# Transparency on Covid-19 pandemic: an evaluation of Brazilian municipalities[6]

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This work aimed to understand how Brazilian municipalities have been disclosing information on the novel Coronavirus pandemic. Starting from a representative sample of urban and rural municipalities according to Brazilian Institute of Geography and Statistics (IBGE) typology, it analyzes active and passive transparency aspects based on the search for information on institutional websites and responses to requests for access to information. Next, it presents descriptive statistics for the collected data, identifying the transparency profile of data related to the virus in the municipalities. It was possible to observe problems related to the quality of the information provided and a very low rate of responses to the information access requests. Regarding to data on expenses and revenues to fight Coronavirus, most municipalities make this information available due to the approval of the Law 13,979/2020, exemplifying the importance of legislation to guide the municipalities and of legal factors on the transparency levels observed in the analyzed case. Also, it finds that the studied municipalities show a high rate of use of social networks to disseminate information related to COVID-19.

**Keywords**: Covid-19, municipal transparency, transparency

**Transparência na pandemia de Covid-19: uma avaliação dos municípios brasileiros**

O presente trabalho teve como objetivo compreender de que forma as informações sobre a pandemia do novo coronavírus estão sendo disponibilizadas pelos municípios brasileiros. Partimos de uma amostra representativa de municípios urbanos e rurais, construída com base na tipologia do IBGE (2017) e analisamos fatores de transparência ativa e passiva, realizando buscas em *sites* institucionais e pedidos de acesso à informação. Posteriormente, realizamos estatísticas descritivas das informações coletadas, identificando o perfil de transparência dos dados relacionados ao vírus nos municípios. Foi possível observar problemas relacionados à

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qualidade das informações disponibilizadas e um nível muito baixo de resposta de pedidos de acesso à informação. Com relação a dados de gastos e receitas no combate ao Covid-19, boa parte dos municípios disponibilizam essas informações devido a aprovação da Lei nº 13979/2020, ilustrando a importância de normativas que instruam os municípios e de fatores normativos para explicar os níveis de transparência, no caso analisado. Além disso, identificamos que os municípios estudados apresentaram um alto índice de uso das redes sociais como forma de divulgar informações relacionadas à doença.

**Palavras-Chave:** Covid-19, transparência municipal, transparência

**Transparencia en la pandemia del Covid-19: una evaluación de los municipios brasileños**

Este estudio tuvo como objetivo comprender cómo los municipios brasileños disponen la información sobre la pandemia del nuevo coronavirus. Iniciamos el análisis con una muestra representativa de municipios urbanos y rurales, de acuerdo con la tipología del IBGE (2017) y analizamos factores de transparencia activa y pasiva, realizando búsquedas en sitios web institucionales y solicitudes de acceso a la información. Después, realizamos estadísticas descriptivas de la información recopilada, identificando el perfil de transparencia de los datos involucrados con el virus en los municipios. Se pudo observar problemas involucrados con la calidad de la información y un nivel muy bajo de respuesta a las solicitudes de acceso a la información. Con respecto a los datos de gastos e ingresos para combatir el Covid-19, la mayoría de los municipios disponen esta información de acuerdo con la Ley n.13979/2020, que ilustra la importancia de las regulaciones que instruyen a los municipios y de los factores políticos y regulatorios para explicar los niveles de transparencia, en el caso analizado. Además de esto, identificamos que los municipios estudiados tenían una alta tasa de uso de las redes sociales como un intento de difundir información sobre la enfermedad.

**Palabras clave:** Covid-19, transparencia municipal, transparencia

## 1 Introduction

The use of technology and the disclosure of information can be important tools in combating the coronavirus pandemic. In this work we aimed to understand how Brazilian municipalities have been disclosing information about the disease, considering the country Access to Information Law, Nº 12.527/2011, and to describe the quality of the passive and active transparency by examining the responses to the requested information and the information available in institutional websites and social media.

