

Chapter 9

Economic Effects of COVID-19 on Brazil in the Twenty-First Century

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9.1 Introduction

Social distancing was the main public health action taken by the governors and mayors of Brazil in an effort to fight the COVID-19 pandemic. Throughout the world, social distancing has been the main course of action against the pandemic. During the Spanish influenza, it was no different, because, as verified, the cities and regions that organized social distancing measures had the best results (Correia & Verner, 2020).

Now, 100 years later, COVID-19 appears to be a disease as devastating to health as it is to the economy. The impacts of COVID-19 on the economy in the middle and long term are not yet clear (Keynes, 1964). The economic uncertainties reduce what can be foreseen and thus the investments, decreasing the expectation

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of an economic growth (Keynes, 1964). In that sense, in order to reduce the economic uncertainties, governments have been realizing interventions to reduce the negative effects of COVID-19 on the economy, seeking to not only save lives but also save the economy, by preventing the failure of businesses, guaranteeing the maintenance of jobs and income, regardless of the future consequences of this intervention, such as the rise of public debt, for example (Bresser-Pereira, 2017). On the basis of these observations, this chapter aims to analyze the actions taken by the Brazilian government against the pandemic to reduce the economic impacts. This analysis will allow the reader to better understand the effects of the state intervention on the economy in the short term.

9.2 Overview of Influenza around the World

Flu in the twenty-first century, so far, hadn't wrought any major problems on public health, a solution having already been found by the end of the twentieth century. Vaccine for influenza H1N1 has been fulfilling its duty to immunize the population, and in cases where the vaccine had not been applied, the medication acted efficiently. Unfortunately, history tells us that influenza has been among us for a long time, as we will see now.

In 412 BC, Hippocrates related the syndrome known today as the one caused by the influenza virus. There are records of similar epidemics during the Middle Ages being present on the America continent since the fifteenth century (Souza, 2008).

To Porter (2004, p. 27), the flu was brought to the Americas by the Europeans, carried by contaminated swine on the ships. On the other hand, Aguilar (2002, p. 40) says that the flu already existed on the American continent before the arrival of the Europeans. The narrative of Aztec chroniclers mentions the "pestilent catarrh" that spread between AD 1450 and 1456, killing a great number of people in the central part of the territory now known as Mexico.

Meanwhile, Beveridge suggests that prior to the eighteenth century, there was not adequate monitoring to allow registers to be

treated as a reliable record of flu epidemics. In Brazil, the records became more precise starting from the nineteenth century.

The flu originated in the spring of 1918 in the northern hemisphere. Its origin is debatable, but the first records of the disease show it to have originated in the United States (Crosby, 1989). In March of 1918, over eight thousand workers of the Ford Motor Company, in Detroit, and many soldiers from the military base of Camp Funston/Fort Riley, in Kansas, were hospitalized after showing symptoms similar to those of the flu. In most of the cases, the disease was weak, and the patient was cured three to four days after showing the first symptoms. This encouraged the American soldiers to embark on a journey toward Europe, unknowingly carrying along a virus of the grave disease. As soon as the expeditionary American forces arrived on the French coast, the disease spread, affecting both Germans and Allies alike (Tognotti, 2003).

The emergency situation that configured itself almost simultaneously in many locations worldwide disoriented the international medic community, and medical science started to suspect that this could be a new disease. The different denominations given to that disease in the many countries where it spread were a hint of that perception: among the North Americans, it became known as the “three-day fever” or the “purple death.” The term “purple” came from one of the disease symptoms, where two hours after a patient checked into the hospital, reddish-brown stains would appear on the patient’s face, and a few hours later, cyanosis would start, spreading from the ears to every part of the face, to the point where it became hard to say whether the afflicted was black or white. The French called it “purulent bronchitis”; the Italians referred to it as “sand fly fever,” and the Germans called it “Flanders fever” or “*blitzkatarrh*” (Crosby, 1989).

In Spain, it became known as “*la dançarina*” (the dancer), in Portugal, as “*a pneumónica*” (the pneumatic), and in other countries as the Spanish flu or influenza (Diário de Notícias, 23 set. 1918, p. 1). The name “Spanish” came from the fact that on Spanish lands, there were no secrets kept about the damages caused by the disease, as opposed to many countries that sought to smooth over the impact of the pandemic on their societies (D’ávila, 1993; Kolata, 2002).

The name “Spanish” had political roots, given the neutral position Spain had during World War I and a demonstration of sympathy by a faction of the Spanish government toward the Germans, leading to an English initiative to attribute the disease to Spain to gain political amplitude (D’ávila, 1993).

The Spanish flu occurred in the twentieth century and saw three waves between March 1918 and May 1919. The first (March–August 1918), although extremely contagious, was deemed weak, for it caused relatively few deaths. Till then, there were confirmed cases only in the United States and Europe. Starting from the second wave (August 1918–February 1919), there was severe aggravation. During that period, the disease spread to India, South Asia, Japan, China, Africa, and Middle and South America. In all these countries, it caused an enormous number of deaths. The third wave (February–May of 1919), although more lethal than the first, led to fewer deaths than the second (Souza, 2008).

From May 1919, an epidemic disease whose diagnosis was uncertain assailed Europe and Africa. Only by the end of July did London confirm that it was in fact the influenza (its fourth wave) and that it had spread to many places of Europe. It probably traveled the rest of the world in the next eight months. Ultimately, it ended up killing between 50 and 100 million people worldwide, becoming the biggest medicine enigma of the time (Goulart, 2005).

9.3 The History of Influenza in Brazil

In Brazil, the epidemic arrived in September 1918. The English boat *Demerara*, coming from Lisbon, Spain, disembarked the sick at Recife, Salvador e Rio de Janeiro (capital of Brazil at the time). In the same month, sailors that served in the army in Dakar, on the Atlantic coast of Africa, disembarked the sick in the port of Recife. A little more than two weeks later, there were cases of the flu in other cities, like Nordeste and São Paulo (Fiocruz, 2020).

The Brazilian authorities did not give the case the importance it needed, even after the arrival of news from Portugal about the suffering caused by the flu pandemic in Europe. They believed, at

the time, that the ocean would prevent the arrival of the disease to the country, a belief that was quickly proved to be wrong. People were afraid to go out. In São Paulo, especially those who had the means, left the city, fleeing to the interior, where the disease had not arrived yet. In the face of the lack of known methods to prevent the contagion or to cure the sick, authorities only recommended that agglomerations should be avoided (Fiocruz, 2020).

