8.6.1. Overview of the insurance market**

In 2007, the insurance market in Brazil was composed of 134 insurance firms, 29 private pension plan companies, 16 annuity companies and some 1,900 health plan companies not classified as insurance firms (e.g., medical cooperatives, group health providers, and non-profit companies).

The premiums obtained from the various types of insurance in Brazil<sup>16</sup> totaled R\$144.4bn (US\$78.9bn) in 2008. This total rose from 4.3% of GDP in 2003 to 5.0% of GDP in 2008 (Exhibit 231). Average annual growth in insurance premiums was 8.8% in real terms from 2003 to 2008, versus average GDP growth of 4.7% in the period. Despite strong growth in recent years, total insurance premiums in Brazil as a percentage of GDP are still less than in developed markets and many emerging economies (Exhibit 232).

**Exhibit 231: Total insurance premiums**

Source: Susep, ANS, Credit Suisse

**Exhibit 232: Global insurance market<sup>17</sup> (2008)**

Position in ranking	Country	2008 (USD bn)	% of total	% of GDP
1	US	1,241	29.1	8.7
2	Japan	473	11.1	9.8
3	UK	450	10.5	15.7
4	France	273	6.4	9.2
6	China	141	3.3	3.3
14	India	56	1.3	4.6
16	Switzerland	49	1.1	9.9
17	Brazil <sup>(17)</sup>	47	1.1	3.0
20	Russia	39	0.9	2.3
30	Mexico	19	0.5	1.7
37	Argentina	8	0.2	2.5
	Others	1	0.0	
	<b>World</b>	<b>4,270</b>		<b>7.1</b>

Source: Fenaseg, Credit Suisse

The insurance sector in Brazil is divided into four main segments (Exhibit 233):

- **Personal insurance** - life insurance, casualty insurance and pension plans.

<sup>16</sup> Data on the insurance sector also include revenue from the health plan companies not classified as insurance firms.

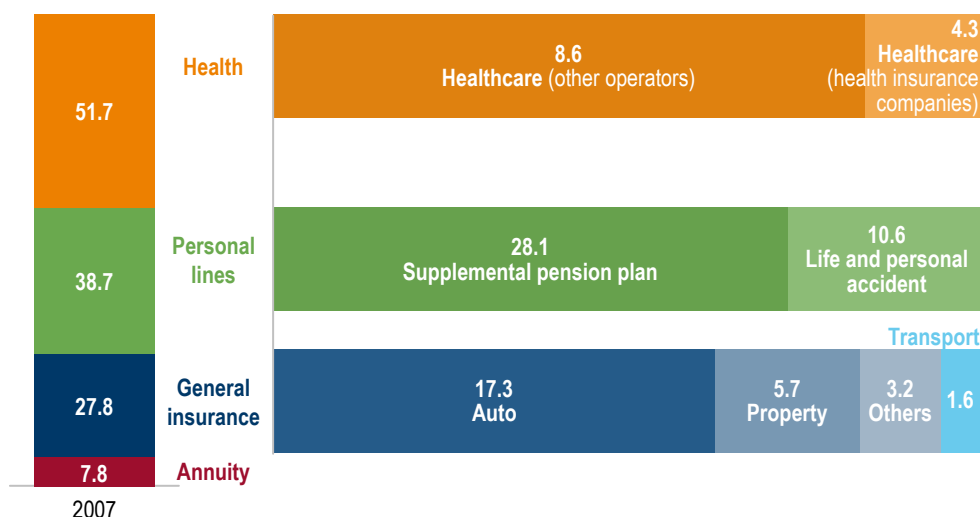
<sup>17</sup> For the purposes of comparisons between countries, we note that the Brazilian health segment considers only the premiums of insurance firms and not of all the supplementary health plans.



- **General insurance** - furniture and real estate insurance, transportation insurance, financial insurance, crop insurance and others.
- **Health insurance** - covers the risks of medical and hospital care and ensures partial or full payment for medical procedures carried out on behalf of the insured party.
- **Annuity** - financial investments of pre-defined amounts, with cash prizes (in the form of lotteries) paid out at regular intervals, during the life of the annuity plan.

### Exhibit 233: Profile of the insurance sector

% of total, 2007



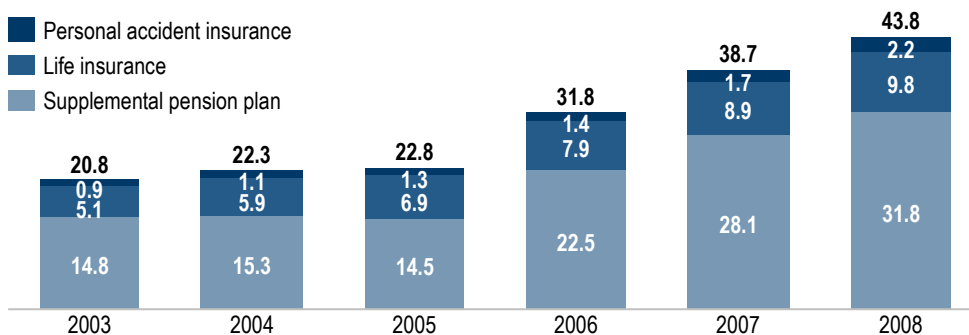
Source: Susep, ANS, Credit Suisse

### 8.6.2. Personal insurance

The personal insurance segment is composed of pension plans and life and casualty insurance plans. The revenues of private pension funds increased from 2003 to 2008 (Exhibit 234), as the total number of members covered rose from 7.3 million in 2003 to 14.5 million in 2008.

### Exhibit 234: Personal insurance premiums

R\$ bn



Source: Susep, Credit Suisse

Private pension plan premiums represent only 1.5% of GDP partly due to the universal and obligatory social security plan available to all workers. Several factors suggest that the prospects for the sector are favorable, especially:

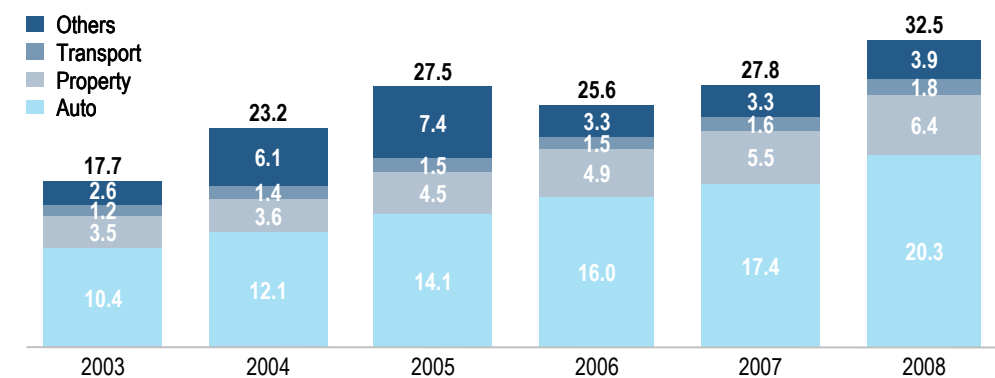
- Tax benefits, especially for lower income tax rates.
- A maximum cap on the retirement benefits of public-sector workers, encouraging these employees to take out private pension plans.
- Increase in income and greater transparency in the economy, which fosters the formation of savings.

### 8.6.3. General insurance

The share of general insurance premiums in total premiums fell from 29% in 2005 to 23% in 2008 as a result of strong growth in private pension plans in recent years. The main components of general insurance are auto insurance (including mandatory insurance for traffic accidents), property insurance and transportation insurance (Exhibit 235).

**Exhibit 235: Premiums in general insurance segment**

R\$ bn

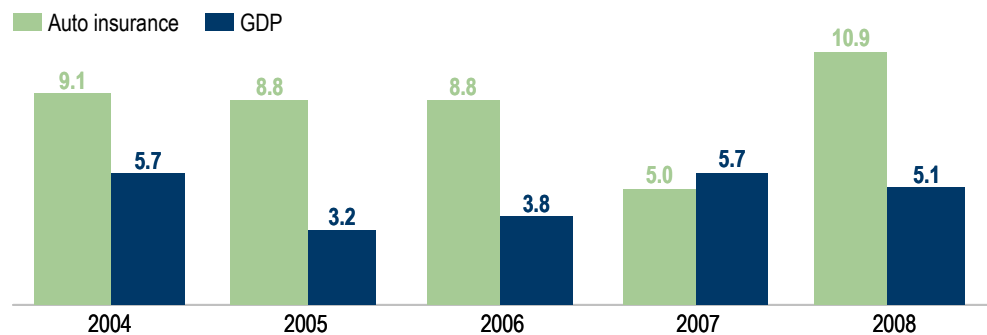


Source: Susep, Credit Suisse

The main highlight in recent years was growth in the auto insurance sector, with its relative share in the real insurance segment rising from 51% in 2005 to 63% in 2008. Average growth was 8.5% (in real terms) from 2004 to 2008, versus average GDP growth of 4.7% in the period (Exhibit 236). Strong growth in this sector resulted from the significant increase in vehicle sales in recent years. On average, 2.0mn vehicles were sold annually in the domestic market from 2005 to 2008, versus 1.4 million from 2001 to 2004. We estimate that Brazil had a fleet of 10 million insured vehicles in 2008, representing 36% of the total fleet of 27.8 million vehicles.

