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The Brazilian Economy: Growth and Development

SEVENTH EDITION

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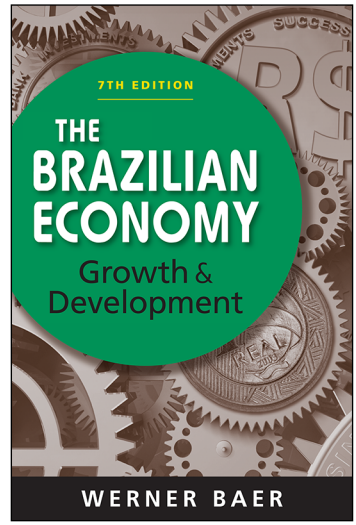

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Introduction

By the end of the first decade of the twenty-first century, Brazil had become one of the world's major emerging economies. It is the only Latin American member of the five-nation BRICS group (the others are Russia, India, China, and South Africa). It is one of the world's leading exporters of minerals, food products, steel, and regional aircrafts. It has developed a large domestic industrial base, producing cars, trucks, and a large variety of other consumer durable goods and capital goods. It is a favored destination of international capital, attracting almost 5 percent of global capital flows. As if this were not enough, the resurgence of the Brazilian economy has been associated with a decline in income inequality and the incidence of extreme poverty. In other words, Brazil is touted as an example of the compatibility of growth with equity.

All these favorable trends took place within the context of financial stability. After years of hyperinflation and many failed stabilization attempts, the country had crafted a unique and successful way of achieving financial stability.

Finally, besides these socioeconomic achievements, a crowning achievement for Brazilians in the second decade of the twenty-first century was the country's selection to host the World Cup of 2014 and the Summer Olympics in Rio de Janeiro in 2016.

How were these accomplishments achieved? How real and how permanent are they?

It is hoped that the historical and institutional analyses of the first part of the book and the various sectoral analyses of the second part will provide an answer.

Overview

Brazil has undergone profound socioeconomic changes since the Great Depression of the 1930s, especially since World War II. Its economy, which for centuries had been geared to the exportation of a small number of primary products, has

become dominated by a large and diversified industrial sector in a relatively short period of time. At the same time, its population, which had been predominantly rural, has become increasingly urbanized.

This rapid socioeconomic transformation can be illustrated with a few numbers. The total population of Brazil grew from 17.4 million in 1900 to 198 million in 2013, and was expected to surpass 200 million by 2015. In 1940, only 30 percent of the country's population was urban; this proportion increased to 87 percent by 2011.[1] The contribution of agriculture to the gross domestic product (GDP, measured in current prices) declined from 28 percent in 1947 to 5.8 percent in 2011, whereas that of industry rose from not quite 20 percent in 1947 to 26.9 percent in 2011.

In 2011, after more than six decades of industrialization, Brazil was producing close to 3 million motor vehicles, 35 million tons of steel, 60 million tons of cement, 5.9 million television sets, 66.2 million cellular phones, and 4.8 million refrigerators yearly. The country's paved road network increased from 13,357 kilometers in 1960 to over 220,000 kilometers in 2012. Brazil had 96,294 megawatts of installed electric power capacity in 2007. Brazil's Embraer has become the world's third-largest aircraft manufacturer, specializing in regional jets. Between 1996 and 2011 Embraer delivered close to 1,000 regional jets around the world.

Although agriculture was not the leading sector in these years, its growth was substantial. The country's land area in crops expanded from 6.6 million hectares in 1920 to 76.7 million in 2006. Planted pasture lands rose from 154 million hectares in 1970 to 172 million in 2006. Brazil became the world's largest producer of sugar and concentrated orange juice and the world's largest exporter of soy, cattle meat, and tobacco.