It is estimated that between October and December 1918, the period officially established as that of the pandemic, 65% of the population fell sick. In Rio de Janeiro itself, 14,348 deaths were registered. In São Paulo, another 2000 people had died. Between 1918 and 1920, approximately 35,000 people had died across the country, including the then elected president Rodrigues Alves (Fiocruz, 2nd ed, 2020).

9.4 The Influenza and the Brussels International Finance Conference

According to Smith (2020), this conference was proposed by the then just formed United Nations. It happened in September 1920 and had representatives from both the banking and business sectors from over 40 countries. The results of the conference were analyzed in 1922, with reports of over 20 countries about the economic measures taken, and published as a long and detailed report. However, they do not possess any reference to the Spanish flu—neither about its economic impact nor about any measures the governments had taken about it. The US report referred to it, but not directly, when it said “[I]n the beginning of 1919, after a short period of falling prices and commercial contraction. ...” Shortly after, the report also refers to “a period of expansion, inflation and speculation, the kind of never seen before. ...”

The virus that had just killed millions of people throughout the world was not considered to have any economic relevance to the present or the future by the politicians of the time!

9.5 The Return of the Virus in the Twenty-First Century

On March 11 of this year (2020), the World Health Organization (WHO) decreed that the world was facing a pandemic—of the new coronavirus (COVID-19). In a report disclosed in September 2019, and as such, before the first cases of the disease being officially reported, the WHO alerted that:

. . . The world is not prepared for a fast-moving, virulent respiratory pathogen pandemic. The 1918 global influenza pandemic sickened one third of the world population and killed as many as 50 million people - 2.8% of the total population. If a similar contagion occurred today with a population four times larger and travel times anywhere in the world less than 36 hours, 50 - 80 million people could perish. In addition to tragic levels of mortality, such a pandemic could cause panic, destabilize national security and seriously affect the global economy and trade.¹

On December 31, 2019, the WHO was notified about the occurrence of a pneumonic outbreak in the city of Wuhan, Hubei Province, China. The etiological agent was quickly identified as a new coronavirus: SARS-CoV-2. The outbreak began in a seafood and living animal market and as of the time this book is going to the press, the animal reservoir is unknown.²

The first meeting of the Emergency Committee about the new coronavirus outbreak in China convened by the WHO under the International Health Regulations (2005) occurred on January 23, 2020. In this meeting, there was no agreement on whether the event was indeed a public health emergency of international concern (PHEIC).³ During the second meeting, on January 30, the growing

¹As mentioned in the Global Preparedness Monitoring Board Report 2019. Available at: <<https://apps.who.int/gpmb/annual.report.htm>>.

²Zhu, N., Zhang, D., Wang, W., Li, X., Yang, B., Song, J., et al. (2019). A novel coronavirus from patients with pneumonia in China, *N. Engl. J. Med.*, [Internet] [cited 2020 Mar 4], **382**, pp. 727–733. Available at: <<http://doi.org/10.1056/NEJMoa2001017>>.

³World Health Organization (2020). Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV), [Internet]. Geneva: World Health

number of cases and countries that reported confirmed cases led to the declaration of the outbreak as a PHEIC.⁴

On February 2020, in accordance with WHO best practices in naming new infectious human diseases, the sickness caused by the new coronavirus was given the name COVID-19, referring to the virus type and the year the pandemic began: coronavirus disease 2019.⁵

The approach to the disease won't be a matter of just the actual capability of governments to deliver results but also of the perception of citizens about government action, being, in that way, about the realm of action that transcends technical aspects and demands political competence (Christensen et al., 2016).

The first case of COVID-19 in Brazil was confirmed on February 26, 2020. On March 3, there were 488 suspected cases reported, 2 were confirmed, and 240 reports were discarded, with no evidence of local transmission. The first two confirmed cases were males, residing in the city of São Paulo, who had returned from a trip to Italy (Croda & Garcia, 2020).

The scant scientific knowledge in the world about the new coronavirus, its high speed of dissemination, and its capacity to cause deaths in vulnerable populations create uncertainties about what should be done and what is the best strategy to be used across the world to face the pandemic. In Brazil, this is even more challenging in the context of great social inequality, with vulnerable populations living in precarious housing and sanitation conditions,

Organization, [cited 2020 Mar 4]. Available at: [https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-\(2005\)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-\(2019-ncov\)](https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov)).

⁴World Health Organization (2020). Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV), [Internet]. Geneva: World Health Organization, [cited 2020 Mar 4]. Available at: [https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-\(2005\)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-\(2019-ncov\)](https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov)).

⁵World Health Organization (2020). Novel coronavirus (2019-nCoV): situation report – 22, [Internet]. Geneva: World Health Organization, [cited 2020 Mar 4]. Available at: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200211-sitrep-22-ncov.pdf?sfvrsn=fb6d49b1_2.

without access to water and in a situation of agglomeration (Werneck & Carvalho, 2020).

The success of the measures adopted to confront the disease, however, is contingent upon effective governmental coordination (IPEA, 2020).

9.6 The Economic Crisis in the Eu in Times of the Pandemic

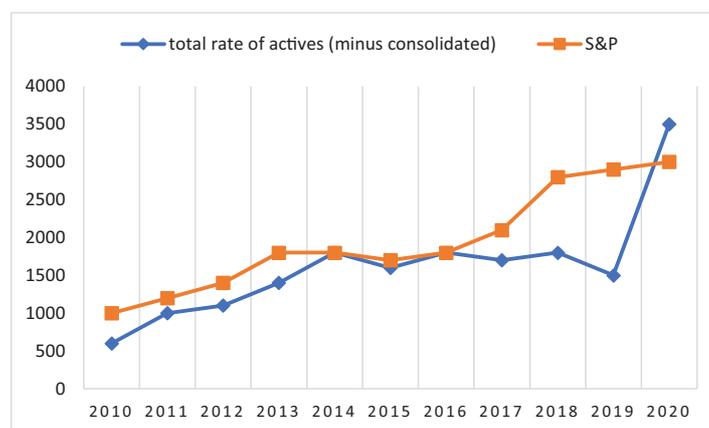
The new coronavirus pandemic has profoundly affected the economic trajectory of all countries in the world. The most recent forecast of the International Monetary Fund (IMF) is that the world gross domestic product (GDP) will fall by 4.9% this year. Brazil, as well as the rest of the world, will suffer this impact, already observed with the survey of the GDP for the first quarter, which fell by 1.5% in relation to the previous quarter, and it is estimated that the fall in the second quarter, characterized by the deepening of social distance measures in response to the pandemic, will approach 10%. Under the assumption that the process of gradually easing restrictions on mobility and the functioning of economic activities that began in June will continue, the gradual recovery of GDP is projected in the third and fourth quarters. The projected drop for the year is 6%, but the recovery path in the second half will leave a carry-over of almost 2% for 2021, whose projected growth is 3.6% (IPEA, 2020).