**Exhibit 236: Real growth in auto insurance premiums and in GDP**

%

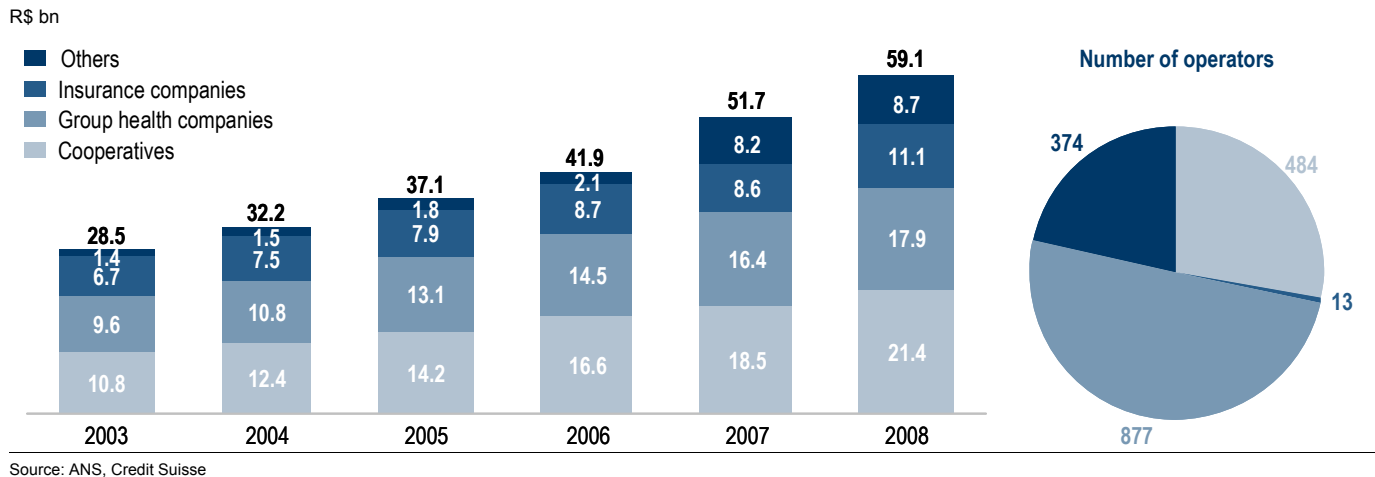


Source: IBGE, Susep, Credit Suisse

### 8.6.4. Health insurance

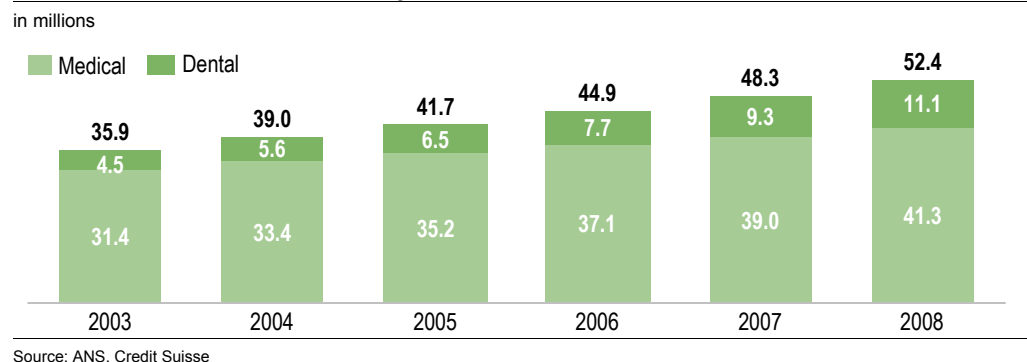
There were 1,748 health plan companies operating in Brazil (the majority represented by medical cooperatives and group health plans, with only 13 insurance companies specializing in health plans) in March 2009. Total revenues of health plan companies came in at R\$ 59.1bn in 2008, versus R\$ 28.5bn in 2003, representing real growth of 9.8% p.a. in the period (Exhibit 237).

**Exhibit 237: Revenues of health plan companies**



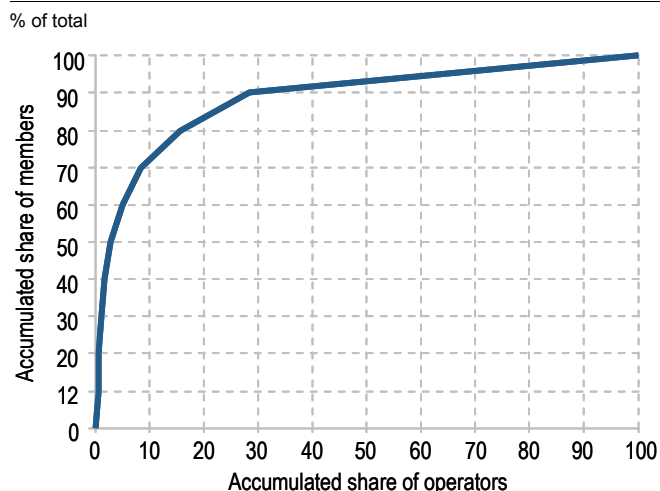
The number of health plan members grew 7.0% p.a. from 2003 to 2008, rising from 35.9 million to 52.4 million in the period, equivalent to 28% of the population. Of the total population covered by health plans, 41.3 million are members of medical assistance plans and 11.1 million are members of dental plans (Exhibit 238).

**Exhibit 238: Number of health plan members**

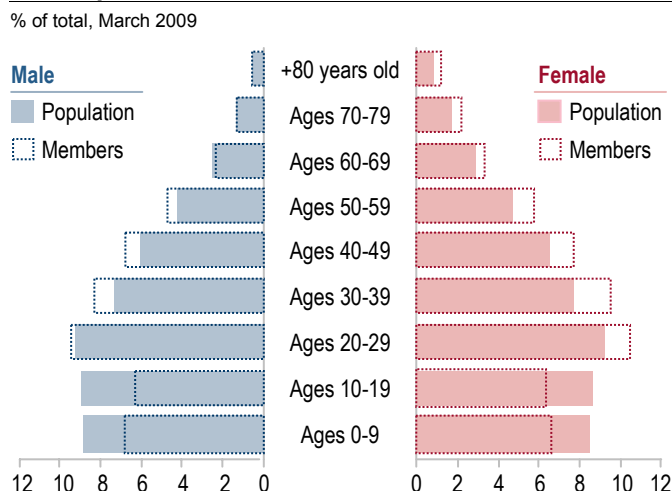


Data on the membership base of health plan providers show a strong concentration in a few companies: the three largest providers account for 12% of members; 39 providers concentrate half of the members; and the 1,092 smallest providers account for only 10% of total members (Exhibit 239).

In the age structure of plan participants, the main highlight is the higher concentration of members aged 20-49 versus the share of this age group in the total population (Exhibit 240). This age structure reflects the greater share of group health plans in the total, since the majority are corporate plans that provide coverage while the plan member is employed.

**Exhibit 239: Concentration of health plan members**

Source: ANS, Credit Suisse

**Exhibit 240: Age structure of population and of health plan members**

Source: ANS, Credit Suisse

### 8.6.5. Reinsurance market

Before 1996, reinsurance in Brazil was a federal government monopoly, as provided under the federal constitution. The Brazilian Reinsurance Institute (IRB), a government-owned company, was responsible for reinsurance contracts with all insurance firms operating in Brazil.

The monopoly was abolished upon the approval of Constitutional Amendment No. 13 in 1996. But the Brazilian reinsurance market did not actually open up until January 2007, when specific regulatory legislation was approved. Brazilian legislation allows for three groups of reinsurance companies:

- Companies with local headquarters, subject to all rules applicable to insurance firms in Brazil – Companies in this group have 60% first-refusal rights in all reinsurance operations in Brazil through January 2010, and 40% thereafter. Local reinsurance companies will also have exclusivity in reinsurance contracts involving life insurance and private pension plans.
- Foreign companies that establish representative offices in Brazil – These companies may operate in the local reinsurance market, provided they appoint a local representative, meet the minimum credit limit established by law, and transfer capital to Brazil.
- Companies that only need to prove their financial capacity, attain the required risk rating, and appoint a representative to participate in the local market.

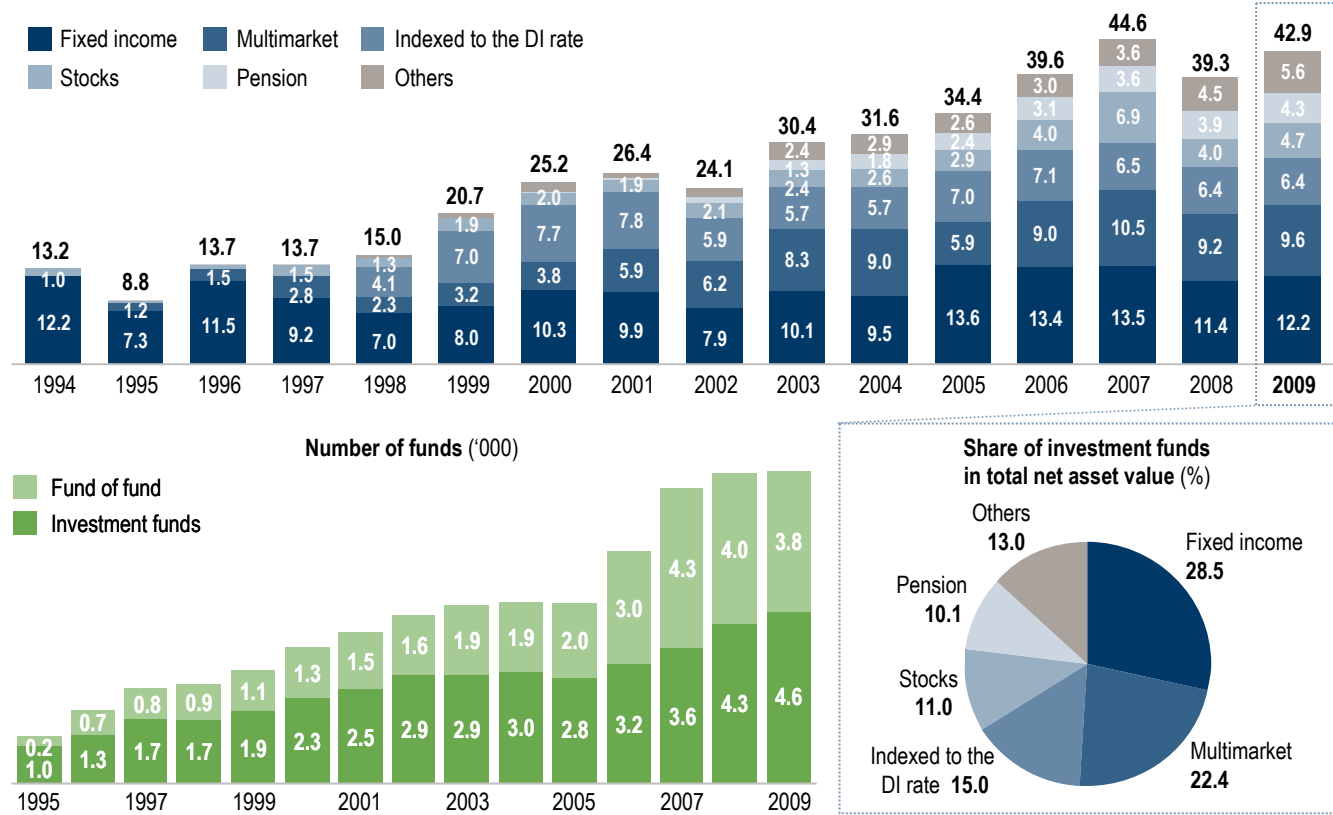
There were 66 reinsurance firms authorized to operate in the Brazilian market in 2009: five in the first group, 19 in the second group and 42 in the last group. In 2008, reinsurance premiums in Brazil totaled R\$ 3.5bn.

### 8.7. Investment funds

The investment fund industry in Brazil featured 8,400 funds in June 2009, with a combined AUM (assets under management) of R\$ 1.239trn (US\$636bn). The number of investment funds in Brazil has risen significantly since 2004, as has AUM (due to higher net investments into the fund and the strong appreciation in asset prices). As a percentage of GDP, the AUM of investment funds in Brazil rose from 13.2% in 1994 to 42.9% in June 2009 (Exhibit 241).

