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Entrepreneurship in pandemic times: impact of the COVID-19 pandemic on entrepreneurship rates in Brazil in 2020

Empreendedorismo em tempos de pandemia: impacto da pandemia de COVID-19 nas taxas de empreendedorismo no Brasil em 2020

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ABSTRACT

The study aimed to analyze the impacts of the Covid-19 pandemic on entrepreneurship rates in Brazil in the year 2020. The methodology used was of the bibliographic type, characterized as exploratory, quantitative, and documental, with data from the research on entrepreneurship carried out by the Global Entrepreneurship Monitor, in partnership with SEBRAE and IBQP and the unemployment survey carried out by the IBGE from

2017 to 2020. The research showed that the Covid-19 pandemic reduced the rate of entrepreneurship and increased the rate of nascent entrepreneurs due to increased unemployment.

Keywords: entrepreneur, entrepreneurship, Covid-19, pandemic, unemployment.

RESUMO

O estudo teve como objetivo analisar os impactos da pandemia de Covid-19 nas taxas de empreendedorismo no Brasil no ano de 2020. A metodologia utilizada foi do tipo bibliográfica, caracterizada como exploratória, quantitativa e documental, com dados da pesquisa sobre empreendedorismo realizada pelo Global Entrepreneurship Monitor, em parceria com o SEBRAE e o IBQP e da pesquisa de desemprego realizada pelo IBGE de 2017 a 2020. A pesquisa mostrou que a pandemia da Covid-19 reduziu a taxa de empreendedorismo e aumentou a taxa de empreendedores nascentes devido ao aumento do desemprego.

Palavras-chave: empreendedor, empreendedorismo, covid-19, pandemia, desemprego.

1 INTRODUCTION

From a social point of view, the entrepreneur's activity is as old as the exchange and commerce between individuals in society [1]. However, over the years, the concept of entrepreneurship has changed. According to Blackburn [2], entrepreneurship is not a new phenomenon in society, but it is certainly dynamic and follows the main changes in the market.

The first entrepreneurs, such as the navigator Marco Polo, who sought to establish a trade route to the East around 1755, lived in a socioeconomic environment characterized by relative stability. They held the procedures used in production, whose production techniques passed from generation to generation without needing to adapt to significant transformations in the process. Today's entrepreneurs, in turn, are in a completely different world, characterized by rapid transformations and great competition, and are seen as multifaceted characters [3].

With the advancement of new technologies in the manufacturing processes of products and services, entrepreneurs had to adapt very quickly to the main changes in the market, especially after the arrival of globalization and the internet by consumers and suppliers.

According to Schumpeter's Theory of Economic Development [4], the entrepreneur is one of the primary agents of transforming a country's economy. Through innovations such as a new product, new process, new source of raw material, new market, and a new form of organization, it can initiate a broad process of economic development.

One of the great examples of this process of economic development caused by the transformation of entrepreneurs to improve production is the creation of industrial machines to optimize the production of products, in the first industrial revolution, in England, in the eighteenth century. According to Oliveira [5], the transformation provided by the Industrial Revolution in England was a reforming process that provided an opportunity for accelerated growth, both in the urban and industrial environments.

Entrepreneurship in Brazil began to develop in a broader and more impactful way around the 1990s due to several liberal policies stimulated by the federal government that aimed, among other objectives, to move the economy and reduce inflation.

During this period, entities such as the Brazilian Micro and Small Business Support Service (SEBRAE) and the Brazilian Society for Software Export (SOFTEX) emerged to help people who wanted to undertake but needed to gain theoretical knowledge on how to open or run a business. Before the 1990s, the topic was not much discussed, and the creation of micro and small companies in Brazil [6].

Entrepreneurship is a very recent topic of study in Brazil. Before the 90s, many people who desired to undertake could not find enough jobs to subsidize the foundation of their businesses. According to Halicki [7], in addition to the lack of information, there was also a lack of competitiveness between companies, the unfavorable economic environment for trade, and political instability made it difficult for entrepreneurs to open their businesses.

Currently, in Brazil, SEBRAE has been considered the body responsible for implementing the culture of entrepreneurship. This body has among its main objectives to guide entrepreneurs when opening their businesses, help to expand the sources of funds, improve efficiency in the application of resources and expand specific knowledge about business management.

With the arrival of the new coronavirus (SARS-CoV-2) pandemic in Brazil, state and municipal governments have adopted some measures to curb the spread of the

disease. Among the main measures adopted by the public authorities were the social isolation of the population, the restriction of the commerce system only to services considered essential, and the paralysis of production in industries.

The closure of trade indefinitely brought an unprecedented crisis for entrepreneurs working in this segment. The loss of revenue caused by the reduction in the population's demand for products and services during the pandemic forced companies to reduce their operating costs [8].

Many companies sought alternatives to minimize their expenses and not dismiss their employees. Some measures, such as salary reduction, reduction of working hours, collective vacations, and anticipation of vacations, were used by most companies. However, it was not enough for many companies to completely close their doors or fire a considerable part of their employees [9].

The layoffs triggered by the Covid-19 pandemic led to a rise in the unemployment rate in 2020, with the total unemployed population reaching 13.5 million, equivalent to a rate of 14% of the country's economically active population [10]. This portion of the population that ended up unemployed had to resort to some way of generating income to support their families, seeking a possibility in entrepreneurship, selling products, or providing services.