In accordance with the Institute for Applied Economic Research (IPEA, 2020), as has been common in forecasts released recently, the IMF warns of the high degree of uncertainty surrounding its projections. Positive risks arise, among other factors, from the possibility of a vaccine being developed in a shorter time than the one estimated on the basis of past pandemics. Furthermore, additional economic policy measures may accelerate the recovery of economic activity. On the negative side, the increase in mobility and resultant neglect of social distance measures involves an overwhelming risk of new contagion waves and the need to reverse the process, depressing activity again and putting financial conditions back in the restrictive field.

The IMF also highlights the geopolitical tensions and risks associated with international trade, which should drop by 12% in the year, with an 8% growth projected in 2021.

The fall and recovery of the American stock market since the arrival of the pandemic was accompanied by a sharp rise and a subsequent decline in volatility: the VIX index reached 80 points on March 16, almost 20 points more than that observed at the height of the financial crisis in 2008. After that, it fell, averaging 30 points in May and June—still 50% higher than the 2019 average.

The global monetary stimulus has been astonishing: interest rates are practically zero in the United States and negative in Europe and Japan. Policies for quantitative expansion have been intensely used. In the monetary expansion after the international crisis of 2008, the Federal Reserve System (Fed) increased its balance sheet by about USD 2 trillion in the course of almost three years, through the acquisition of public and mortgage-backed securities (Graph 9.1). In the current pandemic phase, there was an even greater increase, on the order of USD 3 trillion in just three months, between March and June of this year, with the assets acquired by the



Graph 9.1 US Federal assets (in trillion USDs) and S&P 500 Index (in points). *Source:* Federal Reserve Bank of St. Louis. *Elaboration:* DIMAC/IPEA. S&P 500 Index of shares traded on the New York Stock Exchange (apud IPEA, 2020).

Fed now also including private corporate bonds. A similar move was followed by central banks in the Euro Area and Japan (IPEA, 2020).

In line with IPEA (2020), in China, industrial production increased again in the year-on-year comparison (4.2% per year, on average, in April and May), after strong falls, of 13.5% on average, in January and February 2020. Retail sales, on the other hand, still show negative (but decreasing) rates in the interannual comparison, indicating the possible presence of restrictions on mobility and the impact of consumers' loss of income, combined with greater caution in view of the uncertainties that remain.

In the United States, industrial production grew by 1.4% in May 2020 (after falling 16.5% in March–April 2020), while retail sales increased by 16.8%, reflecting the support of household income through the government's money transfer programs. June's prior disclosures from the purchasing manager indexes point to the continuation of the recovery movement, with the American industry indicator at 49.6 points and the Euro Area indicator at 46.9 points, growths of 37% and 40%, respectively, in relation to the slope, in April. In the services sector, the recovery is more striking, but starting from much lower levels than in the industry. In China, more advanced in normalizing the functioning of the economy, the (preliminary) indicators for both industry and services are already above 50 points, indicating the expansion of economic activity.

The external environment is challenging. The ample international liquidity and the return of the risk voracity contribute to better financial conditions. The downturn in the world economy will be profound, but for a short period, if the IMF's forecasts are confirmed. The stimulation of economic policies on a global scale is significant, specifically for the Brazilian economy. In addition to the expected resumption of foreign capital flows, the recovery in activity levels in developed countries and China should keep the foreign market in a position to absorb Brazilian exports: the prices of commodities relevant to Brazil, such as agricultural products and minerals, had a lower drop than the average of commodities, which is greatly influenced by the price of oil, which fell by almost 50% in relation to the last quarter of 2019. The price of soybeans fell by 8%, compared to a reduction average of 4.3% for agricultural products;

Table 9.1 Projections for GNP growth and unemployment rate

	GNP		Unemployment rate	
	2020	2021	2020	2021
India	1.9%	7.4%	—	—
South Korea	−1.2%	3.4%	4.5%	4.5%
Australia	−6.7%	6.1%	7.6%	8.9%
New Zealand	−7.2%	5.9%	9.2%	6.8%
Spain	−8%	4.3%	20.8%	17.5%
Portugal	−8%	5%	13.9%	8.7%

Source: (SEBRAE, 2020).

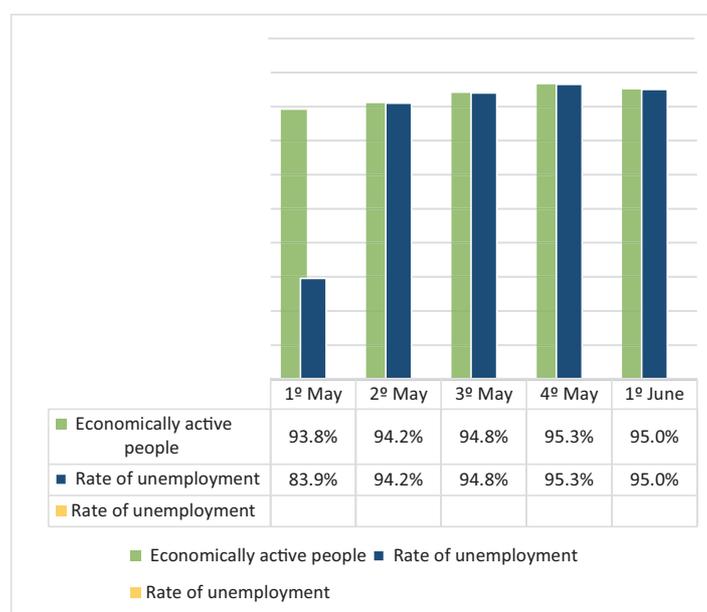
iron ore had an increase of 4.4% in the same comparison, while for the set of metallic commodities the fall was 11% (IPEA, 2020).

According to the IMF, all the countries selected here will see a drop in gross national product (GNP) this year, except India, which is expected to expand by 1.9%. The biggest retractions should occur in Spain and Portugal (−8%). In 2021, India is expected to lead the rise in GNP (+7.4%). In relation to the unemployment rate, Spain is expected to register the highest rate in 2020 (20.8%), followed by Portugal (13.9%), as shown in Graph 9.2, under the impact of COVID-19 (SEBRAE, 2020)

9.7 Economic crisis in Brazil in Times of the Pandemic

According to the IPEA (2020), in Brazil, the expectation of a gradual resumption of demand, combined with the idle capacity present in most productive sectors and the reduction in labor and rental costs, allows one to project a trajectory without major changes in the prices of services and free goods. The DIMAC/IPEA group forecasts the inflation (measured by the IPCA)⁶ at the year end at 1.8%.