**Exhibit 241: Net asset value of investment funds by type of fund**

% of GDP

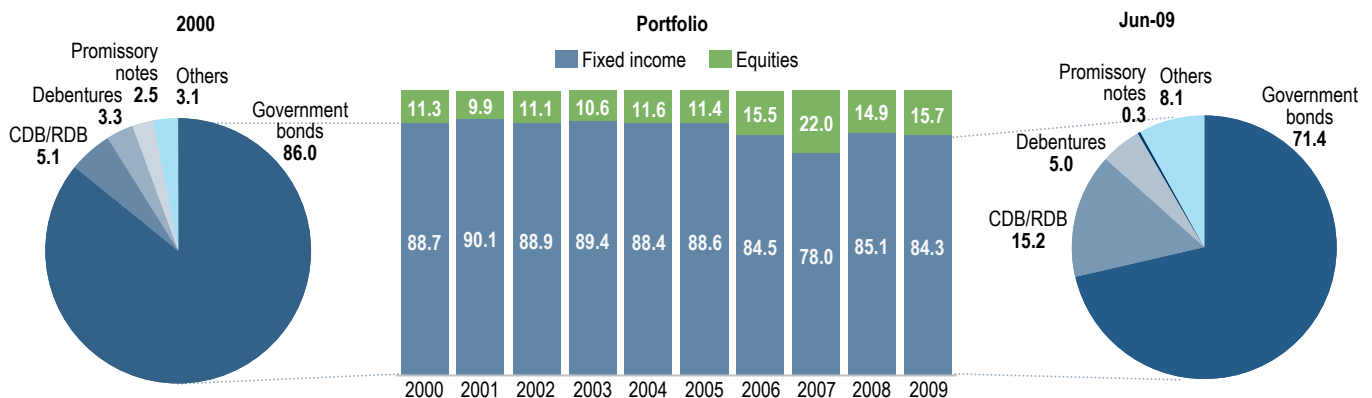


Source: Anbid, Credit Suisse

The AUM of equity funds represents 11% of the total Net Asset Value (NAV) of investment funds. The weighting of stocks in fund portfolios is greater due to the composition of multi-market fund investment portfolios, which can acquire various categories of assets, including stocks (Exhibit 242). The percentage of portfolio allocation in fixed-income securities has changed greatly since 2000, with a lower allocation in government bonds, higher allocation in certificates of bank deposit (CDBs) and depositary receipts (RDBs), and almost no allocation to promissory notes.

**Exhibit 242: Breakdown of fixed income funds and portfolio of investment funds**

% of total

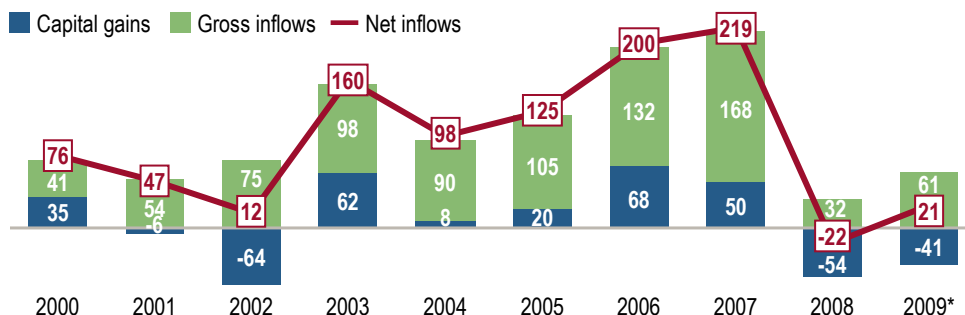


Source: Anbid, Credit Suisse

There was a strong rise in net inflows into investment funds in Brazil from 2004 to 2007. The international crisis and the strong decline in returns led to net fund outflows in 2008 for the first time since 2002 (Exhibit 243).

#### Exhibit 243: Inflows into investment funds

R\$ bn



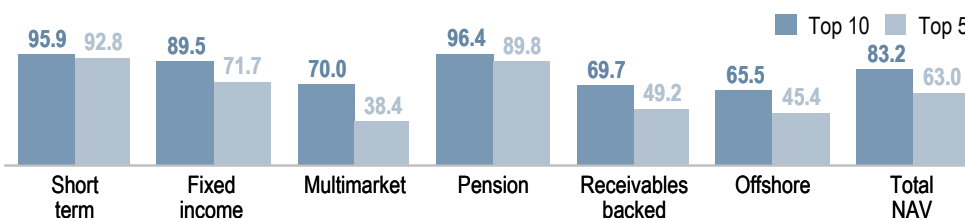
\*Accumulated in 12 months up to June 2009

Source: Central Bank of Brazil, Credit Suisse

The five and ten largest investment fund managers account for, respectively, 63% and 83% of total NAV in the fund industry. The main highlights are short-term funds, fixed-income funds and social security funds (Exhibit 244). This high concentration is due to the high participation of retail banks in these segments. Categories with a lower degree of concentration include multimarket funds, receivables-backed funds (FDICs) and offshore funds, since the large commercial banks have a lower participation in these segments.

#### Exhibit 244: Market share of the top five and ten investment funds

% of total

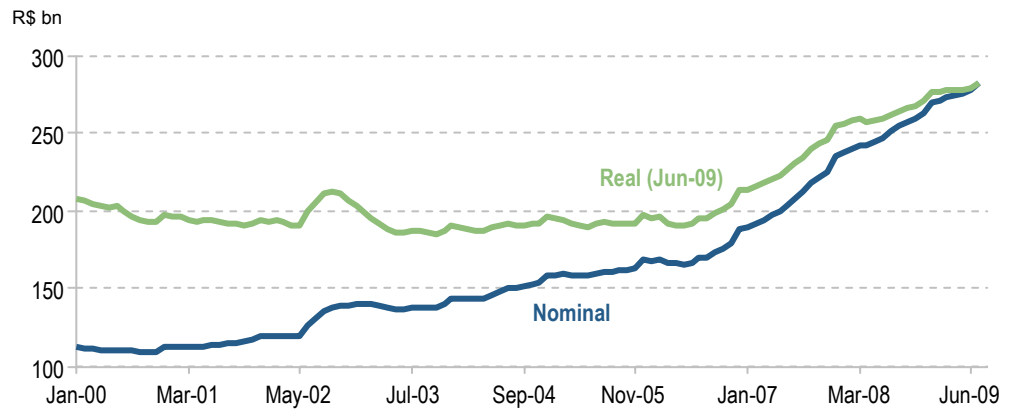


Source: Anbid, Credit Suisse

## 8.8. Savings accounts

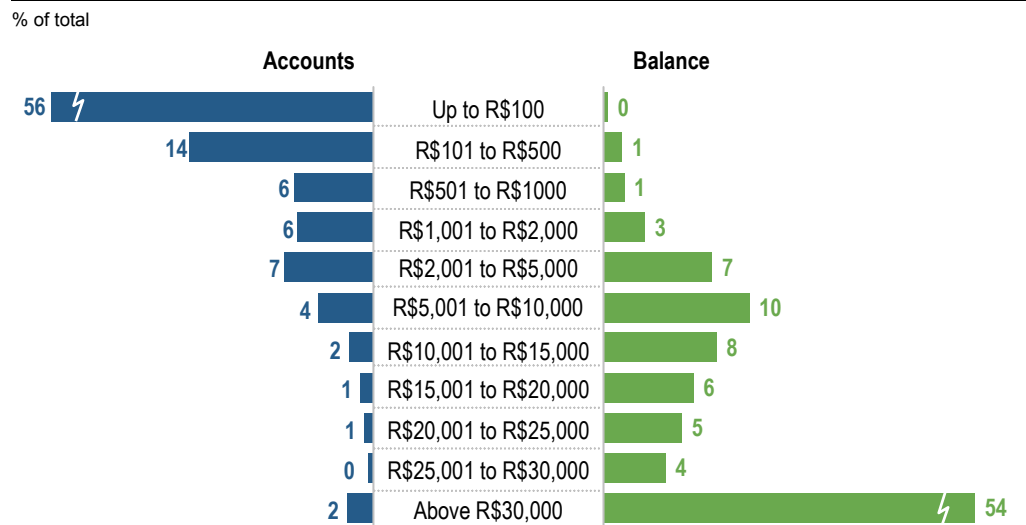
Savings accounts in Brazil offer uniform and legally guaranteed returns equivalent to 0.5% per month above the Reference Rate (TR), which is calculated daily and released by the Central Bank of Brazil. Returns are also exempt from income tax (at least until year-end 2009). The balance of savings deposits in the Brazilian financial system totaled R\$282bn in June 2009 (Exhibit 245).

Due to legal requirements, at least 65% of the amount deposited in savings accounts must be channeled to real estate financing. Savings deposits accounted for 92% of the entire volume of loans directed to the housing sector in April 2009.

**Exhibit 245: Balance of investments in savings accounts**

Source: Central Bank of Brazil, Credit Suisse

Brazil had 81.3 million savings accounts in June 2008, with a total balance of R\$248bn, resulting in an average balance per savings account of around R\$3,000. Despite the average value, the total balance is highly concentrated in few accounts – around 54% of the total balance of savings accounts are deposited in 2% of accounts. In turn, around 56% of savings accounts have a balance below R\$100 and correspond to only 0.3% of total investments (Exhibit 246).

**Exhibit 246: Breakdown of savings accounts by investment balance**

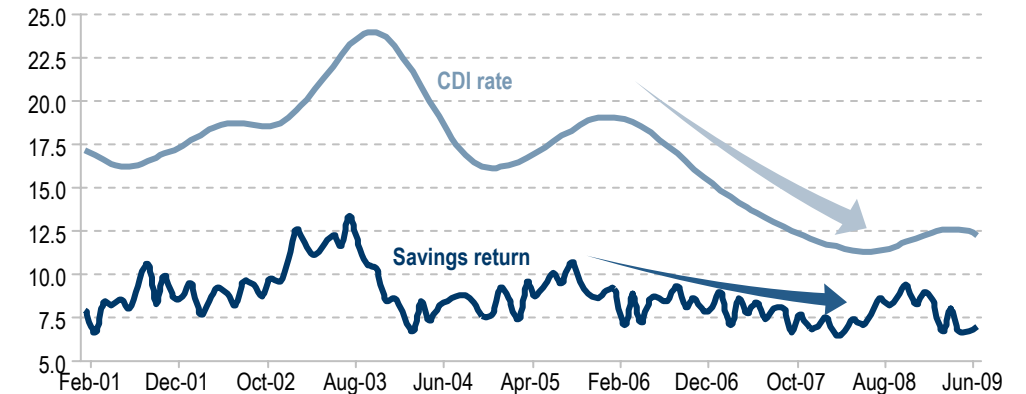
Source: Central Bank of Brazil, Credit Suisse

The guaranteed return on investments in savings accounts tends to work as a lower limit for interest rates in the economy. As basic interest rates decrease, the competitiveness of savings deposits versus other financial investments increases because savings deposits are exempt from income tax<sup>18</sup> (Exhibit 247).

