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# From biological viruses to economic viruses: a vaccine for microenterprises in Brazil

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Facing the threat of disruption to the productive sector as a result of social distancing measures imposed in Brazil, and considering that micro and small enterprises are those hardest struck, this study aims to formulate a government emergency aid proposal for this segment. It presents a brief analysis of the federal government's current actions and proposes a measure capable of filling the gaps observed. Finally, the study offers an estimation of costs for the National Treasury if adopting the proposed measure.

**Keywords:** COVID-19; micro and small enterprises; public policy; government aid.

## Da virose biológica à virose econômica: uma vacina para microempresas no Brasil

Diante da ameaça de desestruturação do tecido produtivo como consequência do isolamento social imposto no Brasil, e tendo em vista que as micro e pequenas empresas são aquelas mais duramente atingidas, o presente trabalho tem por objetivo formular uma proposta de auxílio emergencial governamental para este segmento econômico. Para tanto, apresenta uma breve análise das medidas já adotadas pelo Governo Federal, propõe uma medida capaz de preencher suas lacunas e, por fim, estima os custos da medida proposta para o Tesouro Nacional.


**Palavras-chave:** COVID-19; micro e pequenas empresas; políticas públicas; auxílio emergencial.

## De la virosis biológica a la virosis económica: una vacuna para microempresas en Brasil

Ante la amenaza de desestructuración del tejido productivo como consecuencia del aislamiento social impuesto en Brasil y considerando que las micro y pequeñas empresas son las más afectadas, el presente trabajo tiene como objetivo formular una propuesta de asistencia gubernamental de emergencia a este segmento económico. Para ello, presenta un breve análisis de las medidas ya adoptadas por el Gobierno Federal, propone una medida capaz de llenar sus lagunas y, finalmente, estima los costos de la medida propuesta para el Tesoro Nacional.

**Palabras clave:** COVID-19; micro y pequeñas empresas; políticas públicas; ayuda del gobierno.

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[Translated version] Note: All quotes in English translated by this article's translator.

## 1. INTRODUCTION

Many doubts and much debate still revolve around the measures that national governments should take to minimize the evident economic impacts of the pandemic produced by the SARS-CoV-2 coronavirus. There are, however, some issues that seem to have a reasonable degree of consensus among economic analysts.

The first of these is that, regardless of the duration of the crisis and the degree of social isolation imposed, the deleterious effects on the economy will have a magnitude at least comparable to the greatest economic crises the modern world has experienced. The biological virus is producing its “double”, which is an “economic virus” that is transmitted, similarly exponentially, through contagion. Economic activities around the world are being massively suspended, either by the imposition of social isolation or lockdown, or by the unavailability of high contingents of workers, as a result of voluntary withdrawal or by imposition of public power. As companies are links in the productive chains, this paralysis spreads both upstream and downstream by the suspension of purchases and by the lack of supply from client companies. The result is a rapid and serious propagation of an economic crisis, destructuring - or even destroying - productive chains around the globe.

The second, as a consequence of the previous one, are the increasingly uncertain projections of GDP evolution in the next months, and the greater the degree of expected recession, according to the duration and depth of the crisis, which may range from -3.1% to -11.0%, according to the consideration of more or less pessimistic scenarios (Dweck et al., 2020). Thus, the absence of some form of massive state aid to the affected companies may turn the crisis into a socio-economic catastrophe unprecedented in history.

The third is related to the most sensitive “risk group” in the business universe, that formed by micro and small enterprises (MSEs), with limited working capital and very low capital reserves (Bartik et al., 2020). The vast majority of them operate in the trade and services sectors (Brazilian Institute of Geography and Statistics [IBGE], 2020a, 2020b), precisely the most affected. Small businesses in Brazil, whether formal or informal, occupy almost  $\frac{3}{4}$  of the mass of workers (Nogueira & Zucoloto, 2019). Therefore, the social consequences of an outbreak of unemployment, the suspension of wages or the cessation of individual earnings will impact most deeply on the majority of Brazilian society. Therefore, the MPEs should be the main productive agents benefiting from government aid measures.