Transparency is a necessary condition to promote accountability, since voters will only be able to control their representatives and the public service itself if they have reliable information. For this reason, these concepts have often been worked together when we speak of democracy, so that it can be said that transparency is an essential condition for a truly democratic government, although it is not the only one.

In the pandemic context, information is even more necessary, being decisive for population to get informed about the reality of the disease, to combat fake news and adopt the best action in order to prevent the virus. The case of South Korea shows how the use of technology and information disclosure as up-to-date statistics on infected cases were important to the control of COVID-19 (MOON, 2020). Transparency, also, allow citizens to identify if governments are dealing with the sanitary crisis, a condition that will possibly influence voters' assessments - the Brazilian pandemic is ongoing in a municipal election year.

In Brazil, democratization and the process of decentralization increased municipality participation in public policies, once after 1988 Brazilian municipalities became federative entities with financial autonomy and broad political and legislative power (ABRUCIO & GRIN, 2019). In addition, the municipalities are the closest federative entities to the population and the most important for the implementation of public policies (ARRETCHE, 2002).

An important decision from Federal Supreme Court (STF), the Direct Action of Unconstitutionality (ADI) 6,341, recognized that the Federal Government, states municipalities have in common the power to legislate public health, ensuring autonomy to mayors to adopt nonpharmaceutical measures, such as quarantine in the cities. Although facing different capabilities and social and economic inequalities, Brazilian cities revealed the prominence of their action against the pandemic. Therefore, considering their importance and the importance of accountability, we should investigate transparency locally in face of this moment for humanity.

In order to achieve our goals, a representative sample of urban and rural municipalities according to Brazilian Institute of Geography and Statistics (IBGE) typology was drawn. Subsequently, for data collection, an active search was carried out on municipalities institutional websites and social

networks, with the aim of collecting data on active transparency. Also, we made two types of requests for access to information about coronavirus, in order to collect data on passive transparency.

We analyze descriptive statistics of the data collected to find out the means and what is actively disseminated, as well as what information is possible to be obtained through requirements. As the variables are categorical, we have tables showing the different percentages on items related to the two types of transparency, thus assessing the profile of transparency in these municipalities. Furthermore, through the correlation matrix of variables representing the two types of transparency, we can see the existing relationships that configure transparency. The relationship with socioeconomic factors and the severity of the pandemic was analyzed using logistic regression with robust standard error.

The number of confirmed COVID-19 cases are related to daily disclosure of information through epidemiological bulletins and social networks. Furthermore, the results are clear about the positive correlation of the number of confirmed COVID-19 cases with daily release of epidemiological bulletins and the use of social networks for information disclosure. Additionally, the fact that a municipality have more or less cases does not influence the disclosure of expenses and revenues, since there is a law that requires disclosure of the expenses related to the disease. Another interesting fact is that, in contrast with the evidence of recent researches about municipalities transparency in pre-pandemic context, socioeconomic variables do not present a significant relation with these representative variables of active transparency. On the other hand, the results about passive transparency presented that around 19.7% of the analyzed municipalities presented problems or did not have a system to submit information requests. Only 24.3% municipalities replied both information request send to them. Active and passive transparency have no correlation between their variables. For instance, although many municipalities publish information about the pandemic on their transparency portals, there was no higher rate of responses on the subject when analyzing passive transparency.

In the next section we discuss transparency and access to information, followed by a brief presentation about transparency in times of COVID-19. Next, we explain the methodology adopted by this work and the results of the analyses in both passive and active transparency. Lastly, we discuss our findings and conclusions.

## 2 Transparency and access to information

The concepts of accountability and transparency occupy an important position in the contemporary discussion of democracy. The notion of accountability, according to Filgueiras

(2011), serves as a normative framework for state reforms in modern democracies. This concept concerns a duty of the democratic State to account for its actions, in which voters exercise control over the management of public policies. It is necessary to adopt instruments to punish (or not) governments for the results they produce – as the vote, for example. But for the voter to be able to exercise this control and hold the government responsible for its actions, they must access information.