<sup>18</sup> The income tax rate on the bulk of financial investments ranges between 15% and 22.5%.

**Exhibit 247: Savings account returns and DI interest rates**

%, accumulated in the last 12 months



Source: Central Bank of Brazil, Credit Suisse

The law ensures savings account returns of 0.50% per month above the Reference Rate (TR). The reference interest rate was created in 1991 as a reference for future inflation embedded in nominal market interest rates, thus changing the previous system of indexation to past inflation. The idea was to strip out the expected real interest rate from the nominal interest rate in the period, with the implicit result being the projected inflation for the period. Hence, the idea of a “reduction factor” applied to the TBF<sup>19</sup> was designed in an effort to mimic the expected real interest rate.

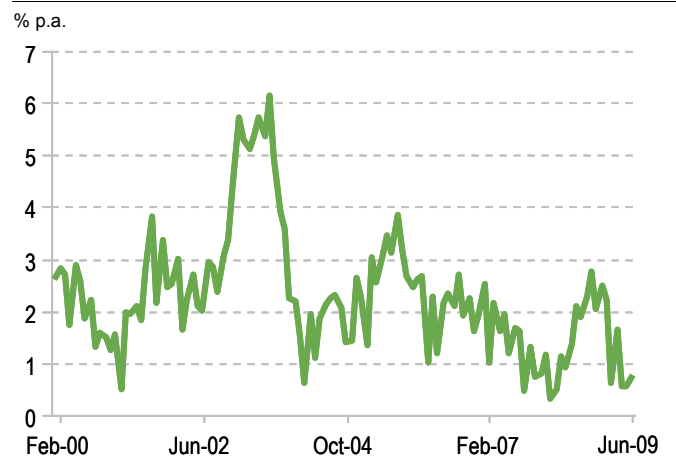
Currently, the TR rate is used as a basic rate for the Brazilian savings and loan system. The National Monetary Council (CMN) has not altered the formula for calculating the TR rate and changes are made by updating the value of the “B” parameter. For a given TBF, the higher the “B” parameter, the greater the reduction factor (“R”) to be applied and, thus, the lower the TR interest rate (Exhibits 248 and 249).

**Exhibit 248: Formula for calculating the TR rate**

$TR = \max \left[ 0, \left[ \frac{1 + TBF}{R} \right] - 1 \right]$	
<b>Where:</b> <ul style="list-style-type: none"> <li>■ R: TR reduction factor</li> <li>■ TBF: Basic Financial Rate on the reference day</li> <li>■ B: is a function of the TBF rate</li> </ul>	
$R = 1.005 + B \times TBF$	
TBF (% p.a.)	B *
TBF > 16	0.48
15 < TBF ≤ 16	0.44
14 < TBF ≤ 15	0.40
13 < TBF ≤ 14	0.36
11 ≤ TBF ≤ 13	0.32
10.5 ≤ TBF < 11	0.32
10 ≤ TBF < 10.5	0.31
9.5 ≤ TBF < 10	0.26
9 ≤ TBF < 9.5	0.23

\*The rule for determining the B factor is defined by Central Bank Resolutions 3446 and 3356/07.

Source: Central Bank of Brazil, Credit Suisse

**Exhibit 249: Reference Rate**

Source: Central Bank of Brazil, Credit Suisse

Due to the 2009 first semester easing cycle, the difference between the return of fixed-income funds linked to the DI rate and that of savings accounts has declined, providing an

<sup>19</sup> The basic financial rate (TBF) was created to be used as a reference rate for transactions within the financial system with a tenor above 60 days. The TBF rate is calculated as the average rate paid by bank deposit certificates (CDBs) and/or bank deposit receipts (RDBs) with tenors from 30 to 35 days, weighted by their respective volumes, in transactions involving the 30 largest institutions in Brazil on a given day.

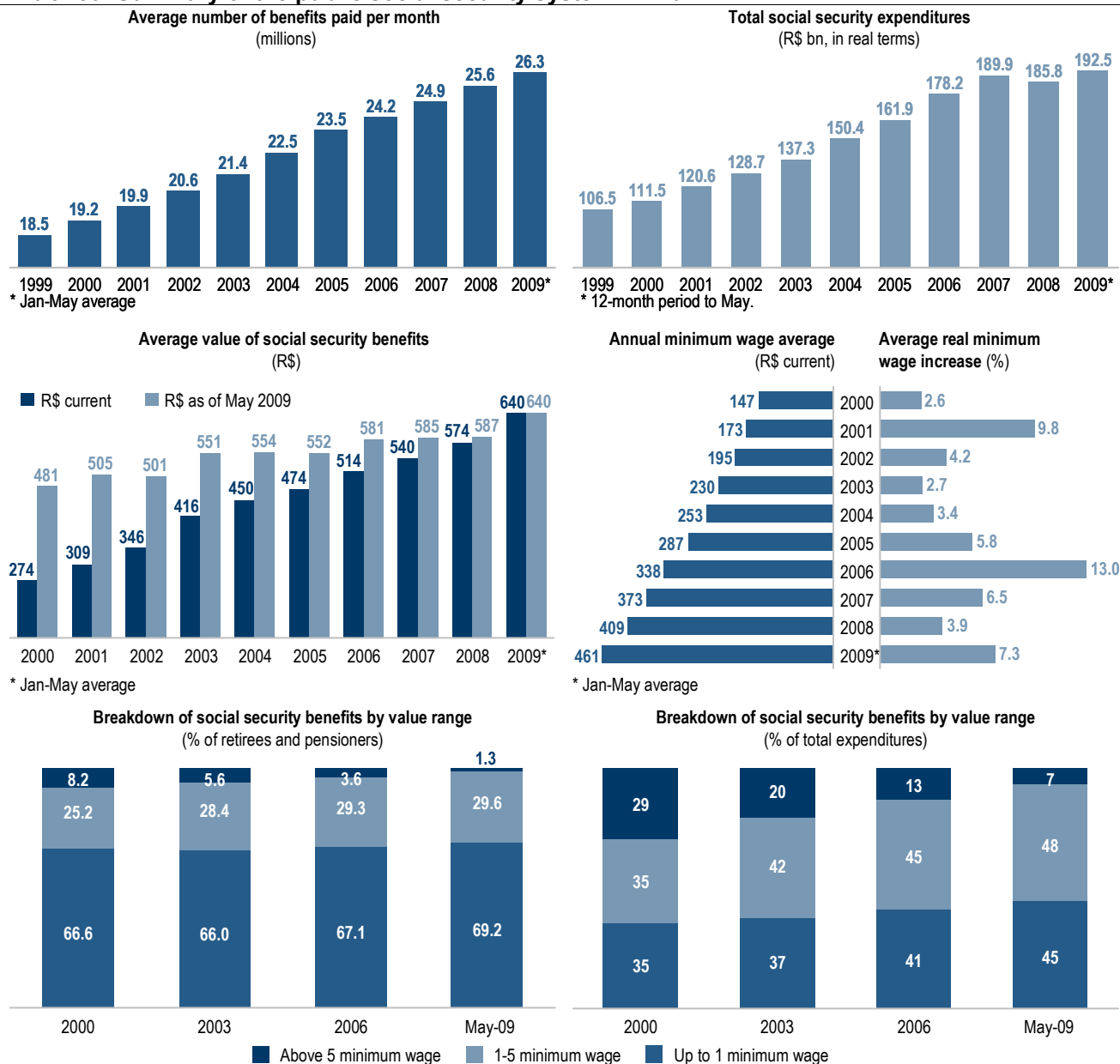


incentive for investment migration. If transfers to savings accounts increase significantly, the government will probably either reduce the income tax on mutual fund returns or send a proposed bill of law to Congress to change the savings accounts rules (e.g., to tax returns on savings accounts).

## 8.9. Pension funds

In Brazil, the mandatory and universal retirement system is managed by the public sector and operates under a pay-as-you-go regime, i.e., contributions from active workers (workers that regularly contribute to the social security system) at any given time are used to pay benefits to retirees and pensioners. The General Social Security Regime (RGPS) is financed by payroll taxes and, as of May 2009, it had 46 million active workers and 24.5 million retirees and pensioners, with an average payout of R\$640 per month (Exhibit 250).

- Social security expenses have risen significantly in real terms since 1999, at a pace well above that of average GDP growth in the period. As a result, total expenses as a percentage of GDP increased from 5.2% in 2000 to 6.6% in 2008.
- A major portion of this rise in expenses was due to real minimum wage increases from 2005 onwards. The floor for social security benefits established in the law is the monthly minimum wage. In May 2009, 69% of retirees and pensioners in the General Social Security Regime received benefits equivalent to the monthly minimum wage. Minimum wage increases by far exceeded the increases in benefits. As a result, the share of retirees and pensioners that receive over five times the monthly minimum wage fell from 8% in 2000 to 1% in May 2009. Benefits amounting to more than five times the monthly minimum wage accounted for 29% of total expenses in May 2009, versus 7% in 2000.