Finally, regardless of the form of state aid implemented, there is some consensus that the time factor is crucial so that the chain reaction does not become uncontrollable within the national economy. Recent research on the situation of Brazilian MSEs in the context of COVID-19 shows that their average survival capacity without invoicing is only 23 days (Brazilian Micro and Small Business Support Service [Sebrae], 2020a).

In this context, the purpose of the present work is to propose an emergency program that contemplates, in some way, the four points listed and is capable of rescuing the vulnerable segment of the MSEs, aiming at preserving the productive chains and ensuring a rapid return to economic normality after overcoming the recessive episode. At the same time, the proposal launched would minimize social impacts and avoid the risks of a seizure in the face of a deepening crisis.

## 2. FIRST GOVERNMENT MEASURES<sup>1</sup>

Since the arrival of COVID-19 on Brazilian soil, some measures to alleviate its socioeconomic effects on companies and individuals have been adopted by the Federal Government. Among the set of actions aimed at the preservation of operating conditions and jobs in small businesses, three deserve to be highlighted due to the expected impacts: Resolution no. 850 of the Deliberative Council of the Workers' Support Fund (Codefat), of March 18, 2020 (Codefat, 2020); Provisional Measure (MP) no. 936, of April 1 (2020) and MP no. 944, of April 3 (2020). Box 1 contains a summary of each of these.

### BOX 1 DESCRIPTION OF THE MEASURES ANNOUNCED

Measures	Description
Resolução Codefat nº 850/2020	“Establishes a credit line called Proger Urbano Capital de Giro, within the scope of the Program for the Generation of Employment and Income (Proger), aimed at financing working capital alone for companies with revenues of up to R\$ 10 million”. The Resolution establishes that at least 60% of the total operations must be formalized for the MSEs included in the program, as defined in the National Micro-company and Small Business Statute (Complementary Law No. 123/2006). The loans are limited to an amount of R\$ 500,000, with a financing term of up to 48 months, including a 12-month grace period. The loan will be subject to the Long Term Rate (TLP), “[...] plus an effective interest rate of up to 12% per year” (art. 3, item VIII).
MP nº 936/2020	Establishes the Emergency Program for the Maintenance of Employment and Income (BEm). In general terms, this Provisional Measure (MP) allows for a reduction in the working day, with a proportional reduction in salary (by 25%, 50% or 70%); or the temporary suspension of the employment contract. The maximum period for the reduction of the working hours is ninety days and, for the suspension of the contract, sixty days (which may be divided into two periods of thirty). In situations where both conditions are adopted successively, the total limit is ninety days. In both cases, the workers' earnings shall be supplemented by BEm, having as “calculation basis the monthly value of the unemployment insurance to which the employee would be entitled” (art. 6) and shall be fully funded by the Federal Government.
MP nº 944/2020	Establishes the Emergency Job Support Program. It is a credit line that targets companies with annual gross revenues exceeding R\$ 360 thousand and equal to or less than R\$ 10 million in 2019. The loan is exclusively intended to cover a maximum of two months of the company's payroll and is limited to a ceiling of two minimum wages per employee. The loan will be subject to an interest rate of 3.75% p.a. (equivalent to the Selic rate in force on the date of publication of the Provisional Measure [MP]), with a grace period of six months and amortization period of up to 36 months, and may be operated by any financial institution subject to the supervision of the Central Bank (Bacen). In return, the companies undertake to guarantee the employment of all their employees for a period “between the date of hiring of the credit line and the sixtieth day after receipt of the last installment of the credit line” (art. 2).

**Source:** Elaborated by the authors.

<sup>1</sup> For a more in-depth discussion on this topic, see Nogueira, Silva, and Carvalho (2020).