Transparency is essential for citizens to exercise their right to free expression and access to information, as the article XIX of the Universal Declaration of Human Rights prescribes. In a short analogy presented by Angélico (2012), transparency is the property of being transparent. Therefore, in an optical system, it means that the system allows the light to go from one point to another, permitting the visualization of the whole set. Applied to the public sector, transparency allows a visualization of government acts, which were considered confidential for a long time.

Transparency qualifies democracy and strengthens interactions between the State and society, mainly, providing the citizen with the necessary information for them to participate in public policy processes (CUNHA FILHO, 2019). In this way, laws on access to information provide the opportunity to bring the State and society closer together. They are also considered an instrument for the promotion of social rights. In Brazil, the Access to Information Law (Law 12.527/2011, hereafter referred to as the AIL) lays down guidelines for governmental transparency at the three levels of government[50], including indirect administration, which encompasses independent agencies administratively related to government bodies and public companies. Still, the law innovated by including recent technological tools, a correct move given the increase in documentation and the ease of disseminating information in recent decades.

The implementation and approval of the AIL in Brazil was a gradual process that had the support of an important state agency, the Brazilian Office of the Comptroller General (BOCG), and social movements, such as the Brazilian office of non-governmental organization Article 19, at the time of discussion at the Chamber of Representatives (ANGÉLICO, 2012; CUNHA FILHO, 2019; RODRIGUES, 2020).

Shortly after the approval of the AIL, Paes (2011) pointed out the need to build public policies that would make it possible to increase the access to regulated information provided for in the legislation.

[50] As Souza shows, a particularity of Brazil is the triple federalism. “Unlike many federations, the Brazilian, as well as the Belgian, is a three-tier system (triple federalism) because it incorporated the municipalities, together with the states, as integral parts of the federation, reflecting a long tradition of municipal and scarce autonomy control of states over local issues ”(SOUZA, 2005, p.110, free translation).

> "The creation of a law is only one step in the construction of a transparency policy in the country. The rule must be transformed into actions and facts, by the Executive and other powers, for its effectiveness, allowing the population to be more aware of government acts, trying to overcome distrust without losing interest" (p. 416, free translation)

Besides, it is important to observe that more information or increased transparency does not necessarily lead to active citizen participation or better results in public policies; it would be necessary, in this case, to adopt a broad process of civic participation and social criticism (FILGUEIRAS, 2011).

It is also necessary to respect the quality conditions when providing information and compliance with laws by the different institutions and mechanisms of civil society participation. Still, it is possible to speak of two conditions: visibility and inferibility (MICHENER; BERSCH, 2013). The first concerns the completeness and ease of finding information. In this case, transparency can only be talked about when the information is visible and available in its entirety. In addition, it must be relatively easy to find information, so that it is actually visible to third parties. The second, on the other hand, concerns in which extent information is accurate and how truly useful it is for appropriate conclusions. That is, it is related to the quality of the information, whether it is available in raw data, verified and it is available in a simplified way.

The emergence of the internet and new technologies has boosted the availability of information, enabling people from anywhere to quickly learn about different institutions, issues related to budget and public policies. Through institutional websites and electronic government, government agencies can make their performance more transparent and efficient (CRUZ et al., 2012). Although the internet alone does not guarantee quality and that its access by the entire population is still far from being a reality, especially in developing countries such as Brazil, the online circulation of information and in plain language facilitates the dissemination of important social interest facts.

Several works and initiatives seek to understand how transparency and AIL have been implemented in Brazil. Cruz et al. (2012), in the first year of the AIL implementation, analyzed 96 municipalities among the 100 most populous based on *Índice de Transparência da Gestão Pública* (ITGP-M, freely translated as Municipal Public Management Transparency Index) formulated on the basis of international codes of good transparency and governance practices. They concluded that the municipalities presented low levels of transparency, incompatible with their high socioeconomic development levels (together they represented 60% of Brazilian GDP). Although the transparency levels were in general low, when compared the municipalities presented a relation between their socioeconomic conditions and their levels of transparency in the dissemination of information.