**Exhibit 250: Summary of the public social security system in Brazil**

Fonte: Social Security Ministry, Credit Suisse

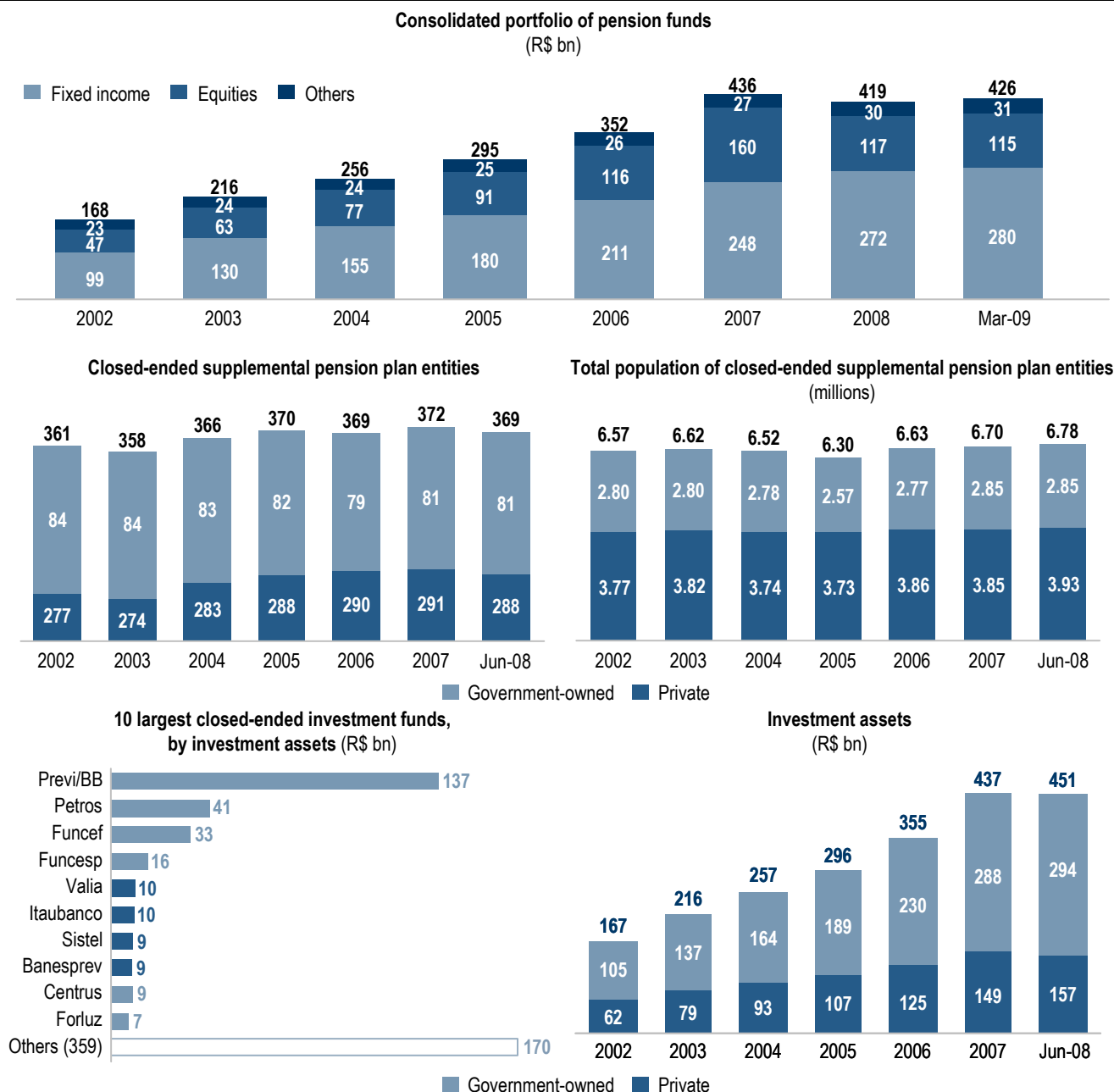
In addition to the mandatory public system, workers and self-employed professionals can enroll in private pension plans that operate under a capitalization regime. There are two types of private supplemental pension plans:

- **Closed-end** - plans exclusively targeted at individuals linked to a company or association (e.g., professional associations and unions). In these plans, the worker (or member) and the company usually contribute to the pension plan, with funds managed by non-profit entities. Closed-end supplemental pension management companies are overseen by the Secretariat of Supplemental Pensions (SPC), which reports to the Ministry of Social Security. In February 2009, Brazil had 271 closed-end supplemental pension funds, with total invested assets of R\$453bn and around 2.1 million participants. Five out of the ten largest pension funds in Brazil are linked to state-

owned companies and five to private companies<sup>20</sup>, and they jointly hold over 60% of total assets (Exhibit 251).

- **Open-end** - any person may enroll in an open-end supplemental pension plan. The money is deposited in the fund and managed by for-profit private entities, usually banks or insurance companies. Open-end supplemental pension entities are overseen by the Private Insurance Office (SUSEP), which reports to the Ministry of Finance.

### Exhibit 251: Summary of closed-end supplemental pension plan system in Brazil



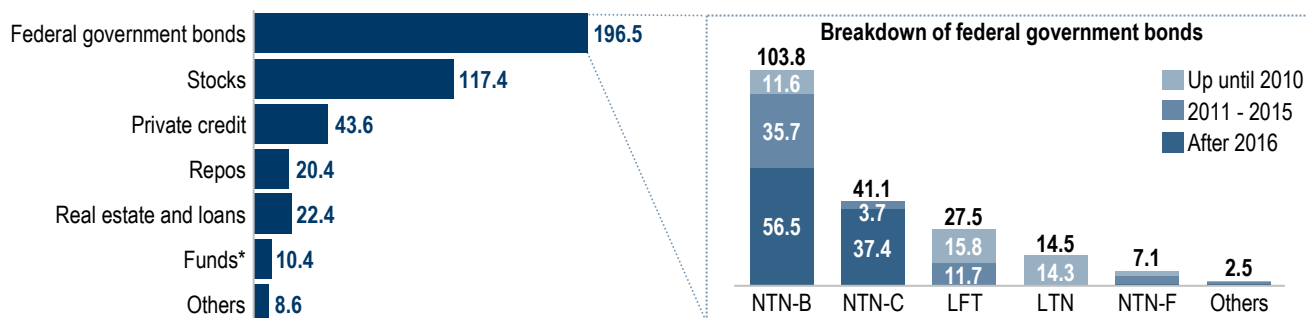
Source: Abrapp, Social Security Ministry, Credit Suisse

<sup>20</sup> Out of the five largest pension funds linked to private companies, four are linked to state-owned companies that were privatized between 1991 and 2001.

The main assets that comprise pension fund portfolios are bonds and shares in fixed-income investment funds, followed by investments in stocks (Exhibit 252). Due to their actuarial target<sup>21</sup> and the breakdown of liabilities, pension funds are major holders of public debt securities pegged to inflation, in particular those with longer maturities. Although the total assets of closed-end supplemental pension entities declined between 2007 and March 2009 (last data available), the price of the fixed-income asset investments also rose in this period, as did their share in total assets.

### Exhibit 252: Investment assets of portfolios of closed-end pension funds

R\$ bn



\*FIP: equity funds; FIDC: receivables-backed investment fund; FIEEX: investment fund abroad; FII: real estate investment fund; FIEE: emerging companies investment fund

Source: Abrapp, Credit Suisse

## 8.10. Regulatory agencies of the financial market

Exhibit 253 illustrates the operating institutions in the Brazilian financial system and agencies overseeing their supervision and regulation.

### Exhibit 253: Regulatory and supervisory agencies of financial market

Operating Institutions	Central Bank (BCB)	Securities Commission (CVM)
<b>Financial Institutions</b>		
Multiple banks	✓	
Commercial banks	✓	
Savings banks	✓	
Credit cooperatives	✓	
Investment banks	✓	✓
Development banks	✓	
Credit, finance and investment companies	✓	
<b>Third party funds management</b>		
Mutual funds	✓	✓
Investment clubs		✓
Foreign investors' portfolio	✓	✓
<b>Intermediaries</b>		
Consortium managers	✓	
Commodities and futures exchange	✓	✓
Stock exchanges		✓
Brokerage firms / securities dealers	✓	✓
Leasing companies	✓	
Foreign exchange brokers	✓	
Autonomous investment agents	✓	✓
<b>Settlement and Custody systems</b>		
Selic	✓	
Cetip	✓	
Other settlement and custody systems		✓

Source: CVM, Credit Suisse

<sup>21</sup> The actuarial target of Brazilian pension funds is, in general, inflation (mainly, IPCA or INPC) plus 6% p.a.

### 8.10.1. National monetary council (CMN)

The CMN is the maximum authority within the national financial system. Created in 1964, it is responsible for establishing monetary policy, foreign exchange and credit guidelines, as well as setting guidelines for the operation and monitoring of financial institutions. The CMN is also responsible for setting inflation targets. The CMN meets on a monthly basis and is composed of the Minister of Finance, the Minister of Planning and the Central Bank governor.

### 8.10.2. National association of investment banks (Anbid)

The Anbid is an association created in 1967 to represent Brazilian investment banks. In 1999, in addition to the representative and informational functions, the association began its auto-regulatory activities. Today, the Anbid has over 70 associate members.

### 8.10.3. National association of financial market institutions (Andima)

Established in 1971, the Andima is a non-profit professional association that brings together numerous financial institutions, ranging from full-service, commercial, and investment banks to stock brokers and securities distributors.

Its main objective is to provide technical and operational support to these institutions, including the daily monitoring of market behavior and legislation, publication of statistical data and prices for the market, development of systems to improve financial transactions and economic analyses.

The Andima has created important systems to provide financial transactions with greater security, transparency and agility:

- The Special Settlement and Custody System (Selic), an electronic trading system for public securities;
- The Center for Custody and Financial Settlement of Securities (Cetip), which is an entity specialized in trading private securities;
- The National Debenture System (SND), developed by Andima and operated by the Cetip, where debentures are kept in custody; and
- The System of Protection Against Financial Risks (SPR), which enables the registration of unsecured swaps as well as registration of swap transactions with delimiters (caps, floor, collar and third curve delimiter), swaps with barriers (knock in, knock out and knock in-out) and swaptions.

The Andima is known for its experience in pricing government bonds. It offers the public benchmark rates for all market maturities of domestic federal public securities. It also releases statistics on the stock, profitability and turnover volume of certificates of bank deposit (CDBs). These prices have been used as parameters for market scoring of the bonds that comprise the portfolios of financial institutions and third-party asset managers.

### 8.10.4. Center for custody and financial settlement of securities (Cetip)

The Cetip is a non-profit organization created in 1986 and is regulated by the central bank along with the CVM to provide greater safety measures and expediency to financial market transactions. It supports the entire transaction chain, offering services for custody, holding auctions, registration of transactions, financial settlement and electronic trading.

It also offers a trading platform, developed to facilitate trading and the integration of trading desks with the back offices of financial institutions, to perform online transactions. The Cetip registers a large variety of public and private financial instruments. The most relevant ones are listed below:

- DIs, CDBs/RDBs and other interbank contracts.
- Financial settlements of debentures in the primary and secondary market.
- Unsecured swap for the Over-the-Counter (OTC) market registered with the Cetip, swap transactions with delimiters and swaptions.
- The Cetip also calculates the DI rate (1-day interbank deposit rate), which is the average interest rate practiced in the interbank market.

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## 9. Doing business



Despite the country's many opportunities, conditions for doing business in Brazil are not yet considered favorable in comparison with developed and some emerging economies. In particular, it is common knowledge that certain aspects of the current institutional framework can hinder business-related initiatives. Some challenges yet to be overcome are:

- The high tax burden and complexity of the tax system
- The extensive time required for procedures such as opening a company or registering property
- The court system, which is known for having a high number of appeal levels that can delay final decisions for many years
- The accumulation of labor entitlements, which can result in high costs associated with hiring or dismissing employees

Business conditions in Brazil should improve over the next few years as a result of the country's improving fundamentals. Tax reform aiming to simplify the complex taxation system will remain in the political agenda for the next administration and the discussion towards reforms of the judicial system should produce proposals that gain momentum in the next few years.