⁶IPCA – Índice Nacional de Preços ao Consumidor Amplo – IPCA que tem por objetivo medir a inflação de um conjunto de produtos e serviços comercializados no varejo, referentes ao consumo pessoal das famílias. Available at: <https://www.ibge.gov.br/estatisticas/economicas/precos-e-custos/9256-indice-nacional-de-precos-ao-consumidor-amplo.html?=&t=o-que-e>.

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Graph 9.2 PNAD COVID-19: Labor market indicators (in 1000 people and in %). *Source:* PNAD COVID-19/IBGE.

Brazil also felt the effects of the crisis as strongly as the rest of the world. The first-quarter GDP fell by 1.5%, already reflecting the impact of COVID-19 and the first social distance measures adopted since the second half of March. April seemed to show bottoming out, with strong declines in relation to March in industry (−18.8%), commerce (−17.5%), and services (−11.7%) according to monthly surveys of the Brazilian Institute of Geography and Statistics (IBGE, 2020).

The occupation in April 2020 reflected the contraction of economic activity, with a drop of 3.4% in relation to the same period of 2019—after a monthly average of the annual rate of growth of 2% in the previous 12 months. In comparison, the real mass of income from work fell by 0.8%, compared to a monthly average of the 2.2% interannual variation in the previous 12 months. The unemployment rate in the moving quarter up to April was 12.6%, 0.4% more than in March (not seasonally adjusted) and 0.1% more than a year earlier,

registering the first positive change after 20 months of decline as of the last quarter of 2017. The “monthly payment” of the National Continuous Household Survey (PNAD Continuous)⁷ reveals that, specifically for April, the unemployment rate would have increased to 13.1%, compared to 12.8% in February. This rate could have been even higher had it not been for the drop in the participation rate, from 61.9% in February to 59% in April 2019—in this case, the lowest participation rate since the beginning of the survey (IPEA, 2020).

According to the IPEA (2020), the drop in the participation rate represents the restrictions resulting from the strong reduction in economic activity and the physical limitation itself in the search for work.

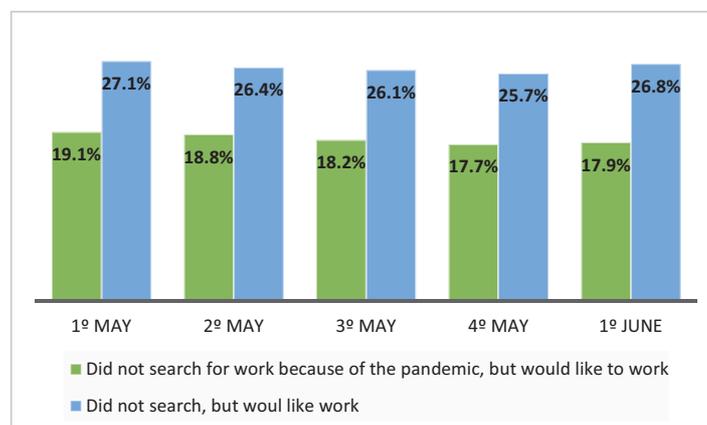
9.7.1 COVID-19 and the Labor Market

According to PNAD COVID-19 (IBGE, 2020), in the fourth week of May, out of the 74.6 million people of working age who were out of the labor force, 25.7 million (or 34.4% of the total) did not look for a job but stated that they would like to work (the discouraged ones). It is worth mentioning that the pandemic was probably the main factor that led people who would like to work not to look for a job in the reference week; according to IBGE, of this contingent of people, 17.7 million stated that they had not sought employment due to the pandemic or due to lack of work in the locality.

The indicator of adherence to social distance, as shown, peaked at the end of March and dropped systematically from that point on, reflecting the ever-reducing adherence to the rules of isolation. The degree of rigidity of the legal measures of social distancing, according to the indicator developed by the IPEA, reduced only slightly in April and increased again in May. On June 20, the in-loco social isolation index was just under 40% while the index of legal distance measures was approximately 55%.

⁷National Household Sample Survey Continues (Continuous PNAD) aims to monitor the quarterly fluctuations and the evolution, in the short, medium, and long terms, of the workforce and other necessary information for the study of the socioeconomic development of the country.

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Graph 9.3 PNAD COVID-19: Effect of the pandemic on the demand for work (in 1000 people and in %). *Source:* PNAD COVID-19/IBGE.

The decline in the social isolation index seems consistent with the observation derived from PNAD COVID-19, that the increase in unemployment in recent weeks has reflected much more the increase in the labor force (i.e., in the number of people looking for employment) than the drop in occupation. Corroborating this perception, while the level of employment decreased by 0.3% between the first week of May and the first week of June, the number of people in the workforce expanded by 1.3% (IPEA, 2020).

We present in Graph 9.2 the percentage of employed persons and economically active (EA) persons and unemployment rates per week from data collected in the months of May and June 2020.

In Graph 9.3, we will show the number of people who did not seek employment but would like to work (the discouraged) and the number who did not seek employment because of the pandemic but would like to work and finally the percentage of unemployed people.

According to IBGE (2020), the workforce and its performance between 12 July and 18 July 2020 is according to Chart 9.1.

Regarding the income of employed persons (Chart 9.1), 36% had a lower income than that normally received. This drop in income is due to the public policies that allowed entrepreneurs to reduce the workload and suspend the employment contract through

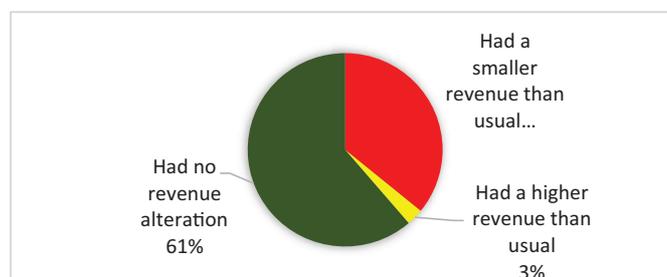


Chart 9.1 Income of employed persons during COVID-19. *Source:* (IBGE 2020).⁸

Provisional Measure (MP) 936/2020 (Emergency Employment and Income Maintenance Program)⁹ effective from April 1, 2020, authorizing employers to reduce employees' wages and working hours during the coronavirus pandemic to preserve jobs. In both cases, the government will compensate part of the loss in the workers' remuneration through the social security benefit, which is an amount that the Federal Government will pay to the employee in the case of proportional reduction of the working day and salary and temporary suspension of the employment contract. The benefit amount was based on the monthly unemployment insurance amount to which the employee would be entitled. The amount will depend on what change was made in the employment contract. The amount paid by the Federal Government will not exceed the ceiling of unemployment insurance, which is R\$1813¹⁰ (i.e., USD 349.33).