If this first study examines transparency in the first year of implementation of the AIL, a survey carried out by Michener, Contreras and Niskier (2018) in the following years concluded that there are major flaws in passive transparency in Brazil, based on the compilation of 3,550 information requests made to different federative entities from 2013 to 2017. Despite the federal government presenting satisfactory numbers (91% of response), state governments answered only 53% of the requests. Municipal governments had even lower rates, by responding to only 44% of them. Angélico (2012) remarks that one of the significant challenges to the implementation of the AIL in Brazil is the country federative aspect. As the author states, public policy research has shown that there are difficulties in implementing policies throughout the national territory, arising from the political division between the Federal Government, the States and the Municipalities. In this case, as a federative entity that is closer to the population, the municipality becomes crucial regarding the implementation of social policies and, consequently, the act of informing population about them.

Thus, these studies reinforce that, even if important, the approval of AIL alone is not an end in itself, but the first step towards a paradigm shift from an opaque public management to a more transparent one. Actions regarding transparency and access to information do not end with the implementation of AIL and they must be continuous in order to overcome institutional and sociocultural obstacles that hinder a transparent government attitude (ANGÉLICO, 2012; PAES, 2011).

**3 Transparency in times of COVID-19**

The coronavirus pandemic has imposed great challenges of different kinds upon governments - health, social, economic, administrative. The fact that the virus and its consequences are still little known by the scientific community makes the choices for containing the disease more complex, making nonpharmaceutical interventions (NPIs) essential[51]. Social distance and isolation strategies are defended by international organizations, such as the World Health Organization, as the best alternatives to contain their dissemination. In addition to them, other actions, such as adopting emergency income, granting credits to companies affected by social isolation distancing and investing in science are important and contribute to mitigate the social and economic effects resulting from the pandemic. Besides, the correct use and dissemination of information and clarification by the people about the effects of the coronavirus are essential for the population to

[51] "NPIs are public health measures with personal, environmental and community scope" (GARCIA & DUARTE, 2020). As the authors explain, these include hand hygiene, respiratory etiquette, social distancing. use of masks, rooms kept well-ventilated, adoption of indoor environments and surfaces routine cleaning and so forth.

maintain confidence in actions to prevent the spread of the virus and avoid the dissemination of false information. In this sense, Moon (2020) shows how South Korea raised social cooperation and participation in social distance and personal sanitization practices, adopting a massive social distance campaign and transparency policy. South Korean government embraced the use of technology and information disclosure as up-to-date statistics on infected cases, the fatality rate and details of the movement path of each individual infected patient prior to being quarantined.

Taking the opposite direction of international standards and the stand of civil society, which reinforce the importance of using data to combat COVID-19, President Jair Bolsonaro signed in March a Provisional Measure, no. 928/2020 in March, which suspends the AIL deadlines for the duration of the public calamity period. In a Technical Note released by the Institute for Applied Economics Research, (IPEA, 2020), the justifications for the suspension of deadlines, such as the adoption of telework, which would affect the work of the officials responsible for responding to access to information requests, and their redirection to emergency functions in the fight against COVID-19, are not reasonable since, according to the National Congress, 99.3% of requests for access to information are made virtually. Thus, the teleworking system would not impair the provision of information remotely. Also, not all the officials were redirected to work in actions related to the pandemic.

That said, the cost of suspending AIL deadlines would be significant. Public information is the basis for discussion about COVID-19, as data contributes to build evidence-based public policies (SANTOS & MOTA, 2020). In addition, information related to the pandemic should be prioritized, as they need to circulate quickly and efficiently. Ideally, information of great relevance should be actively available, avoiding the need of excessive work by the public servants to respond to requests for access to information. However, if civil society or the media are unable to access information in active transparency, the response system should work normally, for the reasons already listed.