Fairlie [11] states that the market's conditions become a determining factor for entrepreneurship development. As a result, the higher the unemployment rate, the greater the incentive to create new businesses.

Leković and Marić [12] state that in periods of crisis, the entrepreneurial environment undergoes significant changes in the form of economic redistribution, creating opportunities for the development of entrepreneurial activity in specific segments, such as the sale of protective masks and gel alcohol in the case of the crisis caused by the Covid-19 pandemic.

However, many entrepreneurs started their businesses informally, without a signed Work Card and Social Security CTPS. Opening a formal company guarantees the entrepreneur registration in the National Register of Legal Entities (CNPJ). With the CNPJ, it is possible to open a personal legal account, request a credit card machine and access specific lines of credit with more attractive interest rates [13].

Entrepreneurship can, therefore, be an income alternative for a large part of the population, from people who are unemployed to great entrepreneurs who already have successful businesses and envision a market need with an innovative product or service, simply of "competencies and skills such as the ability to analyze, innovate, take risks, identify opportunities" [14, p. 94].

The economic crisis triggered by the closure of trade and the increase in unemployment among the population during the Covid-19 pandemic may have boosted the closure of companies that were already operating before the pandemic, as well as the creation of new companies, resulting from the need of the portion of the population that ended up unemployed to seek an alternative source of income.

As a result, the study aimed to verify whether the Covid-19 pandemic impacted Brazil's entrepreneurship rates in 2020.

2 THEORETICAL REFERENTIAL

More precisely, the theoretical bases that supported the study will be presented on Entrepreneur, Entrepreneurship, Unemployment, Covid-19 Pandemic and Micro and small companies and individual entrepreneurs.

2.1 ENTREPRENEUR

According to Degen [15], the term entrepreneur derives from the English entrepreneur, derived from the French word entrepreneur, and means a person who takes risks and starts something entirely new. However, since the term's origin, the concept of entrepreneur has undergone modifications based on the historical and social context in which it was inserted.

In the Middle Ages, for example, an entrepreneurial activity referred to the action of a participant or manager of large production projects and works. In this context, the entrepreneur was not at risk, as he only managed the resources received and, generally, was hired by the government. The link between the term entrepreneur and risk developed in the 17th century, when the entrepreneur entered into a fixed-value contractual agreement with the government to perform a service or supply predetermined products; thus, the profit or loss belonged to the entrepreneur [16].

Later, in the 18th century, Richard Cantillon defined the capitalist entrepreneur as a rational man capable of facing the challenge of risk, and in particular, that of the market economy. The entrepreneur belongs to the class of those who live in uncertainty, who must always reflect and use reason-being seen as a rational man par excellence because he operates in a mercantile society where everything is regulated by market competition. In short, the entrepreneur must be rational to calculate the risks, as the market subsequently evaluates the pertinence or usefulness of the production carried out [17].

In the 1980s, Schumpeter [18] associated the entrepreneur with economic development, innovation, and taking advantage of opportunities. The entrepreneur is the one who destroys the existing economic order by introducing new products and services, creating new organizational forms, or using new resources or materials. Thus, the entrepreneur is characterized mainly by innovation. He is not an inventor but an individual capable of introducing transformation in the industry and thus producing innovation.

The association of innovation with the entrepreneur can also be observed in the perception of Dolabela [19], who sees the entrepreneur as a professional dedicated to generating wealth at different levels of knowledge, innovating, and creating products or services in the most diverse areas. The entrepreneur, therefore, is an essential mechanism for competitiveness between companies because the more a country innovates, the more competitive it becomes.

According to Halicki [7], although it is difficult to find an exact definition for an entrepreneur, that is, the professional who supports entrepreneurship, he is characterized as a creative, daring, persistent, innovative individual, attentive to current information, in constant search for paths and solutions that overcome the obstacles presented, always supported by the identification of the needs of the individuals involved, in order to generate jobs, value and contribute to economic and social growth.

In a globalized and highly competitive economy, entrepreneurial activity is one of the essential driving and vital forces of economic change [20]. Primarily due to the need to generate new jobs after the Covid-19 pandemic, many people lost their jobs and are looking for new opportunities in the market.

According to Dornelas [21], the undertaking is synonymous with involving people and processes that, together, lead to the transformation of ideas into opportunities so that the adequate and coherent implementation of these opportunities allows the creation of successful businesses.

The entrepreneur is, therefore, an essential factor in the countries' economic system for bringing about innovation and competitiveness for the national and international market, with new products and services, in addition to being an essential generator of direct and indirect jobs.

2.2 ENTREPRENEURSHIP

According to Yeung [22], any researcher working in entrepreneurship will invariably notice the lack of precision in defining the terms entrepreneurship and entrepreneur. The concepts developed by the leading theorists on the subject are used in the present work.

The concept of entrepreneurship has been changing over the years through market transformations such as globalization and the emergence of the Internet. Changes in the concept of entrepreneur reveal, in a way, the transformations of society itself and its evolution from an agrarian production base to a mercantile economy and, finally, the industrial development which preceded the contemporary world in this figure, of the entrepreneur [3].

The definition of entrepreneurship is comprehensive and covers several areas of activity, with a different definition for each topic addressed. However, according to Vale [3], the essence of the definition of entrepreneurship is the same among the main theorists on the subject: using a problem perceived by society as a business opportunity.