## 9.1. Business environment

Brazil's business conditions should improve significantly in the next few years as a result of the country's improving fundamentals. However, business conditions in Brazil are not yet considered favorable. In the World Bank's publication "Doing Business 2010<sup>22</sup>" Brazil ranked 129<sup>th</sup> among 183 countries analyzed in terms of conditions for doing business, virtually the same as in 2009 (125<sup>th</sup>). According to the survey, the countries with the most favorable business environment are: Singapore, New Zealand, the U.S. and Hong Kong (Exhibit 254).

**Exhibit 254: Doing Business Ranking in 2010**

Economy	Ease of doing business	Starting a business	Dealing with licenses	Employing workers	Registering property	Getting credit	Protecting investors	Paying taxes	Trading across borders	Enforcing contracts	Closing a business
Singapore	1	4	2	1	16	4	2	5	1	13	2
New Zealand	2	1	5	15	3	4	1	9	26	10	17
US	4	8	25	1	12	4	5	61	18	8	15
Hong Kong, China	3	18	1	6	75	4	3	3	2	3	13
Denmark	6	28	10	9	47	15	27	13	6	28	7
UK	5	16	16	35	23	2	10	16	16	23	9
Ireland	7	9	30	27	79	15	5	6	21	37	6
Canada	8	2	29	17	35	30	5	28	38	58	4
Australia	9	3	62	1	34	4	57	47	27	16	14
Norway	10	35	65	114	8	43	20	17	9	4	3
Japan	15	91	45	40	54	15	16	123	17	20	1
Germany	25	84	18	158	57	15	93	71	14	7	35
France	31	22	17	155	159	43	73	59	25	6	42
Spain	62	146	53	157	48	43	93	78	59	52	19
Mexico	51	90	37	136	99	61	41	106	74	81	24
Italy	78	75	85	99	98	87	57	135	50	156	29
China	89	151	180	140	32	61	93	130	44	18	65
Russia	120	106	182	109	45	87	93	103	162	19	92
India	133	169	175	104	93	30	41	169	94	182	138
<b>Brazil</b>	<b>129</b>	<b>126</b>	<b>113</b>	<b>138</b>	<b>120</b>	<b>87</b>	<b>73</b>	<b>150</b>	<b>100</b>	<b>100</b>	<b>131</b>

Source: World Bank, Credit Suisse

The unfavorable factors for doing business in Brazil include:

- **Tax system:** Out of 183 economies, Brazil ranked 150<sup>th</sup> in the Paying Taxes item, showing that Brazil's tax system is not very favorable. The extensive number of hours needed to fill out forms and pay rates/fees, the high tax burden and the vast number of taxes are some of the factors that justify the assessment on the Brazilian tax system.
- **Inefficiency in execution of procedures:** The World Bank lists Brazil as one of the most demanding countries in terms of procedures for opening a company and registering property (Exhibit 255). The process for opening businesses in Brazil is one of the slowest in the world, taking on average over five months, versus one day in New Zealand (Exhibit 256).

<sup>22</sup> The World Bank's Doing Business survey is compiled annually and aims to measure the quality of the business environment in 181 economies. The survey classifies the business environment into criteria such as: opening a business, obtaining permits, hiring workers, registering property, obtaining loans, level of protection offered to investors, payment of taxes, international negotiation, honoring of agreements and closing a business.

### Exhibit 255: Procedures for opening a company and registering property

number of procedures, 2010

Business start-up		Property registration	
Fewest	Most	Fewest	Most
Canada 1	Bolivia 15	Norway 1	Solomon Islands 10
New Zealand 1	Greece 15	Unit. Arab Emirates 1	Ukraine 10
Australia 2	Philippines 15	Bahrain 2	Algeria 11
Madagascar 2	<b>Brazil 16</b>	Georgia 2	Greece 11
Rwanda 2	Guinea-Bissau 16	Lithuania 2	Swaziland 11
Belgium 3	Venezuela, R.B. 16	Netherlands 2	Eritrea 12
Finland 3	Brunei 18	New Zealand 2	Uzbekistan 12
Georgia 3	Uganda 18	Oman 2	Nigeria 13
Hong Kong, China 3	Chad 19	Saudi Arabia 2	Uganda 13
Kyrgyz Republic 3	Equatorial Guinea 20	Sweden 2	<b>Brazil 14</b>

Source: World Bank, Credit Suisse

### Exhibit 256: Time required to open a company

In days, 2010

Business start-up	
Fastest	Slowest
New Zealand 1	Lao PDR 100
Australia 2	Brunei 116
Georgia 3	<b>Brazil 120</b>
Rwanda 3	Equatorial Guinea 136
Singapore 3	Venezuela, R.B. 141
Belgium 4	S. Tomé & Princ. 144
Hungary 4	Congo, Dem. Rep. 149
Macedonia, FYR 4	Haiti 195
Albania 5	Guinea-Bissau 213
Canada 5	Suriname 694

Source: World Bank, Credit Suisse

## 9.2. Legal system

The existence of a solid and efficient regulatory and legal framework is an important factor in creating a favorable business environment. In general, the legal system is more efficient in common-law countries than in civil-law countries<sup>23</sup>. The Doing Business survey suggests that countries with a common-law system meet contractual obligations (from start of process to payment on judgment) more efficiently (Exhibit 257).

### Exhibit 257: Time and number of procedures required to perform contracts (2010)

Common law	Number of procedures	Days	Civil law	Number of procedures	Days
Australia	28	395	Argentina	36	590
Canada	36	570	<b>Brazil</b>	<b>45</b>	<b>616</b>
Ireland	20	515	France	29	331
New Zealand	30	216	Italy	40	1210
Singapore	21	150	Mexico	38	415
UK	30	404	Netherlands	25	514
US	32	300	Spain	39	515
<b>Average</b>	<b>28</b>	<b>364</b>	<b>Average</b>	<b>36</b>	<b>599</b>

Source: World Bank, Credit Suisse

The Brazilian legal system permits a series of challenges and successive appeals, prolonging the final decision. Although it could minimize the risks of inappropriate legal decisions, the large number of legal procedures and the possibility of appealing in different forums and instances slow down the Brazilian court system.

<sup>23</sup> In general, the differences between the two legal regimes are:

- Common law comes from the Anglo-Saxon system. The weight of jurisprudence (one of the main principles of law, whereby rulings in similar cases in the past are taken into consideration) is very strong, ensuring that the legal system is safer and more efficient, since similar cases will have similar results (i.e., legal outcomes), reducing the room for appeals and challenges.
- Civil law comes from the French system, which is applied in Brazil. Here, jurisprudence also plays an important role, but much less than in common law. Thus, each case that is judged is considered unique, enabling more interpretations, even if judges from different instances have contrary opinions on the same subject. This ensures that the legal system is less safe and less efficient.

### 9.3. Organization of companies

Companies can basically be organized in Brazil according to one of two corporate types: limited liability company (*sociedade limitada*) and stock corporation (*sociedade por ações*) (Exhibit 258):

#### Exhibit 258: Two most common corporate types in Brazil

Limited liability company (Ltda.)	Stock corporation (S.A.)
<ul style="list-style-type: none"> <li>Most common corporate type.</li> <li>The liability of members is limited to the value of their equity interest.</li> <li>There is no legal obligation to create a capital reserve or to publish financial statements at the end of each fiscal year.</li> <li>Limited liability companies can be classified as “business” companies (for the production of goods or provision of services) or “simple” companies (for the performance of activities of an intellectual, scientific, literary or artistic nature).</li> </ul>	<ul style="list-style-type: none"> <li>Capital stock is divided into shares subscribed by at least two persons.</li> <li>Shareholder liability is limited to the price of the acquired shares.</li> <li>Corporations can be publicly held or traded (through a stock exchange or over-the-counter market) or privately held.</li> <li>In Brazil, corporations are governed by Law No. 6404 of 15 December 1976 (“Stock Corporations Act”). This law has been amended several times, and the most important recent amendment was enacted on 31 October 2001 via Law No. 10303.</li> </ul>

Source: Swiss-Brazilian Chamber of Commerce, “Doing Business in Brazil”, 2006, chapter 8: corporate

The main company registration bodies are: the Commercial Registry<sup>24</sup>; Internal Revenue Secretariat (SRF); State Secretariats of Finance; city governments; and Social Security for the company’s enrollment with the National Social Security Institute (INSS).

### 9.4. Operation in the domestic market by non-residents

Resolution No. 2,689/2000 of the National Monetary Council (CMN) regulates investments in the financial and capital markets by investors not residing in Brazil. According to this Resolution, investors interested in investing in Brazilian assets must comply with two basic requirements prior to the transaction:

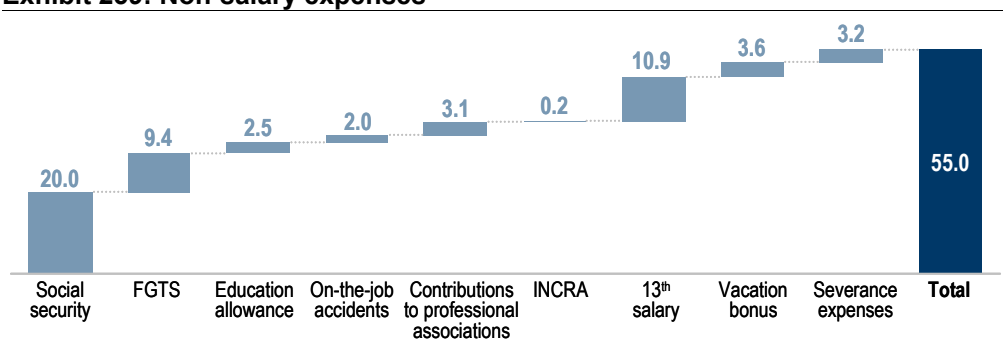
- Appointment of at least one representative in Brazil
- Enrollment with the Brazilian Securities Commission (CVM) and Internal Revenue Secretariat (SRF).

For further details on measures and requirements for non-residents to trade in financial assets in Brazilian markets, please refer to our “Guide to Brazil Local Markets,” published on 25 October 2007.

### 9.5. Labor costs

The law that governs employer-employee relationships is very detailed and leaves little room for negotiation between employees and employers. Labor legislation is federal and applies to all sectors of the economy, regions and companies. The cost of an employee involves non-salary expenses equivalent to 55% of the salary amount (Exhibit 259). Accordingly, an employee with a monthly salary of R\$1,000 represents a total cost for the employer of R\$1,550.

<sup>24</sup> Administrative body responsible for making the public commerce registration, merchant’s enrollment, recording contracts and related activities.