As a way of contributing to the understanding of the coronavirus situation faced in Brazil, some civil society initiatives emerged. The developers' community Brasil.io[52] has made information related to the pandemic accessible, by making databases available in open format and especially contributing to the compilation of municipal data, which are extremely important and permit measuring the pandemic over the territory. Another civil society initiative is the Transparency Index developed by Open Knowledge Brasil (OKBR)[53]. The index assesses the quality of pandemic data

[52] <https://brasil.io/home/>

[53] When the index was first launched at the beginning of April 2020, 90% of the Brazilian states presented insufficient data on the pandemic. In June, 89% of them had a high level of transparency. For further information on the index and the evolution of methodologies developed by the organization, visit: <https://transparenciacovid19.ok.org.br/>.

disclosed by states, their capitals and the Federal government, and has largely contributed to the quality and availability of data (OPEN KNOWLEDGE BRASIL, 2020).

Likewise, the Brazilian chapter of NGO Transparency International built a Transparency Ranking disclosing data on emergency public contracts from the same federative entities as OKBR's index. This ranking also pointed to good results in most states. BOCG also launched a panel for COVID-19 related contracting data[54] to monitor expenses for all Brazilian states, the Federal Government and municipalities of more than 500,000 inhabitants and other 200 that are partners with the agency.

While absolutely important, capitals and major cities are not a representative sample of Brazilian municipalities. Although 50 million Brazilians live in the capitals, residents of Brazilian cities with less than 150,000 inhabitants represent approximately 50% of the population[55].

Municipalities reveal and reaffirm themselves as the smallest units of governmental action in face of the usual public policy challenges and, therefore, of the pandemic. Considering the need for accountability for democratic regulation and the role of municipalities in Brazilian federalism, the analysis of the transparency of the epidemiological issues at the local level and the actions of the local authorities in combating the coronavirus are an essential part in the global understanding of governmental action to fight the pandemic.

## 4 Research Methodology

### 4.1 Sample Selection

A random sampling was drawn from the total of Brazilian municipalities. In order to guarantee representativeness, the typology defined by IBGE (2017) for rural and urban municipalities was considered.

By taking the municipality classification into account, it is possible to investigate if different patterns of interaction between urban and rural areas are related to the transparency level. In that case, economics activities, behavior patterns, culture, among other factors that distinguish urban and rural municipalities (IBGE, 2017), could influence citizens' preferences. Hence, different kinds of preferences plus different capacities in offering public policies could constitute different scenarios

54 https://app.powerbi.com/view?r=eyJrIjoiYTE0Nzc4NDctMTI0OC00OWVjLThjMmQtM2U3MTFkY2U2MTU2Iiw idCI6IjY2NzhkOWZlLTA5MjEtNDE3ZC04NDExLTVmMWMxOGRlZmJiYiJ9

55 According to the estimate of resident population in Brazil in 2019 made by IBGE, municipalities with less than 150.000 inhabitants have 104 millions residents. In turn, the smallest capital, Palmas - TO, has almost twice as much - 299.127 inhabitants.

to urban and rural municipalities. Soon, it is relevant to comprehend if these differences are correlated to the transparency.

The IBGE (2017) typology employs a new methodology constituted by three dimensions: (i) population density, by new methods adequate to the international practices; (ii) population proportion in dense areas; and, (iii) accessibility to nearby urban centers. Based on the crossing of these variables it is possible to distinguish three types of spaces: urban, intermediate and rural[56].

Taking this typology as source[57], we calculate a random sample with 90% of confidence level and 10% of margin of error[58], totalizing 193 municipalities selected to analysis. The sample is better visualized in the Table 1, which presents the different kind of municipalities, the amount of the sample, the median of population size and the number of infected per 100,000 inhabitants. It is possible to observe that the municipalities general features are preserved, since the median of the urban municipalities size are superior in the universe, as well as in the sample. The same situation is observed in the number of infected by coronavirus. Furthermore, the low median just exposes the fact that Brazilian municipalities are mostly small compared to the big cities. This can be explained by the fact that only 17 municipalities have more than 1 million inhabitants, what represents 0.3% of the total (in our sample 1%). Even so, considering Brazilian population, the majority lives in small cities. For example, approximately half of Brazilians (50.7%) live in cities with less than 160.000 inhabitants, while 22% live in cities with more than 1 million. Thus, this research contributes to the empirical literature about transparency, since a representative sample of all the Brazilian municipalities is used, even when most of the works only analyze big cities.