Entrepreneurship ranges from an idea of how to maximize available resources to the creation of an innovative product or service; as seen by Barretto [23, p. 190], "entrepreneurship is the ability to create and build something from very little or almost nothing," being a key factor for economic growth and with a substantial effect on the development of countries, job creation and social stability [24].

According to Angelo [25], entrepreneurship is related to the creation of value by people and organizations, working together to implement an idea through the application

of creativity, the ability to transform, and the desire to take what would commonly be called risk.

In recent years, entrepreneurship has been gaining ground. It is a crucial topic of debate in various public and private instances, as it is an important economic indicator of a country. Brazil has been giving due importance to entrepreneurship: programs to support entrepreneurial initiatives, specialized courses, the creation of entrepreneurship class entities, associations for entrepreneurs, events, seminars, and publications of studies on the subject have emerged to support more well-planned entrepreneurial initiatives [6].

One of the most consolidated definitions today is given by Hisich [26], treating entrepreneurship as a process of creating something different and with value, dedicating the necessary time and effort, assuming corresponding financial, psychological, and social risks, and receiving the consequent rewards of economic and personal satisfaction.

In Brazil, there are two models of entrepreneurship: the first is opportunity entrepreneurship, in which a product or service is developed after observing a demand that society presents, and necessity entrepreneurship, where people decide to open companies because they cannot find alternatives to work in the formal market [27].

Many of the population that lost their jobs were forced to look for an alternative to obtain resources, seeing entrepreneurship as an alternative. Those who lost their jobs and needed to look for an alternative in the labor market by opening their business fit into entrepreneurship out of necessity [27].

In addition, some entrepreneurs identified a problem in the market and sought to create a product or service to meet some needs of the population, thus fitting into the branch of entrepreneurship by opportunity [27].

The entrepreneurship rate is one of the leading indicators of the economy. If entrepreneurs are going through difficult times, such as that caused by an economic crisis, the number of jobs generated drops dramatically. Thus, the rate of entrepreneurship is directly related to the population's unemployment rate. The more entrepreneurs with their businesses running, the more formal jobs are generated.

2.3 UNEMPLOYMENT

According to Gautié [28], the term Unemployment is an invention of capitalist man to rationalize the functioning of the labor market. With the concern of losing their jobs, employees would be willing to work in terrible conditions to ensure no food shortage at home, causing entrepreneurs to provide a stable and active workforce for the industry with low wages.

The first debate on unemployment took place at the end of the Industrial Revolution, in the 18th century, in England, when it was found that new production technologies left many workers unemployed, which affected the country's economy circumstantially [29].

Unemployment has been a recurrent economic problem in developed nations, but with different implications over time since the historical context exerts significant influence on the explanations of economic relations [30].

In the Brazilian context, unemployment became an object of concern when the country ceased to be a monarchy and adopted the form of government of a federative republic in 1889. Over the years and with the advancement of the globalization of products and services, the issue of unemployment has been increasingly debated by the media and government representatives [28].

According to the Brazilian Institute of Geography and Statistics (IBGE), the definition, based on the criteria adopted by Brazil, for unemployment is that, in a simplified way, it refers to people of working age (above 14 years) who do not they are performing. Still, they are available and trying to find work. Thus, for a person to be considered unemployed, more is needed than just to be unemployed. This person must be looking for a job in the labor market [31].

According to Mandelbaum and Ribeiro [32], contrary to what happened in first-world countries, total employment was never part of the Brazilian reality. There has always been a large part of the population that was outside formal employment ties, dedicating themselves to unprotected and unregulated occupations called informal jobs.

In Brazil, several factors trigger the growth of the unemployment rate. Teixeira [33] lists some of them, such as, for example, the growth of the young population and the

permanence of the elderly in the labor market, with an increased life expectancy; replacement of labor by machines, among others.

The Covid-19 pandemic is not the sole factor for the high unemployment rate in Brazil, but it was one of the main drivers in 2020. With the adoption of quarantine, the closure of trade, and the stoppage of production in the industrial sector, entrepreneurs had to look for a solution to their companies' lack of income and, seeking to reduce expenses, many jobs were extinguished or suspended indefinitely.

2.4 COVID-19 PANDEMIC

The modern concept of a pandemic is a large-scale epidemic that spreads to several countries and more than one continent. An example is the so-called "Spanish flu," which followed World War I in 1918-1919 and caused the death of about 20 million people worldwide [34].

The definition of a pandemic presented by Chien [34] may seem simple, but it focuses on its most crucial aspect: spreading the disease worldwide. A pandemic can start as an outbreak or an epidemic. The change is the scale of the spread of the disease. Defines when a condition becomes a pandemic is, the World Health Organization (WHO).

Covid-19 is a disease caused by a new type of coronavirus called SARS-CoV-2. It belongs to the coronavirus family that causes respiratory infections. When observed under a microscope, the virus has this name because its shape resembles that of a crown [35].

Concerning the Covid-19 pandemic, the lack of knowledge of the consequences of the SARS-CoV-2 virus and uncertainty about the effectiveness of medicines made health authorities around the world seek non-pharmaceutical measures to prevent and reduce the contagion of the disease, using drastic measures such as quarantine, social isolation, and face-to-face closure of companies [36].

The first reported coronavirus case was in China, in the city of Wuhan, with 11 million inhabitants. The first warning from the Chinese government about the pandemic was on December 31, 2019, when the World Health Organization (WHO) received a statement from the Chinese authorities about a series of cases of pneumonia of unknown origin [37].