An albeit preliminary analysis of these measures already points to some important gaps in terms of coverage of the socioeconomic risks listed above. First, the actions can still be considered timid in relation to measures taken by governments of other countries, which generally aim to alleviate the cash flow of companies (especially small and medium enterprises), guarantee a level of income to families, maintain employment ties and strengthen the structure of health systems. There is already a considerable body of studies on the main international proposals that have been taken in an emergency form, which point to expected stimuli in relation to GDP to support national economies between 6.3% in the United States and 17% in England and Spain (Amitrano, Magalhães, & Silva, 2020; Departamento Intersindical de Estatísticas e Estudos Socioeconômicos [Dieese], 2020; Fundação Getulio Vargas [FGV], 2020; Palludeto, Silva, Araujo, Borghi, & Alves, 2020).

In the Brazilian case, the measures announced by the Ministry of Economy, up to the time of drafting this text, have a tax cost estimated to be just over 2% of GDP (FGV, 2020), which shows a significant difference in relation to international attitudes. Furthermore, the actions are of a diffuse nature, without a well-designed federative and intersectoral coordination (Palludeto et al., 2020).

From the perspective of the MSEs, the financing conditions proposed by the announced credit programs, given the current situation of extreme uncertainty in relation to the perspectives of sustainability of their businesses, are, in principle, unattractive. First because to get into debt in this situation is to assume a high level of risk. Second, as the credit risk of the operations falls on the operating financial institutions, the evaluation will tend to be rigorous, making the instrument inaccessible to a large part of this segment which, even in normal situations, finds it difficult to access credit. As a result, there are already signs of “puddling” of these resources, as shown by a survey conducted by Sebrae, which records that 59.2% of the entrepreneurs interviewed who tried to access the instrument were denied credit (Sebrae, 2020a).

It should also be noted that MP 944 (2020) does not include micro-companies with annual gross revenues of up to R\$ 360,000, which represent a contingent of almost 6.6 million units, responsible for about 15 million formal jobs in the country, or nearly 30% of the total (Sebrae, 2020b). In relation to the allocation of resources, the fact that it only covers personnel expenses and, in many cases, not even their totality, does not guarantee the preservation of the minimum working capital necessary for the survival of a dormant enterprise, since the fixed costs continue to be borne by the companies. Under these conditions, the entrepreneur faces the dilemma of deciding between running the risk of closing down his establishment and dismissing employees or assuming a debt the amount of which is not sufficient to cover his remaining expenses. Another aspect to be observed is that the Selic rate is levied on the financing. This means that, discounting inflation (which was already on a downward trajectory), the effective fiscal cost to the Union is zero, since this rate corresponds to the opportunity cost of money for the National Treasury (TN).

With respect to MP 936/2020, there are at least two issues to be considered. First, the mechanism of complementing the income of these workers by taking the value of unemployment insurance as the basis for calculating the complement implies, in practice, a reduction in the wage bill, since it limits the benefit to R\$ 1,813.03. Second, by assuming the commitment to guarantee employment, entrepreneurs who do not achieve the survival of their businesses will be forced to pay the indemnities related to this provision.

Finally, it is worth noting that the federal government sanctioned Law No. 13,999, of May 18, 2020, which instituted the National Support Program for Microenterprises and Small Businesses

(Pronampe). The program establishes the creation of a special credit line for MSEs of an amount corresponding to up to 30% of their gross revenues in 2019, with 36 months for payment. However, Pronampe, as sanctioned, maintains some aspects that tend to hinder the intended bailout of MSEs, given the context of uncertainties that unfolds in this crisis. Among them, we can cite: the restriction of risk assumption by the government of 85% of the loans, the rest of the risk is in charge of the banks; the presidential veto to the grace period for the payment of the loans, originally foreseen in the bill; and the collection of an interest rate equal to the Selic rate plus 1.25%. From this perspective, the role of the State as guarantor of the viability of the program is quite fragile, since, on the one hand, the fact of sharing the risk with the banks leads to the requirements for approval of credits being maintained, and, on the other hand, both the repeal of the grace period for payment and the definition of a positive interest rate inhibit access to the program by the important part of the MSEs, given the scenario of uncertainties regarding the recovery of their revenues.