These achievements, however, did not transform Brazil into an advanced industrial society. In terms of the welfare of its many citizens, Brazil remained a less-developed country. Although the per capita GDP in 2011 was US$11,800, this number is not a good indicator of general well-being, because the distribution of income is highly concentrated among income groups and among regions of the country. By 2011 the average income of a family in the top 10 percent of the income distribution was 39 times higher than the income of a family in the bottom 10 percent.[2] The Gini coefficient, which measures the distribution of income, was close to 0.54. Per capita income varied regionally in 2001 to such an extent that in many states of the northeast region of Brazil it was less than half the national average, while in the southeast it was 34 percent higher than the national average.[3]

In 2010, 98 percent of households had access to water supply systems, 55.5 percent were connected with a general sewage system,[4] 98 percent had electricity, 88.6 percent had regular garbage collection services, 93.7 percent had a refrigerator, 95.1 percent had a television set, 38.4 percent had a washing machine, 57.8 percent had a landline telephone,[5] and 17.5 percent owned a computer (29.7

percent had some access to the Internet, either at home or through an Internet cafe). In 2010, there were 17.6 physicians per 10,000 inhabitants in Brazil, compared to 27.9 in the United States and 33.7 in Sweden. In the same year there were 5.2 nurses and midwives per 10,000 inhabitants in Brazil, compared to 97.2 in the United States and 108.7 in Sweden. The infant mortality rate per 1,000 was 29.6 in 2005, compared with 6.5 in the United States and 2.8 in Sweden.

These social indicators describe only national averages. In many regions of the country, the population was living in conditions much worse than these averages suggest. For instance, in 2003, 83.3 percent of urban households in northern Brazil had access to a general water supply system and 57.5 percent of the total had access to a water supply system, as compared to 95.5 percent in the southeast;[6] only 34.7 percent of northeastern households were connected with a general sewage system, compared to 80.8 percent in the southeast. In 2003, 45.3 percent of families in northeast Brazil had an income of less than half the minimum wage, compared to 15.6 percent in the southeast.[7] Life expectancy at birth in 2004 was 74.6 years in the Federal District, while it was lowest in the northeastern state of Alagoas—65.5 years. Infant mortality rates in 2004 varied from 14.7 per 1,000 in the state of Rio Grande do Sul and 17 in São Paulo to 55.7 in Alagoas and 43.5 in Maranhão.

Policymakers had hoped that besides contributing to the general growth and development of Brazil, industrialization would substantially lessen the country's economic dependence on traditional industrial centers of the world. The international division of labor that originated in the nineteenth century had given Brazil, along with most Third World countries, the role of primary product supplier. Thus, Brazil's rate of economic activity was largely dependent on the performance of the industrialized centers of the world. Policymakers had hoped that import-substitution industrialization would result in greater economic independence for the country. However, industrialization only changed the nature of the dependency relationship. The import coefficient (import/GDP ratio) did not decline very much, while the commodity composition of imports changed. As a result, Brazil continued to be at least as dependent on foreign trade as before. In addition, because industrialization was achieved by massive foreign investment in the most dynamic sectors of industry, foreign influence on the development and use of the means of production increased substantially.

The Brazilian industrialization model was based on the ideology of market economies; that is, respect for private property and reliance on private domestic and foreign enterprises were stressed by most of the governments that promoted industrialization. For many years, however, the state became involved in economic activities to a far greater extent than was originally planned. This was due to the financial limitations and technological backwardness of the private domestic sector, the unwillingness of foreign capital to enter certain fields of activity, and the unwillingness of governments to allow foreign capital into some sectors.

This book examines the historical evolution of the Brazilian economy, focusing especially on the methods used to achieve industrialization, its impact on the socioeconomic environment, and the adjustments of socioeconomic institutions to the structural changes in the economy. This leads us to study the type of economic system that has emerged in the process: a mixture of private and state capitalism, with unique features that distinguish it from the mixed economies of Western Europe. We also examine the impact of neoliberal policies introduced toward the end of the twentieth century. Finally, we look at the aspects of Brazil's economic policies and economic system that account for many symptoms of underdevelopment in the midst of many indicators of economic modernization.

Physical and Demographic Setting

Brazil's territorial extent of 3.27 million square miles makes it the fifth-largest country of the world, surpassed only by Russia, Canada, China, and the United States. It covers 47 percent of South America. The largest proportion of the territory is made up of geologically ancient highlands. About 57 percent of the land is on a plateau varying between 650 and 3,000 feet above sea level; 40 percent consists of lowlands with an elevation of less than 650 feet; and 3 percent exceeds 3,000 feet. North of the city of Salvador there is a gradual rise from the coast to the interior. However, when approaching Brazil from the Atlantic along the central and southern coasts, one has the impression of a mountainous country, because the highland plateau of central and southern Brazil drops off sharply into the Atlantic. This wall-like slope is called the Great Escarpment. This natural barrier has made access to the interior difficult and has often been cited as a major reason for the slow development of the interior of the south-central plateau prior to the twentieth century.