The World Health Organization (WHO) officially declared, on March 11, 2020, a state of a pandemic due to the spread of the SARS-CoV-2 virus, known as Covid-19, which has required rapid responses from governments to face the global escalation of the new virus [36].

According to the Federal Government website, the first case of Covid-19 in Brazil was reported in 02/26/2020, in the State of São Paulo, with patient zero having a travel history to Italy [38].

Since the first confirmed case of Covid-19 in Brazil, government authorities have sought to adopt public policies to contain the spread of the virus in the population. However, as highlighted by Werneck and Carvalho [39], the insufficient scientific knowledge about the new coronavirus, its high speed of dissemination, and the ability to cause deaths in vulnerable populations have generated uncertainties about what would be the best strategies to be used to face the epidemic in different parts of the world.

Since the beginning of the pandemic in Brazil in February 2020, the number of infected and deaths has grown significantly throughout the year. Brazil reported 7,714,819 cases of Covid-19 in 2020, the second-highest number of cases globally, and 195,742 deaths [40].

The most severe economic consequences of the crisis generated by the Covid-19 pandemic in Brazil were felt by entrepreneurs who are at the forefront of micro and small companies and individual microentrepreneurs. The lack of financial resources or experience in times of crisis caused many entrepreneurs to close their business doors or reduce their staff [41].

2.5 MICRO AND SMALL COMPANIES

Micro and small companies (MSEs) have as their legal basis in Brazil the Complementary Law nº 123/2006, also known as the National Statute of Micro and Small Companies, which establishes the general rules regarding the differentiated and favored treatment to be dispensed to micro-enterprises and small businesses within the scope of the Powers of the Union, States, Federal District and Municipalities [42].

According to the aforementioned Complementary Law, MSEs are classified according to their annual revenues as follows: microenterprises are those with annual

revenues of up to R\$ 360,000, while small companies are those with annual revenues between R\$ 360,000 and R\$ 4.8 million [42].

There is still a third category that must be presented for the present study, the individual micro-entrepreneur (MEI), who is an entrepreneur who works on his own, has a registration as a small entrepreneur, and can exercise one of the more than 460 modalities of services, commerce or industry, such as hairdresser, electrician, depilator, caregiver for the elderly and sick, cook [43].

The figure of MEI emerged in 2008 with Complementary Law No. 128/2008, seeking to formalize Brazilian workers who, until then, performed various activities without any legal support or job security. With the legislation in force since January 2009, more than 7 million people have already formalized as individual micro-entrepreneurs [43].

According to Siqueira, Rocha, and Telles [44], the MEI is an innovative and less bureaucratic way of legalizing small businesses, resulting in a substantial reduction in costs and obligations for small entrepreneurs who seek to offer their products and services outside informality.

MSEs and MEIs accounted for about 27% of GDP and 52% of formal jobs in 2018 [45]. Therefore, micro and small businesses are a very significant portion of the leading economic indicators in Brazil.

The effects of the Covid-19 pandemic crisis tend to weigh more heavily on entrepreneurs who had outstanding debts and were not prepared for the face-to-face stoppage of their activities. The pandemic led to the closure of micro and small companies already in operation before the year 2020, with more severe impacts on the branches that are more intensive in the marketing of products and labor [46].

After the arrival of the Covid-19 pandemic, micro and small companies gained even greater importance in the Brazilian economy, accounting for 75% of new job openings registered in 2020 [47].

Micro and small companies already in the job market before the arrival of the Covid-19 pandemic were heavily affected, with the closure of their business indefinitely or a significant reduction in their staff. Despite this impact on micro and small businesses

in Brazil, in 2020, MSEs and MEIs emerged as viable options for part of the population that lost their jobs and needed to somehow look for a source of income.

3 METHODOLOGY

The work used only secondary sources since the data presented were raised by research on entrepreneurship in Brazil and unemployment, without the need to raise new data to respond to the proposed objectives [48].

As for the nature, the research carried out is classified as applied, as it was aimed at the search for practical application regarding the influence of the economic crisis triggered by the Covid-19 pandemic on Brazilian entrepreneurship [48].

Regarding the approach, the research is classified as quantitative since a quantification and analysis of data on entrepreneurship rates and data on unemployment in Brazil was carried out. In the quantitative approach, data and information are quantified, classified, and analyzed [49].

Concerning the objectives, the research is considered exploratory descriptive since it sought to establish the relationship between the variables unemployment rate and nascent entrepreneurship rate during the Covid-19 pandemic, furthermore, for providing an overview of the impact caused by the Covid-19 pandemic on entrepreneurship rates in Brazil. The research is descriptive when the typology has as its primary objective the description of the characteristics of a given population or phenomenon or the establishment of relationships between variables. Furthermore, the typology is exploratory when developed to provide an overview of an approximate type about a particular fact [50].

As for technical procedures, the research can be classified as a documentary. It was based on research to gather additional information about the impact caused by the Covid-19 pandemic on entrepreneurship and unemployment rates in Brazil. Documentary research consists of an intense and extensive examination of various materials that were not used for any analytical work or that can be reexamined, seeking other interpretations or complementary information called documents [51].

Concerning temporality, the research is classified as cross-sectional because the data analyzed on entrepreneurship and unemployment rates cover the period from 2017 to 2020.