Other factors that have prevented a more significant increase in the unemployment rate have been the possibilities of remote work in several productive activities and the use of temporary leave from work, with maintenance of the occupation. According to the survey, in the last week of May, there were 8.8 million people working

⁸<https://covid19.ibge.gov.br/pnad-covid/trabalho.php>

⁹MP 936/2020 aims to preserve employment and income, guarantee the continuity of work and business activities, and reduce the social impact resulting from the consequences of the state of public calamity and public health emergency. Provisional Measure 936/20 creates unemployment insurance benefits in a supplementary format of up to 70% of wages to compensate workers' wage reductions.

¹⁰USD 5.19 (on April 1, 2020).

remotely in the country (home office or telework). The percentage of persons employed and not on leave who worked remotely in the total employed population and not on leave varied between 13.1% and 13.4% in May. With regard to employed persons who were temporarily removed from work, there were 17.6 million workers in this condition in the last week of May, 14.6 million of whom (or 82.8% of the total) were in this condition due to social distance (in quarantine or isolation, under social distance, or on collective vacations).

A small portion of the population worked remotely, which meant 8.2 million people. The level of education of people in remote work was fundamentally marked by those workers with a higher level of education, where people with higher education or postgraduate education represented 31.9%, followed by those with incomplete higher education or complete high school (5.9%), those with complete elementary school or incomplete high school (1.2%), and persons without instruction or incomplete elementary school (0.3%). These figures reflect the situation in June 2020 (IBGE, 2020).

The number of households that received emergency aid (AE) from the Brazilian government was 43%. The average income from emergency assistance received by households was of R\$881 (USD 169.75), with the majority being of the population from the north and northeast of the country.

The breakdown of data by region show that for the northeast and the north, the effect of AE was even more significant, not only because the value of this emergency benefit was greater in these regions, but also because in these locations the average of yields is lower (Table 9.2). In the north, the average AE (R\$936.16) was 17% higher than the average received by self-employed workers (R\$801.46). Regarding domestic work (R\$616.73), the assistance was 52% higher. In the northeast, comparisons show that the average aid received (R\$907.37) was 46% higher than the income of self-employed workers (R\$616.6) and 87% higher than the income of domestic workers (R\$485.76).

In the analysis of households per decile of income per capita (Table 9.3), it appears that 72% of the households in the lowest income decile obtained the benefit. This proportion rises to 88.7%

Table 9.2 SE and income from work as on May 2020 (in R\$)

	Actual average income actually received by all employed persons with income from work			
	Average AE income received by households	All busy	Domestic workers	Self-employed
Brazil	846.50	1898.86	698.37	1092.12
Norte	936.16	1495.27	616.73	801.46
Nordeste	907.37	1319.33	485.76	619.6
Sudeste	790.58	2125.84	775.52	1264.49
Sul	771.89	2098.87	788.94	1469.92
Centro-Oeste	794.12	1167.55	788.91	1263.52

Source: PNAD COVID-19/IBGE.

Elaboration: Conjuncture Group of the Directorate of Studies and Macroeconomic Policies (DIMAC) of IPEA (apud IPEA, 2020).

in the following decile and gradually decreases until reaching 5% in the highest income decile.

The weight of the EA in per capita household income can be analyzed in Table 9.4. For the households of the lowest income percent, the EA meant a significant portion of the income. In the case of the lowest percent, it can be observed that the aid represented

Table 9.3 Households benefited by AE in each decile (income in R\$)

Income decile*	Upper limit of per capita household income (in R\$)	Total households (in thousands)	Total households benefited (in thousands)	%
1	56.62	6780	4872	72
2	233.18	5047	4074	80.7
3	348.83	5261	3570	67.9
4	499.88	4698	2902	61.8
5	645.54	7208	3506	48.6
6	832.65	6157	2575	41.8
7	1044.98	5095	1603	31.5
8	1440	10,658	1635	15.3
9	2275.13	8184	1106	13.5
10		8935	461	5.2
		68,023	23,304	38.7

*Source: PNAD COVID-19/IBGE. Elaboration: DIMAC/IPEA Business Group (apud IPEA, 2020).

†The 1st decile is the cutoff point for 10% of the lowest data, that is, the 10th percentile.

Table 9.4 Participation of the EA in per capita household percent

Income decile	Per capita household income (in R\$)	Household income per capita excluding the EA (in R\$)	Difference in per capita household income due to the EA (in R\$)	EA participation in the household income per capita (%)
1	238.03	10.64	227.39	95.53
2	352.85	146.08	206.77	56.8
3	453.69	295.77	157.92	34.81
4	554.72	414.47	140.25	25.28
5	672.64	553.40	119.24	17.73
6	826.83	729.71	97.12	11.75
7	1014.27	938.08	76.19	7.51
8	1231.05	1184.99	46.06	3.74
9	1823.75	1785.40	38.35	2.1
10	4661.66	4646.14	15.52	0.33
	1189.79	1078.31	111.48	9.37

Source: PNAD COVID-19/IBGE. Prepared by DIMAC/IPEA (apud IPEA, 2020).

almost the total per capita household income (about 95%). In the second- and third-lowest income percent, the EA represented more than a third of the household income per capita (59% and 35%, respectively). Inward from the other lower income percent, the participation of the EA in household income was also substantial.

9.7.2 The Different Sectors of the Economy and COVID-19

According to the IPEA (2020), the Cielo index of nominal retail revenue, which compares the weekly sales of different segments of the trade in relation to the precrisis period, shows that the strong drops in sales at the end of March and April have been giving way to less negative variations in all segments. In this recovery, the segments of other nondurable consumer goods and clothing stand out. In furniture and appliances, construction materials, and other consumer durables, the variations are already positive.

As shown in Chart 9.2, drugstore and pharmacy retailers had a very large growth (36.1%) in the week from 3/15 to 3/21 of 2020, falling again in the following weeks.

The same did not happen in the retail of super- and hypermarkets, which in the week from 3/15 to 3/21 of 2020 had an increase of 57.8% and remained high, although not at the same level, closing the week from 6/14 to 6/20 with an increase of 18.2%.