With the exception of the Amazon, most of the principal Brazilian river systems have their sources in central and southeastern Brazil, many fairly close to the ocean. Because the rivers drain inward, there is no natural focus of routes in the most dynamic area of the country; therefore, river transportation has not played an important role in the development of Brazil. The Paraná River system is fed by tributaries that flow westward into the interior until they reach the main river, which flows southward toward Argentina. The São Francisco River has its source in the south. It flows northward, paralleling the coast for more than 1,000 miles before turning eastward. Most of the river systems descend rapidly as they pass through the Great Escarpment, making interior navigation for ocean vessels impossible. For instance, the São Francisco River is navigable for about 190 miles into the interior, until shortly before the Paulo Afonso Falls. Only the Amazon River is navigable far into the interior, and it unites a sparsely populated, underdeveloped, and unexploited region of Brazil.

Brazil is mainly a tropical country, and its climates contain few extremes, but

> they are by no means so monotonously uniform, or so unbearably hot and damp, that the human spirit is deadened. If the Brazilian people in certain regions appear to be lacking energy, this cannot be interpreted as the inevitable result of the climate until such other elements as diet and disease have been evaluated.[8]

The average temperature on the Amazon at Santarem, a few degrees from the equator, is 78.1 degrees; in the dry northeast, the highest temperature recorded is 106.7 degrees, but farther southward, along the coast, the maximum temperatures are much lower. The average in Rio de Janeiro in the warmest month is 79 degrees. In the highlands of the interior, the temperatures are lower than at the same latitudes on the coast. Only the states south of São Paulo ever experience frost.

Rainfall is adequate in most of Brazil. Any deficiency is limited to part of the northeast, where there are areas that receive less than ten inches per year. Most of the northeast receives between 20 and 25 inches of precipitation. The principal problem of that region is rainfall irregularity: variations between excessive rains and droughts.[9] Very moist areas, with more than 80 inches of rainfall a year, exist in four regions: the upper Amazon lowlands, the coast from Belem northward, scattered parts of the Great Escarpment, and a small section in the western part of the state of Paraná.

The Brazilian states are generally grouped into five geographic macroregions: north, northeast, center-west, southeast, and south. "Center-south," which comprises some, but not all, of the states in the latter three regions, is also sometimes used.

Natural Resources

Brazil has an abundance of many different types of mineral resources. It has an immense reserve of iron ore (estimated at 48 billion tons), manganese (estimated at 208 million tons), and other industrial metals. The country also possesses substantial quantities of bauxite, copper, lead, zinc, nickel, tungsten, tin, uranium, quartz crystals, industrial diamonds, and gemstones.

Until the late 1960s, knowledge of Brazil's total mineral reserves was still limited. The use of modern surveying and prospecting techniques and equipment (e.g., satellites) has resulted in substantial new discoveries.[10] For example, until recently, most mineral deposits were thought to be located in the mountain range running through central Brazil (especially in the state of Minas Gerais). In 1967, however, huge deposits of iron ore (estimated at 18 billion tons) were discovered in the Serra dos Carajás, located in the Amazon region. Also in the late 1960s, the Amazon was found to contain large deposits of bauxite. Tin reserves near the Bolivian border have been estimated to be larger than those of Bolivia, and in the 1970s substantial copper deposits were found in the state of Bahia.

In the decades since World War II, there has been a dramatic reshaping of Brazil's sources of energy consumption. In 1946, 70 percent of the country's energy supply was drawn from firewood and charcoal. By 2011, however, 78 percent was drawn from oil and hydroelectric power. Unfortunately, the fuel resources of the country have not matched its mineral resources. Until recently, the only known coal deposits were in the southern state of Santa Catarina. This coal is of poor quality, containing a high proportion of ash and sulfur, and therefore cannot be fully used for production of coking coal by the steel industry. About 65 percent of metallurgical coal requirements are met by imports. In the 1970s, some new coal deposits were discovered deep in the Amazon region but have yet to be fully exploited.