The study was based on research on entrepreneurship in Brazil, carried out by the Global Entrepreneurship Monitor (GEM), in a technical and financial partnership with the Brazilian Institute of Quality and Productivity (IBPQ) and the Brazilian Service of Support for Micro and Small Companies (SEBRAE), as well as in the Continuous National Household Sample Survey (PNAD/C), on the unemployment rate of the Brazilian population, carried out by the Brazilian Institute of Geography and Statistics (IBGE).

The data extracted from the survey on entrepreneurship in Brazil were: the total rate of entrepreneurship, the rate of nascent entrepreneurs, the rate of new entrepreneurs, and the rate of established entrepreneurs. While for the PNAD/C analysis, the extracted data were: the labor force rate, the employed population rate, and the unemployed population rate.

The data for the period between 2017 and 2019 was calculated with a view to creating a historical context, when there was no influence of the Covid-19 pandemic, in order to compare it with the year 2020, the beginning of the pandemic in Brazil, intending to analyze the differences presented between these two moments.

Initially, data on the rates of established and new entrepreneurs were collected to assess how the economic crisis caused by the new coronavirus pandemic impacted entrepreneurs who had businesses, in operation or maintenance phases, before the Covid-19 pandemic. 19.

Subsequently, data on the unemployment rate of the Brazilian population was collected, seeking to assess whether the variation in the unemployment rate, driven by the Covid-19 pandemic, had or not an impact on the rate of nascent entrepreneurs.

The rate of nascent entrepreneurs was raised to analyze how the portion of the population that lost their jobs due to the pandemic and the new coronavirus found entrepreneurship an alternative to obtain income.

Finally, data on the total rate of entrepreneurship were collected to verify how the Covid-19 pandemic impacted the total variation of entrepreneurship in the country.

4 DISCUSSION OF THE RESULTS

This topic deals with the results and discussions regarding analyzing data on entrepreneurship and unemployment rates in Brazil. It is structured into six sections: Rate of established entrepreneurs, Rate of new entrepreneurs, Rate of nascent entrepreneurs, Total Rate of entrepreneurship, Rate of unemployment, and Final analyses.

4.1 RATE OF ESTABLISHED ENTREPRENEURS

Established entrepreneurs have owned businesses in operation for more than three and a half years. These entrepreneurs have business models that are seen as strengthened and already consolidated by the market for having paid their owners some remuneration, in the form of a salary, pro-labore or other, for a period exceeding 42 months.

With the current competitive scenario and the rapid transformations of the market, only the most capable entrepreneurs who seek to implement these transformations in their businesses manage to prosper and exceed three and a half years in operation. These entrepreneurs, therefore, have a great business management capacity and often serve as a model for other emerging businesses.

The survey prepared by GEM on entrepreneurship in Brazil used as the basis for the data presented consisted of a household survey with a sample in the extract of the population aged between 18 and 64 years old seeking insertion in the labor market.

Notably, the rate of established entrepreneurs (EBO) corresponds to the ratio between the number of established entrepreneurs and the extract of the Brazilian population aged between 18 and 64 years. Table 1 presents the rate of entrepreneurs established in Brazil from 2017 to 2020.

Table 1. Rates of entrepreneurs established in Brazil
(For the period from 2017 to 2020)

Year	Established entrepreneurs	Extract from the Brazilian population aged 18 to 64 years	Established rate of entrepreneurs
2017	22.337.649	135.400.000	16,5%
2018	27.697.118	136.800.000	20,2%
2019	22.323.036	138.100.000	16,2%
2020	12.061.053	139.400.000	08,7%

Source: GEM, SEBRAE e IBPQ [52,53,54,55].

When analyzing Table 1, it is identified that the rate of established entrepreneurs increased by 3.7 percentage points between 2017 and 2018, with EBO jumping from 16.5% in 2017 to 20.2% in 2018. However, from 2019 onwards, this rate showed a downward trend.

Between 2018 and 2019, the reduction was 4.0 percentage points, from 20.2%, in 2018, to 16.2%, in 2019. The most significant reduction observed was from 2019 to 2020, when there was a reduction of 7.5 percentage points in EBO, jumping from 16.2% in 2019 to 8.7% in 2020.

There is every reason to believe that this sharper drop in the rate of established entrepreneurs in 2020 is associated with the preventive measures adopted by public authorities to contain the transmission of the new coronavirus, such as the closing of face-to-face points for an indefinite period in the retail sector and the stoppage of product production in the industrial sector, in addition to the increase in layoffs caused by the Covid-19 pandemic.

4.2 RATE OF NEW ENTREPRENEURS

New entrepreneurs own projects that have already remunerated their owners in some way for more than three months and less than 42 months (3.5 years).

Entrepreneurs classified as new have businesses at an early stage of development. They are not representing business models already consolidated by the market but are continuously improving the business model to become one.

In the present study, the analysis of the rate of new entrepreneurs (NBO) aims to identify the variation of Brazilian businesses that were in operation, in an initial stage, in the pre-pandemic period, with the year 2020, the beginning of the pandemic in Brazil.

The NBO is calculated using the ratio between the number of new entrepreneurs and the share of the Brazilian population aged between 18 and 64 years. Table 2 presents the rate of new entrepreneurs from 2017 to 2020.

Table 2. Rates of new entrepreneurs in Brazil
(Period from 2017 to 2020)

Year	Young entrepreneurs	Extract from the Brazilian population aged 18 to 64 years	Rate of new entrepreneurs
2017	22.093.966	135.400.000	16,3%
2018	22.473.982	136.800.000	16,4%
2019	21.880.835	138.100.000	15,8%
2020	18.730.815	139.400.000	13,4%

Source: GEM, SEBRAE e IBPQ [52,53,54,55].