Table 2 describes the sample in relation to the municipality distribution in regions. Although the percentages of the number of municipalities and the median of confirmed cases of the novel coronavirus in the sample are apparently consistent with the universe distribution, the median of the population shows some deviation regard to the universe distribution, the most notable being the fact that the sampled municipalities in the South have more inhabitants than actually are.

[56] Considering the third dimension, accessibility to urban centers, the rural and adjacent intermediate categories (close to urban centers) and remote categories are divided. However, in order to maintain a feasible sample size for analysis, we do not consider these subcategories.

[57] As the classification was carried out in 2017, there was no classification for 5 municipalities created after the date: Mojuí dos Campos - PA; Pescaria Brava - SC; Balneário Rincão - SC; Pinto Bandeira - RS; Paraíso das Águas - MS

[58] Despite the comprehensive values of the parameters (level of confidence and margin of error), this guaranteed us a feasible sample size to employ the qualitative analysis of transparency in Brazilian municipalities in a short period of time.

**Table 1 – Proportion of municipalities according to rural and urban type**

| | Universe | | | | Sample | | | |
|---|---|---|---|---|---|---|---|---|
| | Size | (%) | Population median[a] | Infected median[b] | Size | (%) | Population median[a] | Infected median[b] |
| Urban | 1456 | 26.2 | 41687 | 334.1 | 65 | 33.7 | 39387.5 | 414.6 |
| Intermediary | 746 | 13.4 | 18703 | 283.6 | 62 | 32.1 | 18837 | 335.9 |
| Rural | 3363 | 60.4 | 7836 | 221.6 | 66 | 34.2 | 5861.5 | 195 |

[a] Data source: IBGE population estimation for 2019.
[b] Last rate of infected per 100,000 inhabitants available at July 4th, 2020. This data was not available for 401 municipalities (13 in the sample). Data source: State Secretariats of Health, compiled by Brasil.IO project.

**Table 2 - Proportion of municipalities according to region**

| | Universe | | | | Sample | | | |
|---|---|---|---|---|---|---|---|---|
| | Size | (%) | Population median[a] | Infected median[b] | Size | (%) | Population median[a] | Infected median[b] |
| Midwest | 467 | 8.4 | 10186.5 | 190 | 20 | 10.4 | 13774 | 251.6 |
| Northeast | 1794 | 32.2 | 14701 | 414.3 | 52 | 26.9 | 18290.5 | 451.9 |
| North | 450 | 8.1 | 16981 | 867.9 | 12 | 6.2 | 10903 | 793.6 |
| Southeast | 1668 | 30 | 12540 | 188.6 | 70 | 36.3 | 18683 | 220 |
| South | 1191 | 21.4 | 8270 | 171.5 | 39 | 20.2 | 13448 | 174.4 |

[a] Data source: IBGE population estimation for 2019.
[B] Last rate of infected per 100,000 inhabitants available at July 4th, 2020. This data was not available for 401 municipalities (13 in the sample). Data source: State Health Secretariats, compiled by Brasil.IO project.

### 4.2 Data Collection

In order to understand if municipalities are disseminating and sharing information about the coronavirus pandemic, both active and passive transparency are analyzed. We consider AIL Articles 8º and 10º, which define that it is the duty of public agencies both to promote collective interest disclosure and provide information for the request of any interested. In addition, we have included social networks as a tool of active transparency, since many Brazilian municipalities use them for disclosure and information sharing.