### 3. PROPOSALS

Given the current situation described, we believe that a reaction by the federal government, implemented in a rapid and comprehensive manner, could help both to mitigate the socioeconomic impacts of the pandemic in the short term and to preserve the basis for resuming activities in the post-crisis period.

Regarding the support to the MSEs, in order to enable them to overcome the crisis by protecting their jobs and preserving the productive chains, we suggest the following programmatic design:

- i) Granting a loan proportional to the revenues for the preservation of working capital to all MSEs in the country (with annual gross revenues of up to R\$ 4.8 million), with nominal interest equal to zero. The concession must be conditioned to the maintenance of jobs for a period equivalent to six months after the end of social isolation. The loan must be repaid in constant instalments, with a grace period of one year from the suspension of social isolation, for each month of use of the credit, and some incentive may be offered to anticipate the discharge of the credit;
- ii) The operationalization of this credit shall be open to all financial institutions, including public and private banks, fintechs, credit cooperatives and banking correspondents (post offices and lottery agencies). These agents may be remunerated at a rate of up to 1.5% of the nominal amounts granted. Risk analysis should be simplified and default guaranteed by TN, thus minimising credit losses;
- iii) The maximum amount of credit to be granted should be proportional to the average monthly turnover - according to the company's activity.

For better detail, it is worth mentioning the fact that the social isolation imposed due to the COVID-19 epidemic impacts each economic activity differently. Two recent studies help determine the degree of impact and vulnerability of the various activities to crisis. Based on the contingent of employees, the location coefficient, the number of employees over 60 years old and the contingent of smaller companies (less than 50 employees), Rauen, Paiva, Leão, and Furtado (2020) built a ranking of the sensitivity of economic activities to the impacts of COVID-19, indicating the conditions of operation during confinement for the 20 most sensitive. In the study produced by Sebrae (2020a), through a survey of 6,080 micro and small entrepreneurs to gather their perception of the impacts of

the pandemic on their businesses, 15 business segments were considered potentially more sensitive (positively or negatively) to the effects of the crisis.

Combining the results of the two studies with other available information on activities that are paralyzed, it was possible to draw up a list of business segments that were negatively and significantly affected (Box 2). In order for companies to be able to maintain their activities and jobs, we consider that the loans granted under the above conditions should cover: the value of the wage bill, half of intermediate consumption (an estimate that takes into account that variable costs no longer occur) and a further 10% of margin, in order to cover eventual specificities (calculations were made based on the aggregated values and averages of the segments), and also some remuneration for their owners<sup>2</sup>. These are therefore the maximum percentages of each company's average monthly turnover that the monthly loan amount can reach.

Finally, considering that the other segments are also indirectly affected, since the economic activity of the country as a whole has been reduced, we consider it necessary to also make credit available, at a reduced value, to the other MSEs that do not fit into the segments considered. In Box 2, these companies are aggregated in the "Non Prioritized" segment.

## BOX 2 SEGMENTS COVERED BY THE LOAN WITH RESPECTIVE VALUES

Segment	Total MSEs	% Revenue	Average Loan Amount (R\$)
Handcrafts	39.751	60	61.946,45
Beauty / Personal services	114.711	60	12.949,92
Civil Construction	404.570	55	30.641,30
Creative Economy (events and productions)	49.190	45	9.484,47
Fashion	996.633	60	21.251,91
Workshops and automotive parts	461.619	60	19.224,69
Food Services	516.195	60	20.718,06
Educational services	132.785	55	13.992,28
Tourism	172.938	60	21.348,19
Retail	911.129	60	22.702,01
Other	1.660.372	50	17.207,27
Not Prioritized	2.290.107	20	9.949,09
<b>Total</b>	<b>7.750.000</b>	<b>-</b>	<b>17.438,67</b>