The data in Table 2 demonstrate a behavior similar to that presented in Table 1 regarding EBO, with an increase in the rate in 2018 compared to 2017 and a reduction from 2019 onwards.

The rate of new entrepreneurs increased by 0.1 percentage points in 2018 compared to 2017. Henceforth this slight gradation, a reduction of the NBO is observed from 2019. Between 2018 and 2019, there was an attenuation of 0.6 percentage points, with a reduction in the rate of new entrepreneurs from 16.4% in 2018 to 15.8% in 2019. In 2020, as well as in the rate of established entrepreneurs, the EBO showed the most significant reduction between two years of the historical series studied, showing a reduction of 2.4 percentage points between 2019 and 2020, with a variation in the rate from 15.8%, in 2019, to 13.4%, in 2020.

The contraction in the rate of new entrepreneurs in 2020 presents the same probable reasons as those identified on the rate of established entrepreneurs, with the containment measures adopted by the authorities to contain the spread of the new coronavirus and the increase in the unemployed population caused by the Covid-19 pandemic. Since both types of entrepreneurs, established and new, were already active in the market before the arrival of the pandemic.

4.3 RATE OF NASCENT ENTREPRENEURS

Nascent entrepreneurs are those involved in structuring a new business with less than three months of activity in the market. These businesses have not paid wages, pro-labors, or any other form of remuneration to the owners for three months.

Nascent entrepreneurs started their businesses in the respective year in which the research carried out by GEM was published. With this, identifying the variation in the rate of these entrepreneurs in the year 2020 demonstrates how entrepreneurship emerged as an alternative for people who lost their jobs due to the new coronavirus pandemic.

Notably, the rate of nascent entrepreneurs (NEA) is calculated by the ratio between the number of nascent entrepreneurs and the share of the Brazilian population aged between 18 and 64 years. Table 3 presents the rate of nascent entrepreneurs from 2017 to 2020.

Table 3. Rates of nascent entrepreneurs in Brazil

Year	Nascent entrepreneurs	Extract from the Brazilian population aged 18 to 64 years	Rate of nascent entrepreneurs
2017	6.010.858	135.400.000	4,4%
2018	2.264.472	136.800.000	1.7%
2019	11.120.000	138.100.000	8,1%
2020	14.200.981	139.400.000	10,2%

(Period from 2017 to 2020)

Source: GEM, SEBRAE e IBPQ [52,53,54,55].

The data shown in Table 3 demonstrate a reduction of 2.7 percentage points in the NEA in 2018, compared to 2017, with a decrease from 4.4%, in 2017, to 1.7%, in 2018. After this fall, there was an increase in the rate of new entrepreneurs from 2019 onwards.

Between 2018 and 2019, there was an increase of 6.4 percentage points in the rate of nascent entrepreneurs, with growth of NEA from 1.7%, in 2018, to 8.1%, in 2019. Moreover, an increase of 2.1 percentage points in 2020 compared to 2019, with the NEA jumping from 8.1% in 2019 to 10.2% in 2020.

According to an executive report published by GEM in 2019, the significant increase of 6.4 percentage points in the rate of nascent entrepreneurs in 2019, compared to 2018, can be explained by the good social and economic moment the country was going

through, with the resumption of economy and optimism in the business and economic environment.

Among the likely reasons for the increase in the rate of nascent entrepreneurs in 2020 is the possibility that the pandemic not only caused the closure of businesses, as explained in the rates of established and new entrepreneurs but also created opportunities for opening From others.

For the analysis of nascent entrepreneurs, it is relevant to highlight the existence of two models of entrepreneurship in Brazil, as portrayed by Oliveira (1995), entrepreneurship by necessity and entrepreneurship by opportunity.

As the name suggests, entrepreneurship by necessity arises when a person finds himself without other possibilities to guarantee his livelihood. So he sets out on his initiative, with autonomy to generate income. The entrepreneur, by necessity, is the entrepreneur who decides to invest in his own business because the situation in which he finds himself ends up leading him to do so.

Entrepreneurship by opportunity, in turn, occurs when the entrepreneur identifies a particular need or desire in society. This demand creates the opportunity for this entrepreneur to offer the solution people ask for in the form of a product or service. In general, this type of entrepreneurship comes from an individual choice, in which the person has skills to be exploited in favor of the market.

That said, according to the survey prepared by GEM in 2020, among nascent entrepreneurs 2020, 50.4% launched themselves to open a business out of necessity. In 2019, this percentage was 37.5%. Showing an increase of 12.9 percentage points in entrepreneurship by necessity among businesses that emerged in 2020 compared to 2019.

The year 2019 portrayed a predominance of entrepreneurship by opportunity, which starts from an individual choice, where the entrepreneur has individual skills to be explored in favor of the market. While in the year 2020, there was a dominance of entrepreneurship out of necessity when the entrepreneur opened his business because he did not find alternatives in the market to obtain income.

4.4 TOTAL RATE OF ENTREPRENEURSHIP

The total rate of entrepreneurship demonstrates the portion of the population involved in some type of business, whether in the creation or operation phase. This rate is directly impacted by the behavior of the other three rates previously analyzed: the rate of established entrepreneurs, the rate of new entrepreneurs, and the rate of nascent entrepreneurs.

The total rate of entrepreneurs was analyzed to investigate how the arrival of the new coronavirus pandemic had a general impact on entrepreneurship in 2020.