In the industry, preliminary indicators point to the beginning of a reversal of the strong fall in April 2020. There are indicators of resumption of production in sectors such as the automobile industry, clothing, machinery and equipment, and information technology and electronics. On the other hand, it is estimated that the food industry, which grew in April (+3.3% in relation to March) amid the generalized retraction of the other segments of the manufacturing industry, fell in May (−1.3%).

Another important point for analyzing the resumption in the industry is the consumption of electricity by the industrial sector, which is one of the variables that point to the resumption of production. After a sharp drop in April 2020, there was an almost general recovery in May. In June (average of the first twelve days), some sectors, the most affected in April, maintained their growth, while in others, there was a slight decrease compared to May.

Chart 9.2 Cielo retail index: Nondurable consumer goods—variation in nominal revenue in relation to February (equivalent days) of 2020, with calendar adjustment (%)

Pharmacies and drugstores		Super- and hypermarkets	
3/1-3/7	4.5%	3/1-3/7	3.3%
3/8-3/14	15%	3/8-3/14	11.3%
3/15-3/21	36.1%	3/15-3/21	57.8%
3/22-3/28	-16.2%	3/22-3/28	5.7%
3/29-4/4	-11.2%	3/29-4/4	11.8%
4/5-4/11	-8.9%	4/5-4/11	10.8%
4/12-4/18	-13.9%	4/12-4/18	20.5%
4/19-4/25	-15%	4/19-4/25	22.7%
4/26-5/2	-10%	4/26-5/2	19.9%
5/3-5/9	-2.9%	5/3-5/9	16.5%
5/10-5/16	-5.2%	5/10-5/16	8.6%
5/17-5/23	-10.2%	5/17-5/23	12.9%
5/24-5/30	-13.2%	5/24-5/30	7%
5/31-6/6	-1.5%	5/31-6/6	15.7%
6/9-6/13	-0.9%	6/9-6/13	18.1%
6/14-6/20	-7.1%	6/14-6/20	18.2%

Source: Modified from IPEA, 2020.

The industry's confidence indexes in June 2020, by the surveys by both the Brazilian Institute of Economics (IBRE) of the Getúlio Vargas Foundation and the National Confederation of Industry (CNI), showed an important recovery. In the case of the IBRE survey, it advanced to 76.6 points, compared to 61.4 points in May, reflecting an improvement both in the current situation index (77.8% in June compared to 68.6% in May) and in the index expectation, which went from 54.9% to 75.5% in the period. In the CNI, where neutrality corresponds to 50% points, the index went from 34.7% points to 41.2% points (IPEA, 2020).

Part of the confidence presented by the industry area is due to the government's income transfer program that took place

through AE,¹¹ which began to take shape as of second half of April 2020, causing an important impact on sales. The National Treasury has already made disbursements of R\$ 95.6 billion through this program, which does not mean that this amount has already reached families. Assuming that these payments refer to two months' worth of the aid, which would give R\$47.8 billion per month, one can compare it with an estimate of the pre-COVID-19 income of the target population of the program. The mass income from the main job received monthly by persons employed in the informal sector (employees without a license and employers not in the National Register of Legal Entities [CNPJ] and self-employed persons not in the CNPJ) in the quarter ended in February 2020, before the crisis worsened, was R\$49.7 billion. The latest forecast of the total spending on AE is R\$152.6 billion, which is equivalent to about 2.2% of the projected GDP for the year (IPEA, 2020).

9.8 Small and Medium-Sized Enterprises

We will now deal with the impact on small and medium-sized companies, which are the most affected by the fragile or no short- and medium-term planning, basically in terms of the necessary working capital. These companies deserve to be highlighted in this study because they employ a number of workers who do not need to have any major specialization.

In 2019, 16% of the adult Brazilian population was part of the "established entrepreneurs." Brazil was in 2nd place in the ranking of the 50 countries participating in the survey that year. This is an indication that the relative participation of the Brazilian population in conducting small businesses (in the CNPJ or not) in the country is high (SEBRAE, 2020).

¹¹Emergency aid is financial benefit granted by the Federal Government for informal workers, individual microentrepreneurs, and the self-employed and unemployed and aims to provide emergency protection during the period of coping with the crisis caused by the coronavirus pandemic (COVID-19) amounting to R\$600, or USD 115.061 (USD 1 = R\$5.19 as of 4/4/2020). From <<https://www.gov.br/cidadania/pt-br/servicos/auxilio-emergencial>>.

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SEBRAE conducted a survey from 6/25 to 6/30 of 2020 in the universe of 17.2 million small businesses with the following sample size and distribution: 6470 respondents from all 26 states and Federal District, composed of 57% MEI, 38% ME, and 5% EPP (*size declared in the survey), with a sample error of $\pm 1\%$ for national results, with a confidence interval of 95%.

The survey presented data such as the drop in revenue, companies that requested financing from financial institutions, and the return of requests, both positive and negative, among other information.

We will now present the data considered relevant for the analysis of the economic recovery of companies of this size

Chart 9.3 represents the turnover of small businesses in the precrisis period of the COVID-19 from 3/23 to 6/30 of 2020 by region and in Brazil.

The graph shows that the southeast region has -53% of revenue recovery, the lowest index, lower than the average of Brazil; the southern states have the same percentage as of Brazil, of -51% ; and the other regions have the recovery slightly higher, although the pace of recovery is slow, in the form of a ramp.