#### 4.2.1 Passive transparency

For the analysis of passive transparency, we submitted two sets of questions through institutional websites used to request for information on July 11, 12 and 13, 2020. After 32-35 days we

confirmed the answers, considering period defined in the AIL[59] for responses. The first set of questions concerned information related to:

- **Epidemiological issues:** number of cases, deaths, hospitalizations, suspected cases.
- **Legislation:** mandatory use of masks and closing of shops.
- **Health structure:** number of Intensive Care Unit beds intended for the treatment of the disease.

The second set contained questions related to:

- **COVID Budget:** how much was invested to fight the disease, purchases made with no bidding and transfers received by the municipalities from the federal and state governments and private institutions.

Also, the possibility of sending requests for access to information by electronic system in the institutional website and the average response days for both sets were analyzed. Answers were tabulated informing the dates they were received and if the questions made were answered completely or partially, if they redirected to active transparency and if the information available answered the questions, or if there was a deadline extension.

### 4.2.2 Active transparency

In the case of analysis on active transparency, we conducted an active research on the municipalities institutional websites and social networks (Facebook and/or Instagram). The analyzed variables were:

- **COVID information on website:** if the municipality provides information about the disease on the website, if there is an exclusive website for this purpose, if information is available on the transparency portal[60] and if information is available on social networks.
- **Data presentation: i**f the municipality provides information through health bulletins and if they were up to date in the week of collection, if they are daily updated daily, and if the information available is in an open format, in a history series or in a data panel.
- **COVID Budget:** if the municipality presents information on expenses and revenues.

Subsequently, the information was organized in databases and analyzed through the comparison of descriptive statistics and logistic regression. In this way, we intend to understand the profile of

[59] AIL defines that requests must be answered within a period of up to 20 days, which can be extended for a maximum of 10 days more, upon justification.

[60] According to AIL, Brazilian municipalities are required to disclose information on official websites.

the municipalities and the relation that exists between the main factors of information disclosure and the social and economic characteristics of the municipalities.

### 4.3 Descriptive analysis

Based on the data collected, the profile of Brazilian municipalities in relation to active and passive transparency was built by comparing descriptive statistics, mainly by mean and median (presented as a percentage, since information was compiled as binary variables). In other words, the data collected were encoded in order to show: (i) whether Brazilian municipalities disclose information regarding the epidemiological and budget situation; (ii) by which means and how often they share information; (iii) the disclosed information format; (iv) if requests for more complex information are answered; (v) if they answer information about expenses and revenues; and, (vi) if the answer are satisfactory or complete. While the first three items are related to active transparency, the others are related to passive transparency. In addition, we compared the municipalities results by its classification (urban or rural).

We also select variables that are representative of each type of transparency to see whether there is a correlation between practices. For that, Pearson correlation coefficient were performed, and arranged in a correlation matrix with significant coefficients highlighted in bold. The level of significance considered was the p-value of the T statistic less than 5%. The chosen variables are the same ones used as dependent variables in the logistical changes, described in the next subsection.

#### 4.3.1 Logit model

Given the quality of the compiled database, it was possible to identify how transparency worked in Brazilian municipalities, the relationships that exist between important factors in the dissemination of information and comparable characteristics between municipalities. Transparency on the municipality health context is crucial regardless of its status. However, it is expected that the local severity of the pandemic would increase the pressure for the availability of information about it in the city, as it is also expected to have higher demands on the numbers of cases and their condition (confirmed, suspected, deaths, recovered), treatment capacity (number of ICU beds and occupancy rate) and information related to the budget allocated to fight the pandemic. Thus, it is expected that factors that explain transparency in a non-pandemic context are also related when there is a pandemic. This is the case, for example, of human development, as it is expected that the population with more education and income will be more demanding for public administration (TOLBERT, MOSSBERGER, & MCNEAL, 2008; BALDESSERA et al., 2020;

MICHENER, CONTRERAS & NESKIER, 2018). Local wealth is also associated with higher levels of transparency, greater availability of resources for municipal governments associated with larger GPD increases pressure for transparency (CRUZ et al., 2012; BALDESSERA et al., 2020). The same is also true for the population, since a larger population increases conflicts of interest and consequently increases the pressure for information. (BALDESSERA et al., 2020). Aspects related to the fact that municipalities are rural, urban or intermediary cannot be disregarded either, since cultural factors may represent different demands and capacity for transparency offers.