The total entrepreneurship rate (TTE) is calculated by the ratio between the total number of entrepreneurs and the extract of the Brazilian population aged between 18 and 64 years. Table 4 presents the total entrepreneurship rate from 2017 to 2020.

Table 4. Total rates of entrepreneurship in Brazil

Year	Total number of entrepreneurs	Extract from the Brazilian population aged 18 to 64 years	Total rate of entrepreneurship
2017	49.332.360	135.400.000	36,4%
2018	51.972.100	136.800.000	38,0%
2019	53.437.971	138.100.000	38,7%
2020	43.986.939	139.400.000	31,6%

(Period from 2017 to 2020)

Source: GEM, SEBRAE e IBPQ [52,53,54,55].

The data on the total rate of entrepreneurship in Table 4 demonstrate that the TTE had been showing a continuous increase between 2017 and 2019. However, in 2020 it showed a large reduction.

The increase shown by the TTE between 2017 and 2018 was 1.6 percentage points, jumping from 36.4% in 2017 to 38% in 2018. In 2019, the rate increased by 0.7 percentage points, with an increase in TTE from 38% in 2018 to 38.7% in 2019.

In 2020, the total entrepreneurship rate showed the lowest value during the historical series studied, with a significant drop of 7.1 percentage points compared to 2019, with the TTE decreasing from 38.7%, in 2019, to 31.6%, in 2020.

This negative TTE result in 2020 was directly impacted by the sudden attenuation in the rate of established entrepreneurs, which showed a reduction of 7.5 percentage points compared to 2019. In addition, another variable relevant to this negative result was the reduction of 2.4 percentage points in the rate of new entrepreneurs compared to 2019.

Among the variables that influence the total rate of entrepreneurship, the only rate that increased in 2020 was the rate of nascent entrepreneurs. Exposing an increase of 2.1 percentage points in the year 2020 compared to 2019.

4.5 UNEMPLOYMENT RATE

The database for analyzing the unemployment rate is the Continuous National Household Sample Survey (PNAD/C), carried out since 2012 by the IBGE. However, it should be noted that in the PNAD/C, we will deal with the unemployment rate appearing under the name of unemployment in the analysis.

The main objective of PNAD/C is to produce indicators to monitor quarterly fluctuations and the evolution of the Brazilian workforce in the medium and long term to develop the necessary data for studies of the country's socioeconomic development.

In the PNAD/C, information on the theme of work is captured in two questionnaires: a reduced one restricted to information on work that generates income for the household, that is, whose application is aimed at the market, and an extended one, at a more comprehensive level, applied in the first interview of each household, which includes, in addition to the variables contained in the reduced one, information on other forms of work. For the analysis presented in the study, data referring to the questionnaire whose application is aimed at the market were used.

The PNAD/C is carried out using a probabilistic sample of households to guarantee the representativeness of the results. Every quarter, PNAD/C investigates around 211,000 households in approximately 16,000 census tracts.

The sample used as the basis for the PNAD/C is divided into two groups: over 14 years old, able to work, and under 14 years old, considered unable to work. Among the population over 14 years old and considered able to work, there is another subdivision into two groups: people included in the workforce and people outside the workforce.

The data analysis referring to PNAD/C was carried out to verify how the unemployment rate during the Covid-19 pandemic boosted the rate of nascent entrepreneurs in the year 2020.

For the analysis of the PNAD/C data, an arithmetic mean of the workforce rate, unemployment rate, and occupancy rate was performed for the four quarters of each year to compare with the rate of nascent entrepreneurs, calculated annually.

The number of unemployed divided by the total number of people in the labor force composes the unemployment rate. As a result, people outside the workforce are not considered, that is, people who are neither working nor looking for a job. Table 5 presents the unemployment rates for the period from 2017 to 2020.

Table 5. Unemployment rates in Brazil
(Period from 2017 to 2020)

Year	Work force	Unemployed	Occupied
2017	63,125%	8,1%	55,025%
2018	63,13%	7,825%	55,305%
2019	63,625%	7,6%	56,025%
2020	59,275%	8,15%	51,125%

Source: IBGE [56].

The data analysis in Table 5 indicates that the unemployment rate has shown a downward trend since 2018, when it presented a reduction of 0.275 percentage points compared to 2017, with the unemployment rate reducing from 8.1 %, in 2017, to 7.825%, in 2018.

The unemployment rate maintained, in 2019, a contraction concerning the previous year, when it showed a reduction of 0.225 percentage points compared to 2018, with a decrease from 7.825%, in 2018, to 7.6%, in 2019.

The highest value of the unemployment rate among the historical series studied was presented in the year 2020, the starting point of the Covid-19 pandemic in Brazil, reaching 8.15%, showing an increase of 0.55 percentage points concerning the year 2019 when the unemployment rate was at 7.6%.

This considerable increase in the unemployment rate in 2020 is possibly associated with the indefinite closure of retail stores, malls, event spaces, gyms, bars, and restaurants, among other diverse business models, causing a sharp reduction in your billing. With the extensive reduction in business operating income, many entrepreneurs

found no alternative to remain with their companies active during the pandemic other than to substantially reduce their staff.

According to Fairlie [11], the market's conditions become a determining factor for entrepreneurship development. The higher the unemployment rate, the greater the population's stimulus for creating new businesses. As a result, the increase in the unemployed population rate may have impacted an increase in the rate of nascent entrepreneurs in 2020.