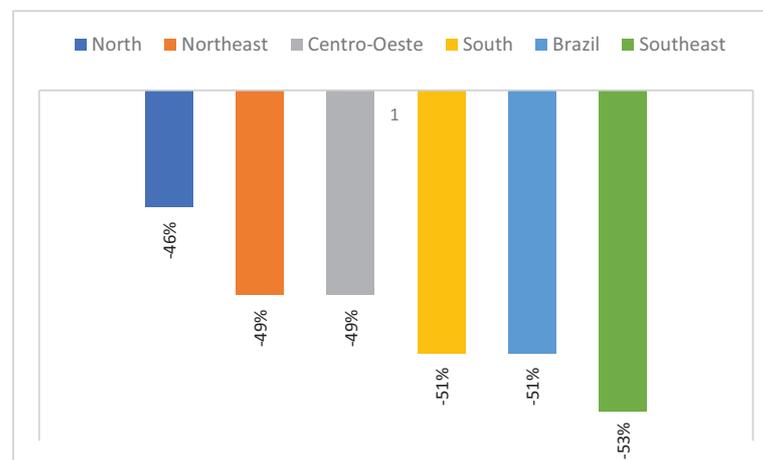


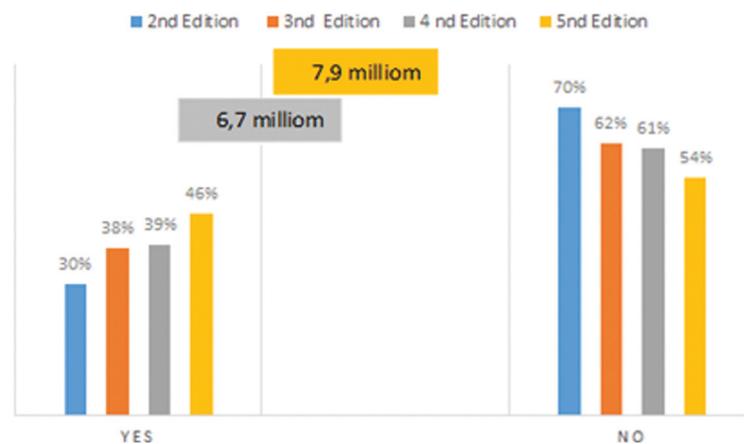
Chart 9.3 Revenue in relation to the precrisis period. *Source:* (SEBRAE, 2020).

The fifth edition of the survey “The Impact of the Coronavirus Pandemic on Small Businesses” shows that the lack of guarantees was one of the main reasons informed by the entrepreneurs for not being able to obtain credit from financial institutions. Therefore, the Guarantee Fund is a mechanism used to grant guarantees complementary to the contracting of credit operations to finance investments by companies with financial institutions (SEBRAE, 2020).

In times of turbulence in the economy, small companies need financial support to remain active in the market. However, this is one of the main negative impacts, as they are hardly able to guarantee the capital that is being requested from financial institutions, as shown by the research carried out by SEBRAE, demonstrating the difficulty of obtaining credit for their business.

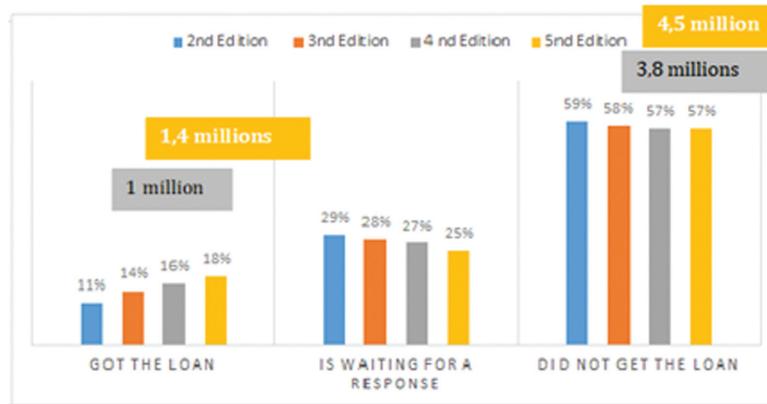
Graph 9.4 shows that in the fifth edition of the survey, there was an increase in companies requesting a loan, going from 7.9 million in the fourth edition to 6.7 million in the fifth edition. This proportion is higher among micro- and small companies by 57%.

Regarding the return of the loan request to financial institutions, it is observed that a few companies obtained a loan. Only 1.4 million, that is, 18% of the total research population, had their request



Graph 9.4 The number of companies that applied for a loan. *Source:* (SEBRAE, 2020).

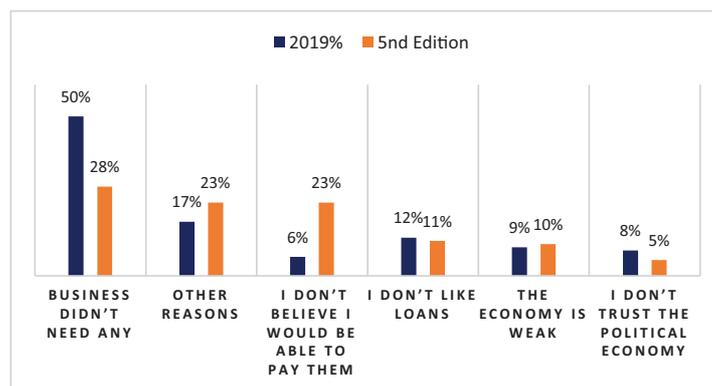
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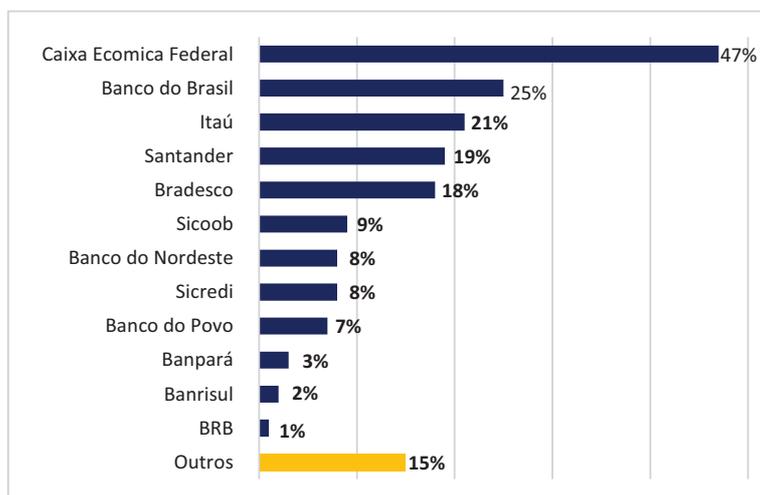
Graph 9.5 Status of loan applications to financial institutions. *Source:* (SEBRAE, 2020).

fulfilled; 4.5 million (59%) failed to obtain financing; and in the 5th edition, 29% are still keeping their request back (Graph 9.5).

Graph 9.6 shows us the reasons that entrepreneurs in this niche would seek bank loans, drawing a relationship between 2019 and 2020. Of the entrepreneurs surveyed in 2019, 50% believed that they did not need a loan, the number reducing to 28% in 2020. In 2019, 6% of the entrepreneurs believed that they would not



Graph 9.6 Answers to the question, why haven't you tried bank loans since the beginning of the crisis? *Source:* (SEBRAE, 2020).