**Source:** Elaborated by the authors based on Rauen et al. (2020), Sebrae (2020a) and IBGE (2020a).

<sup>2</sup> In order to establish the percentage of sales for the loan calculation basis, we used a special tabulation of data from sector surveys (IBGE, 2020a) conducted by IBGE. In the cut-off by size carried out therein, the billing criterion was used, which became effective as of 2018. Given the economic crisis that prevailed in the 2018/2019 period, it is unlikely that the average revenue of the companies has grown significantly. Therefore, it is reasonable to assume that this cut-off criterion represents the current reality. Since the data refer to the year 2017, both for the procedure described here and for the cost estimates of the suggested program, it was necessary to inflate the monetary values. For the wage bill, the INPC was adopted, a parameter used for the annual adjustment of the national minimum wage. For the values related to billing and acquisitions, the IPCA was adopted, an index that reflects the behavior of these prices. The percentage values obtained were rounded up to multiple units of five.



Considering that the program proposed here is, in principle, capable of ensuring the maintenance of the country's MSEs, even with their activities temporarily paralyzed, we believe that it would make it possible to replace most of the complex list of measures aimed at this segment to date.

#### 4. COSTS TO THE NATIONAL TREASURY AND RELATED FINANCING

Given the unpredictability of the duration of the isolation, we built four scenarios, considering a time lapse of two to five months.

According to Box 2, IBGE's sector surveys estimate a total of 3.163 million MSEs in the surveyed activities (IBGE, 2020a). However, according to Sebrae (2020b), based on data from the Federal Revenue (RFB), the total of MSEs in Brazil is 7.750 million. Some factors explain this divergence. On the side of sectoral surveys, in the first place, not all economic activities are included. Second, the sample design may result in an underestimation of the total number of firms. In addition, IBGE data refer to the year 2017 and may be out of date due to the subsequent appearance of new MPEs. As for the data from Sebrae, since they are the administrative records of the Federal Revenue Service, it is assumed that they represent a more reliable reality. However, they also include inactive companies, so that they may imply overestimation in our calculation of costs, which would represent a conservative approach. For these differences, we have opted to "adjust" the values obtained in the IBGE sector surveys by the ratio between the quantities of companies from the two data sources (2.45), assuming a probable overestimation. The values foreseen for National Treasury disbursement in each scenario are presented in Box 3.

#### BOX 3 NATIONAL TREASURE DISBURSEMENT FOR EACH SCENARIO (R\$ BILLION)

Disbursement Component	Monthly	No. of months of program duration			
		2	3	4	5
Aid	135,1	270,3	405,4	540,6	675,7
Adm. Fee	2,1	4,1	6,1	8,1	10,1
<b>Total</b>	<b>137,2</b>	<b>274,4</b>	<b>411,5</b>	<b>548,7</b>	<b>685,8</b>
% PFD	3,20	6,41	9,61	12,82	16,02

Source: Elaborated by the authors based on IBGE (2020a), Sebrae (2020b) and ME (2020).

Considering that the amount borrowed each month is of the order of R\$ 135.1 billion and that it would be up to 7.750 million companies served, the average monthly value of the loan is R\$ 17,438.67. As the proposed interest is equal to zero, the average installment for amortization should be R\$ 1,607.10.

It is fundamental to observe that the values in Box 2 refer only to disbursement and not to their effective cost. Since this is a loan, the National Treasury would only be making an anticipation, recovered by the nominal value of the security with the amortization of the financing. Therefore,



considering that the proposal considers the loan with zero interest, its cost would correspond to the opportunity cost (Selic rate, currently set at 3.0% p.a.) of the amount granted, capitalized within one year of grace, the amortization period. Box 4 shows the results of this capitalization.