Brazil's known oil reserves were inadequate for its needs for a long time. Until the early 1970s, most of the known reserves were located in the states of Bahia and Sergipe, but domestic production from these sources furnished only 20 percent of the country's needs. Offshore exploration by Petrobras, a government-owned company, resulted in new discoveries near the town of Campos in the state of Rio de Janeiro, in the state of Sergipe, and near the mouth of the Amazon. The size of these discoveries was considerable. By 2005, Brazil's proven oil reserves were estimated at 11 billion barrels. By 2003, domestic production had reached 88 percent of domestic consumption, and by 2007, Brazil was self-sufficient for petroleum.

The hydroelectric potential of Brazil is one of the largest in the world, at an estimated 150,000 megawatts. Until the 1950s, the best sites of potential hydroelectric power were considered to be too remote from the major population centers for development, but since then the development of such sites has proceeded rapidly with the construction of the hydroelectric works at Paulo Afonso and Boa Esperança in the northeast, Furras and Ilha Solteira in the southeast, and Tres Marias in the state of Minas Gerais. In the mid-1970s, work began on what was then the world's largest hydroelectric project at Itaipu on the Paraguayan border, and in 1983 the project's first turbines were brought online. In 2011 hydro-power accounted for 75 percent of total energy consumption.

The Population

In 2013 Brazil's population reached 200 million, making it the fifth-largest nation in terms of population size. Given the country's enormous territory, its population density is relatively low. Brazil had an average 21 persons per square kilometer in 2005 (compared with 14 in Argentina, 53 in Mexico, and 37 in Colombia). However, considerable variation can be found in population density within Brazil, ranging from 3.3 persons per square kilometer in the Amazon region to 149.0 in the state of São Paulo. In 2001, 7.6 percent of the population lived in the Amazon region, 28.1 percent in the northeast, 42.6 percent in the southeast, 14.9 percent in the south, and 6.8 percent in the center-west.

A distinctive feature of the regional distribution of Brazil's population is the degree of concentration within a few hundred miles of the seacoast. Population penetration into the interior has been notable only in the twentieth century, particularly in the south. The building of the interior capital city of Brasília (which was inaugurated in 1960), the connecting roads to that city, and the high rate of road construction in the 1960s and 1970s have substantially increased the migration to the interior.[11]

The growth rate of the population began at a high level in the middle of the twentieth century but gradually declined: from 3 percent per year in the 1950s to 2.9 percent in the 1960s, 2.5 percent in the 1970s, 2 percent in the 1980s, and 1.2 percent in the period of 2000–2004. The high growth rates in the middle of the twentieth century resulted from a continuing high birthrate coupled with a rapidly declining mortality rate. This resulted in a high proportion of the population being represented by the demographic group age 14 years and younger; 39.5 percent of the population was in this dependent group in 1995, although this number declined significantly to 37.7 percent by 2005 (compared with 21.6 percent in the United States and 15.2 percent in Germany). The literacy rate for Brazilians 15 years and older increased from 49 percent in 1950 to 61 percent in 1970 and to 88 percent in 2004. However, when functional illiteracy is taken into account, the literacy rate decreases to 75 percent.[12] The growth of literacy is closely connected with the recent high growth rates of educational enrollment. By 2004, primary-school enrollment as a percentage of the 7–13 year age group stood at 99.5 percent; secondary-school enrollment for the 14–19 year age group was 74.9 percent, and higher education enrollment for the 20–24 year age group was 20.1 percent.