4.6 FINAL ANALYZES

It can be inferred from the exposed data that the entrepreneurship rates of businesses already in the market before the start of the Covid-19 pandemic, the rate of established entrepreneurs, and the rate of new entrepreneurs suffered a retraction during the pandemic.

This decrease caused by the new coronavirus pandemic was more pronounced in the businesses that had been operating the longest in the market, established entrepreneurs, showing a reduction of 7.5 percentage points compared to the previous year and reaching the lowest value of the rate of entrepreneurs established during the historical series studied.

New entrepreneurs also showed a contraction in the rate during the pandemic, with a reduction of 2.4 percentage points compared to 2019, and reached the lowest value of the rate of new entrepreneurs during the analyzed period.

Among the likely reasons for this attenuation in the rate of entrepreneurs that were already in operation before the Covid-19 pandemic are the containment measures adopted to reduce the transmission of the virus, such as the closing of face-to-face points for an indefinite period in the retail sector and the stoppage of production in the industrial sector.

At the same time that there is a decrease in the rates of new and established entrepreneurs during the pandemic, there is an increase in the rate of nascent entrepreneurs in the historical series analyzed. The rate of nascent entrepreneurs increased by 2.1 percentage points compared to the previous year, demonstrating the highest value of the rate of nascent entrepreneurs in the last four years.

The unemployment rate also grew during the Covid-19 pandemic, with an increase of 0.55 percentage points compared to the previous year, demonstrating the highest value of the rate among the historical series studied, reaching an average of 8.15% of the unemployed population.

Everything leads us to believe that the growth directly influenced the increase in the rate of nascent entrepreneurs in the unemployment rate during the pandemic due to the people who lost their jobs due to the new coronavirus pandemic and found entrepreneurship an alternative to obtaining employment. Income.

It can still be concluded that a large part of these nascent entrepreneurs who opened their businesses during the pandemic were entrepreneurs out of necessity, given that the portion of the population that ended up being unemployed during the pandemic saw itself without other possibilities to guarantee their livelihood, leaving own initiative with autonomy to generate income.

The total rate of entrepreneurship also contracted during the Covid-19 pandemic. The TTE showed a continuous increase between 2017 and 2019. However, in 2020 it showed a reduction of 7.1 percentage points compared to 2019, reaching the lowest value of the total rate of entrepreneurship in the period studied. With this, everything leads us to believe that the Covid-19 pandemic harmed total entrepreneurship.

The reduction in the total rate of entrepreneurship during the pandemic was mainly affected by the attenuation of rates of entrepreneurs who already had active businesses in the market before the onset of the Covid-19 pandemic, EBO, and NBO.

With this, we can conclude that all entrepreneurship rates in Brazil were impacted by the Covid-19 pandemic, negatively impacting the rate of established entrepreneurs, new entrepreneurs, and the total rate of entrepreneurship. The only rate of entrepreneurship that grew during the new coronavirus pandemic was the rate of nascent entrepreneurs.

5 CONCLUSION

The present work had the general objective of evaluating the impact of the Covid-19 pandemic on Brazilian entrepreneurship in the year 2020, focusing on the documentary analysis of secondary data obtained by the survey on entrepreneurship in Brazil, carried

out by GEM, in partnership with IBPQ and with SEBRAE, relating to the period from 2017 to 2020, and the unemployment rate, analyzed through secondary data extracted from the Continuous National Household Sample Survey, carried out by IBGE, relating to the period from 2017 to 2020.

The results found in the previous section demonstrated that the objectives outlined by this work were achieved, given that the rates of established, new, nascent, and total entrepreneurs were raised, for the period from 2017 to 2020, identifying the significant changes in these rates of entrepreneurship during the Covid-19 pandemic, about the series from 2017 to 2019.

Unemployment rates for the years 2017 to 2020 were also surveyed, verifying whether there was a significant increase in this rate during the pandemic the new coronavirus about the series from 2017 to 2019 and also exposing the relationship between the increase in the rate of entrepreneurs' sources for the year 2020 in association with the increase in the unemployment rate.

After analyzing the results, it is concluded that while there is a decrease in the rate of new entrepreneurs and established entrepreneurs during the Covid-19 pandemic, there is an increase in the rate of nascent entrepreneurs. Thus, there was a deterioration in the average level of entrepreneurs, with the departure of the most experienced and the entry of less experienced ones.

In addition to the deterioration in the average level of entrepreneurs, most of the new businesses opened during the Covid-19 pandemic, according to the analysis of nascent entrepreneurs, sought in entrepreneurship a need to acquire income during the new coronavirus pandemic since a large part ended up losing a job and found no other way to support themselves in the labor market.

This work contributed to developing more research on entrepreneurship and its connection with crises, specifically the variation in entrepreneurship rates during the biggest health crisis in recent years. The work also seeks to encourage the production of more studies on entrepreneurial attitude since the theme has little academic production, with few works published in the last five years.

The study was restricted to analyzing the impact of the Covid-19 pandemic, in 2020, on Brazilian entrepreneurship rates. Among the limitations presented by the present

study is the possibility that other variables, besides the Covid-19 pandemic, influenced the results presented on entrepreneurship rates in 2020.

As a proposal for future work, it is suggested that the survey of entrepreneurship rates be replicated after the end of the interference of the Covid-19 pandemic in the Brazilian economic market to interpret how entrepreneurship reacted to the post-pandemic period.



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