Graph 9.7 Financial institutions sought for loans. *Source:* (SEBRAE, 2020).

be able to repay the requested loan, and this number increased to 23% in 2020. In 2019, 9% of those surveyed believed the economy was weak; very little changed in 2020, with this percentage increasing to 10%. And in 2019, 8% of the entrepreneurs said they did not trust the economic policy, the percentage reducing 5% in 2020.

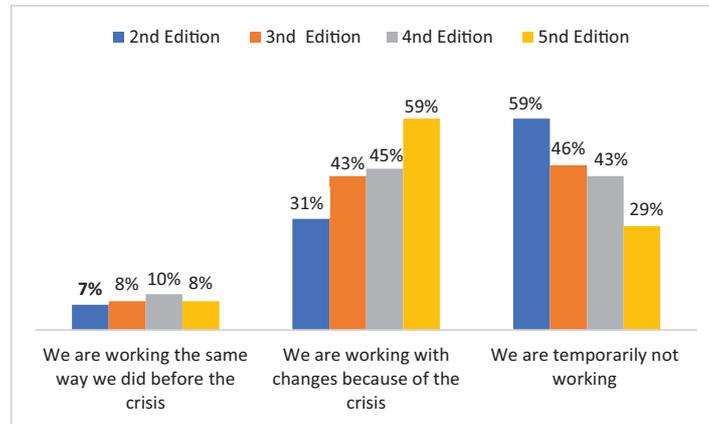
Regarding the financial institutions that entrepreneurs sought loans from, the most sought after in the 5th edition of the survey were government banks, as shown in Graph 9.7.

Of the financial institutions that were sought for a loan as a means of paying off debts and remaining in the market, 72% of entrepreneurs sought government institutions; the remaining 28% sought loans from private or cooperative institutions.

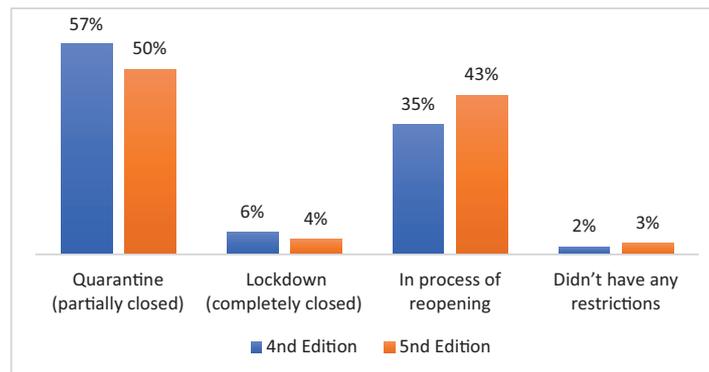
Graph 9.8 shows the situation of the companies in relation to the change in their functioning and whether they have ceased to function.

As can be seen, more companies that were stopped have started to work again. The “temporary interruption” drops from 43% to 29%. The number of companies that closed their activities totally increased from 3% to 4% (a barely perceptible increase).

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Graph 9.8 Answers to the question, did your company change its operations with the crisis? *Source:* (SEBRAE, 2020).



Graph 9.9 Movement of people in the municipality. *Source:* (SEBRAE, 2020).

Graph 9.9 shows the information as a relation to the restriction of movement of people in the municipalities studied, from 5/29 to 6/2 and from 6/25 to 6/30 of 2020.

About 30 days after the last survey, it was noted that taking into account the national scenario, the movement of people was reduced from 57% to 50% because of quarantine and partial closure. In the same periods, the movement of the people was reduced from

6% to 4% because of total closure (lockdown); in the process of reopening, the movement of the people increased from 35% to 43%, and the number of those who faced no restriction on movement increased from 2% to 3%.

In June 2020, the country had reached the figures of 101,149 deaths and 3,035,422 infections caused by the new coronavirus since the beginning of the pandemic. The state with the highest number of deaths was São Paulo (25,114), followed by Rio de Janeiro (14,080) and Ceará (7954). The figures from the Ministry of Health are in line with the most recent bulletin from the National Council of Health Secretaries, which created a platform to record data on the new coronavirus in the country after the Ministry of Health started to disclose, at the beginning July 2020, the figures in less detail. After the controversy caused by the change and a decision by the Federal Supreme Court on the matter, the Ministry of Health started to release the complete numbers.

9.9 Final Considerations

In view of the data presented, we observed that some lessons in relation to the Spanish flu and COVID-19 were not learned, mainly in terms of the real severity, the speed of spread, and the mortality in the population caused by the virus. Neither people nor governments understand the need for social distancing to minimize the degree of contagion of the disease, guided by those who can better guide science, the medical profession, and virology students.

As of August 9, 2020, the number of deaths in the United States was 161,964; in Brazil 101,049; in Mexico 52,006; and in the world 728,612.

In relation to public policies, we observe that the world did not consider it to be a pandemic with a high degree of mortality and diverse impacts, including on the economy, until it was too late. The same was the case with the Spanish flu. At one of the main world conferences, the Brussels Conference held in September 1920, where representatives of the business and banking sectors from more than 40 countries were present, the Spanish flu and its consequences found literally no mention.

Brazil sought palliative measures to try to reverse the economic scenario of falling sales and production, but with little representation, as shown by the GDP forecast figures and the resumption of industries.

Despite the high demand for loans by small companies from banks managed by the government, these were not approved according to the SEBRAE survey, which indicated that 4.5 million entities did not have their credit approved, which possibly resulted in numerous companies closing their doors for ever, and it is unlikely that the economy will be able to rebuild in the short term, with 2021 not being the year we will see a return to the economic level before the pandemic.

It is clear that the world has not been and is not prepared for pandemics. We cannot forget that people are not numbers. Each life is important, and pandemics need to be seriously combated with public policies and science. Our leaders need to have a long-term vision in relation to public health and how to solve economic problems with greater agility, because in such crisis, workers' income fall and so does the level of employment and the income of companies, as we saw in this study.

This analysis is still incomplete, as we do not have a vaccine that will put an end to this pandemic. The methods for combating it are palliative, the knowledge of COVID-19 is still minimal, and even today, as yesterday, measures such as social distance and wearing masks can protect us from contagion. The number of vaccines under development in various parts of the world as of July 2020 was 166, with at least 24 of them being tested on humans, according to the WHO. The tests of four vaccines involved the participation of Brazil. Five of these were already in Phase 3: the one developed by Sinovac (China), the one by Sinopharm with the Wuhan Biological Institute (China), Sinopharm in partnership with the Beijing Biological Institute (China), the one developed by the University of Oxford (United Kingdom), and the one by Moderna (United States). Of these, two (Sinovac and Oxford) are conducting tests in Brazil.

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