**Exhibit 259: Non-salary expenses**

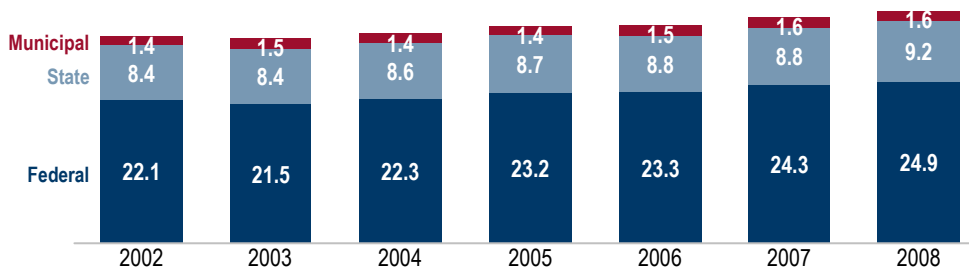
Source: Brazil's National Constitution, Brazil's Labor Laws (CLT), USP.

**9.6. Tax burden**

Brazil's tax burden totaled 35.6% of GDP in 2008, according to the Internal Revenue Secretariat, an all-time high in the data series and 6 p.p. higher than in 1995 (29.8% of GDP) – the first year after the period of hyperinflation. Federal taxes (growth represented 80% of the variation in Brazil's overall tax burden in the period 1995-2008) totaled 24.9% of GDP in 2008. State taxes corresponded to 9.2% of GDP and taxes charged by municipalities corresponded to 1.6% of GDP (Exhibit 260).

**Exhibit 260: Brazilian tax burden by year and level of government**

% of GDP



Source: Revenue Service, Credit Suisse

Brazil's tax burden rose by 4.3 p.p. of GDP from 2003 to 2008, mainly concentrated in federal taxes, which represented 3.4 p.p. of this amount. From 2004 on, the tax burden increased without a significant rise in rates or establishment of new taxes. The rise in the tax burden in this period was due to (Exhibit 261):

- Strong growth in the sectors subject to the highest levels of taxation
- Formalization of the economy, especially for payroll taxes, given the strong growth in the payroll job sector (i.e., the formal market) in recent years
- Greater efficiency in tax revenue collection, drop in tax evasion

**Exhibit 261: Breakdown of the tax system**

p.p.

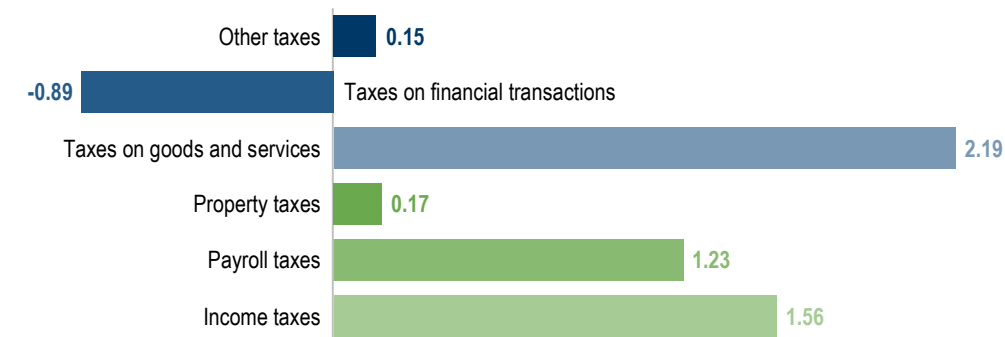
	2007		2008		By government sphere - % of GDP		
	% of GDP	% of total	% of GDP	% of total	Federal	State	Municipal
<b>Total revenues</b>	<b>34.72</b>	<b>100.00</b>	<b>35.78</b>	<b>100.00</b>	<b>24.91</b>	<b>9.24</b>	<b>1.64</b>
Taxes on goods and services	16.32	47.00	17.32	48.41	8.95	7.62	0.76
Payroll taxes	7.72	22.24	8.06	22.53	7.25	0.62	0.19
Income taxes	6.72	19.35	7.34	20.51	7.34	-	-
Property taxes	1.19	3.43	1.23	3.44	0.01	0.65	0.57
Taxes on financial transactions	1.70	4.90	0.73	2.04	0.73	-	-
Other taxes	1.07	3.08	1.10	3.07	0.63	0.35	0.12

Source: Revenue service, Credit Suisse

The stronger growth in tax revenue has been explained by taxes charged on goods and services, followed by taxes on income and on payroll (Exhibit 262). Growth in taxes on goods and services was concentrated in the period 2003-2004, and was due to the rise of taxes on profits in 2003.

**Exhibit 262: Determining factors for the change in tax burden on GDP**

2003 – 2008, p.p.



Source: Revenue Service, Credit Suisse

Discussions on implementing a Tax Reform will remain on the agenda of future administrations in the aim of simplifying Brazil's complex taxation system.

**9.7. Tax system**

Brazil's Constitution (1988) grants the federal government, states, and municipalities the power to levy taxes. Taxation usually takes the form of taxes and social charges and may be created by any of these three levels of government, in accordance with the law. The Constitution also establishes fixed proportions for sharing tax revenues among these levels of government. In general, the federal government centralizes the collection of income taxes, payroll taxes, taxes in connection with international trade, and taxes on industrial products. Local authorities are mostly responsible for collecting taxes related to local government services and taxes on properties and services. In most cases, local tax collection is not enough to cover governmental expenditures, and the Constitution requires the federal government to share its tax revenues. There are narrow limits for transferring revenues from taxes on industrial product, income taxes and fuel consumption taxes. However, the federal government is not required to share revenues from social charges with other levels of government, which explains why the share of this tax in Brazil's overall tax burden has increased in recent years.

Two basic differences between regular taxes and social charges are:

- Taxes cannot be charged in the same fiscal year in which the related law was introduced, nor within 90 days of the law's enactment.
- Social charges can, however, be collected in the same fiscal year in which they were created, although the 90-day rule still applies.

### 9.7.1. Federal taxes

The Federal Government may levy the following taxes: Import Duty (II); Export Duty (IE); Tax on Income and Capital Gains (IR); Tax on Industrialized Goods (IPI); Tax on Credit, Exchange and Insurance, or on Securities Transactions (IOF); Rural Property Tax (ITR), and Tax on Wealth (*Imposto sobre Grandes Fortunas* (IGR), not yet instituted).

#### 9.7.1.1. Income tax

There are basically three types of income tax (IR) in Brazil:

- Personal Income Tax – Assessed on income of individuals residing in Brazil, received from domestic or foreign sources. Tax rates range from 15% to 27.5%, depending on the income group and on capital gains of corporate entities at the rate of 15%.
- Corporate Income Tax – Assessed on profits and capital gains generated by operations in Brazil or abroad, normally assessed on companies' net profits. The current tax rate is 15%. It may also be assessed on presumptive income or operating profit. A 10% supplemental tax is charged on the net earnings exceeding R\$20,000 per month. Profits or dividends paid to individuals or corporations are not subject to income tax, regardless of whether assessed on the basis of net earnings, presumptive income, or operating profit.
- Income Tax Withholding – Applied to income paid, credited, remitted or delivered to non-residents, at a rate of 15% to 25%, depending on the beneficiary's country of residence and the nature of the income. In general, foreign investors residing in tax havens receive the same tax treatment as a resident for income tax purposes. Investors not residing in tax havens receive different treatment. For tax purposes, Brazil's Internal Revenue Secretariat considers tax haven countries to be those with an income tax rate below 20%. Since February 2006, earnings on federal bonds held by foreigners are exempt from income tax.

#### 9.7.1.2. Tax on industrialized goods (IPI)

The tax on industrialized goods (IPI) is levied on industrial production and on imported industrialized goods. The IPI is not a cascade tax and can therefore be offset against credits arising from the purchase of raw materials, intermediate products and packaging materials. The IPI is a value-added tax on industrialized products. The average rate is 10%. Exported goods are exempt from the IPI.

#### 9.7.1.3. Tax on financial transactions (IOF)

The tax on financial transactions (IOF) is levied on credit operations, exchange and gold transactions, insurance premiums and securities trading. It also applies to bank loans and credit card purchases abroad. The rate varies depending on the type of operation, up to a maximum of 25%.

### 9.7.2. State taxes

State and Federal District are empowered to levy at least three taxes:

- **Inheritance and Gift tax** - Applicable to personal property or real estate transferred due to donation or death. In the State of São Paulo, the ITD rate is 4% of the assessed value of the personal property, real estate or transmission of rights.
- **Value-added tax on goods, interstate and inter-municipal transportation and communications (ICMS)** – This is not a cascade tax and can be offset against credits arising from the purchase of raw materials, intermediate products and packaging materials. Rates for transactions within a state vary from 7% to 25% (the average rate in the states of Southeast is 18%). Rates for interstate transactions are 7% or 12%, depending on the destination. Export goods are exempt from ICMS.
- **Tax on ownership of motor vehicles (IPVA)** - This tax is charged annually on all motor vehicles (cars, motorcycles, aircraft and ships/boats), and its rate varies from state to state (from 1% to 6%) in accordance with the value of the vehicle. Half of IPVA tax revenues goes to the municipality where the vehicle is registered, and the other half is split between the state and the FUNDEB (Fund for Maintenance and Development of Basic Education and Recognition of people working in education).

### 9.7.3. Municipal taxes

- **Urban property tax** – levied on an annual basis and at progressive rates based on zoning and value of the real property.
- **Tax on real estate transfers (ITBI)** – levied on the higher of the declared value and the municipality's appraised value of the real property.
- **Tax on Services (ISS)** - Applies to certain types of service providers.

#### 9.7.3.1. Social charges

- **Social Contribution on Corporate Profits (CSLL)** – levied on pre-tax profits. The current rate is 9%.
- **Social Contribution for Social Security Funding (COFINS)** – levied monthly on the gross income. The current rates are 3% and 7.6%, the former taking the form of a cascade tax and the latter a non-cascade tax. Export goods are exempt from COFINS.
- **Contribution to the Social Integration Program (PIS)** – levied monthly on the gross income of corporate entities at rates between 0.65% and 1.65%, the former taking the form of a cascade tax and the latter a non-cascade tax. Export goods are exempt from PIS.
- **Contribution for the Intervention in the Economic Domain (CIDE)** – applies to fuel, with specific rates for imports and transactions carried out in the domestic fuel market. The CIDE tax rate on remittances to foreign individuals to pay royalties or technology transfers is 10%.

#### 9.7.3.2. Import taxes

Following the signature of the Asunción Treaty, in 1995, Mercosur member states adopted a Common External Tariff (TEC), which is based upon an agreed categorization of products. In general, goods with production requirements that are more technologically intense have the highest tariff levels (Exhibit 263).

**Exhibit 263: Import tax brackets for certain items**

Product	TEC (%)	% in imports (US\$ 2007)
Fuels	0	16
Chemical and pharmaceutical products	2-12	9
Passenger vehicles and parts	35	8
Microprocessors, TV, radio sets and parts	0-20	6
Manures and fertilizers	0-6	4
Non-ferrous metals	6	4
Steel and metal products	12-16	3
Aircraft and parts	0-18	3
Telephone terminals and parts	8	3
Coal	0	2
Wheat and wheat flour	10	1
Natural gas	0-4	1
Rubber	4	1
Pneumatics	16	0.5

Source: MDIC, Credit Suisse

**9.8. Regulatory agencies**

Regulatory agencies were created by the government in 1996. The main purpose of these agencies is to regulate certain markets where there are potential risks to competition and to the free operation of the market. Their duties include the establishment of prices and rates of return on certain activities, as well as consumer protection. In Brazil, there are ten regulatory agencies that operate in several sectors, from Transportation to Cinema (Exhibit 264).