The high proportion of the population in the younger age groups accounts, in part, for the low labor force participation ratio. This was 32.9 percent in 1950, shrank to 31.8 percent in 1970, and rose to 45.9 percent in 1995 and 49.1 percent in 2005. The racial composition of Brazil is quite varied. One expert on Brazil's population has stated,

> There are few places in the world in which the racial makeup of the population is more involved and complex than it is in Brazil. All the principal varieties of mankind, all the basic stocks into which the human race may be divided—red, white, black and yellow—have entered into the composition of the population of this great half-continent.[13]

Until the latter part of the nineteenth century, the population was mainly made up of descendants of Portuguese, Africans, and Amerindians. During colonial times, and into the nineteenth century, a considerable amount of miscegenation took place, resulting in a large proportion of today's population being of mixed ancestry. In the latter part of the nineteenth century and first decade of the twentieth century, heavy immigration from Italy, Portugal, Spain, Germany, Poland, and the Middle East occurred. These immigrants settled mainly

in southeastern and southern Brazil. In the second decade of the twentieth century, large numbers of Japanese immigrated, settling mainly in the states of São Paulo and Paraná. Today the estimated number of Brazilians of Japanese descent is over 800,000.

This diversity in the background of the population has not prevented Brazil from achieving a high degree of cultural unity. With the exception of a small number of Indians deep in the Amazon region, all Brazilians speak Portuguese, with small regional variations in accents (possibly less than in the United States). According to one of the leading interpreters of Brazilian society:

> There is a strong and deep feeling among Brazilians of all racial backgrounds and national origins that they form a "people" and a nation. They share common ideals, common tastes, common problems, common heroes, a common past, and a common sense of humor.[14]

Notes

1. Population data are taken from the Brazilian Census and Statistical Institute (IBGE), *Censo Demográfico* (Rio de Janeiro: 1940, 1950, 1970, 1980, 2010), and various issues of IBGE, *Anuario Estatistico do Brasil*. These data slightly exaggerate the degree of urbanization, because the Brazilian census definition of "urban" extends to all populations living in administrative centers. These centers might consist of small towns with populations of 500 to 1,000 as well as very large cities. Because the economic activities of the former are often much more rural than urban in character, Brazil's degree of urbanization in 2006 is probably less than the official data indicate. For example, if an urban population is defined as people living in cities of 50,000 and more, Brazil's urban population in 2000 would fall from 78 to 63.3 percent.

2. Carlos Herrán, *Reducing Poverty and Inequality in Brazil* (Washington, DC: Inter-American Development Bank, April 2005), p. 3.

3. The state of São Paulo's per capita income was 53 percent higher than the national average, while the state of Maranhão's per capita income was 26 percent of the national average as calculated from IBGE data.

4. Access to a sewage system varied substantially by region: in the north, only 4.5 percent of households had such access; in the northeast 34.7 percent of households had access; and in the state of São Paulo 89.8 percent had access.

5. Landline phone use has been decreasing rapidly since the late 1990s as the use of cellular telephones has rapidly spread throughout the population.

6. In fact, water access has substantially improved since the early 1990s, when only 48 percent of northeast households had access to a general water supply system, compared to over 85 percent in the southeast.

7. These data come from IBGE, *Diretoria de Pesquisas, Pesquisa Nacional por Amostra de Domicilios 1993/2003*.

8. Preston E. James, *Latin America* (New York: Odyssey Press, 1969), p. 389. More detailed information on Brazil's geography can be obtained from FIBGE, *Sinopse Estatistica do Brasil,* 1975; Donald R. Dyer, "Brazil's Half-Continent," in *Modern Brazil: New Patterns and Development,* John Saunders, ed. (Gainesville: University of Florida Press, 1979), pp. 29–50.

9. In commenting on northeastern droughts, Dyer states that "the dry season is regular but drought is not. However, droughts are too frequent to be unexpected, with

periods ranging from a one- to four-year duration," Dyer, "Brazil's Half-Continent," pp. 41–42.

10. "Pesquisas de Recursos Minerais no Brasil," *Conjuntura Econômica,* January 1974, pp. 66–70. See also FIBGE, *Anuario Estatistico,* 1981.

11. T. Lynn Smith, "The People of Brazil and Their Characteristics," in Saunders, *Modern Brazil,* pp. 52–53.

12. IBGE estimated illiteracy in 2004 to have been at 11.6 percent; functional illiteracy was estimated at 24.8 percent.

13. Smith, "The People," pp. 53–54.

14. Charles Wagley, *An Introduction to Brazil,* rev. ed. (New York: Columbia University Press, 1971), p. 5.