It is important to emphasize that these values consider the hypothesis that all the companies eligible for the program will make use of it, which should not correspond to reality, especially in the case of those that operate in activities classified as “Not Prioritized”. This means that the actual disbursement - and, consequently, the cost - should be lower than expected.

The values presented are in present values, that is, they do not take into account inflation, which will imply an increase in costs. However, inflation is already showing a downward bias. Given the expected contraction in demand, this bias is likely to intensify, at least in the medium term.

#### BOX 4 EFFECTIVE COST TO THE NATIONAL TREASURY FOR EACH SCENARIO (R\$ BILLION)

Costs	No. of months of program duration			
	2	3	4	5
Annual	8,6	10,9	13,2	15,5
Overall	17,1	32,6	52,7	77,6
Adm.	4,1	6,1	8,1	10,1
<b>Total</b>	<b>21,2</b>	<b>38,7</b>	<b>60,8</b>	<b>87,7</b>
% GDP 2019	0,29	0,53	0,84	1,21

**Source:** Elaborated by the authors based on IBGE (2020a), Sebrae (2020b) and Ipeadata (2020).

The present financing of disbursements may be made through the issue of public securities, as they will be redeemed on the dates of loan repayments. In this case, as shown in Box 3, for each month of program duration there would be a 3.20% increase in the Federal Public Debt (DPF) stock. These impacts would be limited to the actual costs of the program, and at the time of redemption of the securities the best ways to finance them can be evaluated.

## 5. FINAL CONSIDERATIONS

This study presented the formulation of an emergency program for the mitigation of the socioeconomic impacts of the COVID-19 pandemic in Brazil, due to the depletion of its productive fabric and its unfolding in terms of threat on the group of MSEs, which represent approximately 75% of the existing jobs in the country.

The costs of the measures proposed for the National Treasury, as explained above, are overestimated, which denotes a more conservative perspective of fiscal risk assessment, appropriate for a moment of uncertainty such as the current one. Moreover, their multiplier effect would be a counterpoint to

an expected and representative fall in future federal and subnational government revenues, resulting from the retraction of economic activity resulting from the crisis.

Finally, it is worth noting that the phenomenon currently experienced is unprecedented, given the dynamics generating the economic crisis. It is not a question of facing a scenario of high risks, but of absolute uncertainty. In this context, we understand that there is no other alternative but for the State to assume the burden of the actions necessary to sustain society as a whole, helping the most seriously threatened segments so that the country can preserve a significant portion of its productive fabric, fundamental to the process of economic recovery.

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## APPENDIX

## BOX A GROUP (3 DÍGITOS) AT CNAE 2.0\* BY SEGMENT

Segment	Cnaes
Handcrafts	22.1/22.2/23.1/ 32.9
Beauty / Personal services	96.0
Building construction	16.2/42.2/23.3/42.9/23.4/43.1/23.9/43.2/41.1/43.3/41.2/43.9/42.1/77.3
Creative economy	59.1/90.0
Fashion	13.1/14.2/13.2/15.1/13.3/15.2/13.4/15.3/13.5/15.4/14.1/47.8
Automotive repair and parts shops	45.2/45.3/45.4
Food services	56.1/56.2
Educational services	85.5/85.9
Tourism	49.5/77.1/50.9/79.1/51.1/79.9/55.1/82.3/55.9/93.2
Retail	47.1/47.5/47.6
Others	16.1/68.1/18.1/68.2/18.2/69.1/18.3/69.2/25.3/71.1/25.4/71.2/25.9/73.1/ 30.1/73.2/31.0/74.1/32.1/74.2/32.2/74.9/32.3/77.2/32.4/78.1/33.1/81.2/ 33.2/81.3/45.1/82.1/46.1/82.9/46.4/92.0/46.5/95.1/59.2/95.2/62.0

\* Cnae – National Classification of Economic Activities.

**Source:** Elaborated by the authors.