**Exhibit 264: Regulatory agencies**

Name	Ministry to which it is subject
National Land Transport Agency	Transport
National Electric Energy Agency	Mines and Energy
National Water Resources Agency	Environmental Affairs
National Telecommunications Agency	Communications
National Cinema Agency	Culture
National Oil Agency	Mines and Energy
National Civil Aviation Agency	Defense
National Water Transport Agency	Transport
National Sanitary Inspection Agency	Health
National Supplemental Health Agency	Health

Source: Credit Suisse

These agencies are independent and decentralized entities that support the public administration and are linked to specific ministries. The funds of regulating agencies come mainly from fees charged to regulated entities, the federal budget, fines and indemnity payments.

The board of commissioners of each regulatory agency is appointed by the President for a four-year term of office, with the possibility of being reappointed. The terms of office of the board of commissioner members expire in alternate years so as to ensure rotation among members.



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## 10. Appendices



The appendices contain:

- Bibliographical references for articles and publications used as sources.
- Sources of the data published by the cited agencies and bodies used to compile this guide.
- Definitions of the acronyms and abbreviations found in this guide.
- A list of exhibits and tables.

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## 10.2. Bodies and agencies consulted

Agency	Acronym	Website
ABECS	Brazilian Association of Credit Card Service Companies	<a href="http://www.abecs.org.br/">www.abecs.org.br/</a>
ABEF	Brazilian Association of Chicken Producers and Exporters	<a href="http://www.abef.com.br">www.abef.com.br</a>
ABIEC	Brazilian Association of Beef Exporters	<a href="http://www.abiec.com.br">www.abiec.com.br</a>
ABIPECS	Brazilian Association of Pork Meat Producers and Exporters	<a href="http://www.abipecs.org.br">www.abipecs.org.br</a>
Abrapp	Brazilian Association of Closed-End Pension Management Companies	<a href="http://www.abrapp.org.br">www.abrapp.org.br</a>
Abrasce	Brazilian Association of Shopping Malls	<a href="http://www.portaldoshopping.com.br">www.portaldoshopping.com.br</a>
Andima	Brazilian Association of Financial Market Institutions	<a href="http://www.andima.com.br">www.andima.com.br</a>
ANA	Brazilian Water Agency	<a href="http://www.ana.gov.br">www.ana.gov.br</a>
Anatel	Brazilian Telecommunications Agency	<a href="http://www.anatel.com">www.anatel.com</a>
Ancine	Brazilian Motion Picture Agency	<a href="http://www.ancine.gov.br">www.ancine.gov.br</a>
Aneel	Brazilian Electric Energy Agency	<a href="http://www.aneel.gov.br">www.aneel.gov.br</a>
Anbid	Brazilian Association of Investment Banks	<a href="http://www.anbid.com">www.anbid.com</a>
Anfavea	Brazilian Association of Automobile Manufacturers	<a href="http://www.anfavea.com.br">www.anfavea.com.br</a>
ANP	Brazilian Petroleum, Natural Gas, and Biofuels Agency	<a href="http://www.anp.gov.br">www.anp.gov.br</a>
Antaq	Brazilian Waterway Transportation Agency	<a href="http://www.antaq.gov.br">www.antaq.gov.br</a>
ANTF	Brazilian Association of Railroad Carriers	<a href="http://www.antf.org.br">www.antf.org.br</a>
ANS	Brazilian Regulatory Agency for Health Plans and Insurance	<a href="http://www.ans.gov.br">www.ans.gov.br</a>
ANTT	Brazilian Association of Land Carriers	<a href="http://www.antt.gov.br">www.antt.gov.br</a>
Anvisa	Brazilian Health Surveillance Agency	<a href="http://www.anvisa.gov.br">www.anvisa.gov.br</a>
BCB	Central Bank of Brazil (Bacen)	<a href="http://www.bcb.gov.br">www.bcb.gov.br</a>
BM&F	Commodities and Futures Exchange (now part of Bovespa)	<a href="http://www.bmf.com.br">www.bmf.com.br</a>
Bovespa	São Paulo Stock Exchange	<a href="http://www.bovespa.com.br">www.bovespa.com.br</a>
Cetip	Center for the Custody and Financial Settlement of Securities	<a href="http://www.cetip.com.br">www.cetip.com.br</a>
CFM	Federal Council of Medicine	<a href="http://www.cfm.org.br">www.cfm.org.br</a>
CIS	Commonwealth of Independent States	<a href="http://www.cisstat.com/eng/cis.htm">www.cisstat.com/eng/cis.htm</a>
CNI	Brazilian Industry Confederation	<a href="http://www.cni.org.br">www.cni.org.br</a>
CNPC	Brazilian Slaughter Cattle Council	<a href="http://www.cnpc.org.br">www.cnpc.org.br</a>
CNT	Brazilian Transportation Confederation	<a href="http://www.cnt.org.br">www.cnt.org.br</a>
Conab	Brazilian Council of Food Supply	<a href="http://www.conab.gov.br">www.conab.gov.br</a>
Confea	Brazilian Council of Engineering, Architecture, and Agronomy	<a href="http://www.confea.org.br">www.confea.org.br</a>
Coppead	Institute for Postgraduate Studies of the Federal University of Rio de Janeiro	<a href="http://www.coppead.ufrj.br">www.coppead.ufrj.br</a>
CVM	Brazilian Securities Exchange	<a href="http://www.cvm.gov.br">www.cvm.gov.br</a>
DNPM	Brazilian Department of Mineral Production	<a href="http://www.dnpm.gov.br">www.dnpm.gov.br</a>
EIA	Energy Information Administration (United States' Department of Energy)	<a href="http://www.eia.doe.gov">www.eia.doe.gov</a>
Embratur	Brazilian Tourism Corporation	<a href="http://www.turismo.gov.br">www.turismo.gov.br</a>
Embrapa	Brazilian Farming and Cattle Raising Corporation	<a href="http://www.embrapa.br">www.embrapa.br</a>
EPE	Energy Research Corporation	<a href="http://www.epe.gov.br">www.epe.gov.br</a>
Fenaseg	Brazilian Federation of Private Insurance and Capitalization Companies	<a href="http://www.fenaseg.org.br">www.fenaseg.org.br</a>
FGV	Getúlio Vargas Foundation	<a href="http://www.fgv.br">www.fgv.br</a>
IMF	International Monetary Fund	<a href="http://www.imf.org">www.imf.org</a>
FOMC	Federal Open Market Committee (United States Central Bank)	<a href="http://www.federalreserve.gov/FOMC">www.federalreserve.gov/FOMC</a>
Funcex	Foreign Trade Studies Foundation	<a href="http://www.funcex.com.br">www.funcex.com.br</a>
IBGE	Brazilian Institute of Geography and Statistics	<a href="http://www.ibge.gov.br">www.ibge.gov.br</a>
IBRAM	Brazilian Mining Institute	<a href="http://www.ibram.org.br">www.ibram.org.br</a>
IEA	International Energy Agency	<a href="http://www.iea.org">www.iea.org</a>
IISI	International Iron and Steel Institute	<a href="http://www.worldsteel.org">www.worldsteel.org</a>
INEP	"Anísio Teixeira" Brazilian Institute of Education Studies and Research	<a href="http://www.inep.gov.br">www.inep.gov.br</a>
Infraero	Brazilian Airport Infrastructure Corporation	<a href="http://www.infraero.gov.br">www.infraero.gov.br</a>
IPEA	Brazilian Institute for Applied Economics Research	<a href="http://www.ipea.gov.br">www.ipea.gov.br</a>
MCT	Ministry of Science and Technology	<a href="http://www.mct.gov.br">www.mct.gov.br</a>
MDIC	Ministry of Development, Industry, and Foreign Trade	<a href="http://www.mdic.gov.br">www.mdic.gov.br</a>

## 10.2. Bodies and agencies consulted (contd.)

Agency	Acronym	Website
MDS	Ministry of Social Development and the Fight Against Hunger	<a href="http://www.mds.gov.br">www.mds.gov.br</a>
MEC	Ministry of Education	<a href="http://www.mec.gov.br">www.mec.gov.br</a>
MTE	Ministry of Labor and Employment	<a href="http://www.mte.gov.br">www.mte.gov.br</a>
OECD	Organisation for Economic Co-operation and Development	<a href="http://www.oecd.org">www.oecd.org</a>
ONS	National Operator of the Electricity System	<a href="http://www.ons.org.br">www.ons.org.br</a>
S&P	Standard and Poor's	<a href="http://www.standardandpoors.com">www.standardandpoors.com</a>
Sindipeças	Brazilian Association of Auto Parts Manufacturers	<a href="http://www.sindipeças.org.br">www.sindipeças.org.br</a>
STF	Federal Supreme Court	<a href="http://www.stf.gov.br">www.stf.gov.br</a>
STJ	Federal Appeals Court	<a href="http://www.stj.gov.br">www.stj.gov.br</a>
Susep	Superintendency of Private Insurance	<a href="http://www.susep.gov.br">www.susep.gov.br</a>
Treasury	National Treasury	<a href="http://www.tesouro.fazenda.gov.br">www.tesouro.fazenda.gov.br</a>
TSE	Superior Electoral Court	<a href="http://www.tse.gov.br">www.tse.gov.br</a>
UN	United Nations	<a href="http://www.un.org">www.un.org</a>
UNESCO	United Nations Educational, Scientific and Cultural Organization	<a href="http://www.unesco.org">www.unesco.org</a>
UNICA	Sugarcane Industry association	<a href="http://www.unica.com.br">www.unica.com.br</a>
WHO	World Health Organization	<a href="http://www.who.int/">www.who.int/</a>

## 10.3. Acronyms

Acronyms	Meaning
BEN	National Balance Sheet
CAP	Port Authority Council
CDB	Certificate of Deposit
CMN	Brazilian Monetary Council
Copom	Monetary Policy Committee
IGP	General Price Index
INCC	National Market Construction Cost Index
IPCA	Broad Consumer Price Index
IPO	Initial Public Offering
GNL	Liquefied natural gas
PND	National Development Plan
RDB	Brazilian Depository Receipt
QAV	Jet fuel
Selic	Special System for Settlement and Custody
SND	National Debenture System
SPR	System of Protection Against Financial Risks
R&D	Research and development

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## EMERGING MARKETS ECONOMICS AND FIXED INCOME STRATEGY

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