Given these possible relationships, the following logarithmic regression with robust standard errors to address heteroscedasticity was estimated for important binary variables related to both active and passive transparency:

$$Tranparency_i = \beta_0 + \beta_1 COVID_i + \beta_2 GPD_i + \beta_3 Urban_i + \beta_4 Rural_i +$$
$$\beta_5 pre\ COVID\ Transparency_i + \beta_6 Education + \beta_7 Longevity + \beta_8 Population + \beta_9 Region$$

The dependent variable represents dummies about the information collected in the random sample of cities. In the case of active transparency, the following binary variable was estimated: (i) daily updated epidemiological bulletin, named as “Daily updated bulletin” in result table 4; (ii) information about expenses and revenues, “Expenses and revenue”; (iii) institutional website with epidemiological information, “Institutional website”; and (iv), disclosure of epidemiological information on social networks, “Social networks”. The value 1 was assigned to variables where these characteristics were observed in each topic, and 0 when not (e.g., if the municipality used social networks to disclose the number of cases and deaths, the value 1 was attributed to the variable "Social networks").

For passive transparency, binary variables were considered as to whether the municipality answered questions regarding the: (i) epidemiological information (recovered, suspected, hospitalized and deaths), named as “Epidemiological data” in results table 6; (ii) treatment capacity (number of beds for COVID and ICU beds), “Treatment capacity”; (iii) whether there are laws on the restriction of commerce and mask use, “Legislation”; and (iv), information on the budget dedicated to fighting the pandemic (expenses, bidding, revenues and donations), “Budget”. I.e., when a municipality answered all questions (partially or completely), a value of 1 was assigned, if it did not answer one or more questions related to the topic, a value of 0 was assigned. E.g., if the municipality answered all questions about epidemiological information, it was the value 1 was attributed to the variable "Epidemiological data".

The first dependent variable, COVID, represents the disease situation in the municipality. It was considering the logarithm of the last number of confirmed cases of COVID-19 made available by

the states of the municipalities on the day of information collection (data compiled by the Brasil.IO platform[61]). It was also considered the logarithm of the municipal GPD available for 2017 by the IBGE in reais (R$). Through the classification of IBGE municipalities, dummies of rural and urban were included (therefore, excluding intermediate). To control and verify whether there is a relationship with the transparency not related to the pandemic, we use the only indicator available for all the municipalities in the sample, *Escala Brasil Transparente* [Transparent Brazil Scale, in free translation] made by Federal Public Prosecutor's Office (MPF, 2016)[62]. Considering human development factors, the HDI specific about education and longevity from 2010 was used. Since we already include GPD and control it with the logarithm of population size, it's redundant to include the HDI for income. For population size, we use the IBGE's estimation for 2019. In addition, since culture and norms differ across different regions, binary variables for the regions were included.

## 5 Results

### 5.1 Active Transparency

The table below informs the inhabitants averages, confirmed cases of COVID per 100,000 inhabitants, deaths and the percentages of the active transparency variables collected in the sampled municipalities. In general, urban and intermediate municipalities show better results than rural municipalities. It means that rural municipalities disseminate less information related to the disease and in fewer digital platforms. Analyzing specifically the latter, social networks are the most used means of information disclosure, with 68.9% of the total of municipalities. Considering the municipalities' websites, information is shared in fewer cases on the transparency portal (13.0%) or on specific websites (7.3%), with the information being mostly displayed on the main city hall website in 56% of the cases. In addition, 15% of the sample does not provide information anywhere. Regarding the way in which the information is arranged, in general, data is not made available in more transparent ways, such as raw data (2.6%), time series (10.4%) and data panel (5,7%), being made available mostly by epidemiological bulletins (78.2%) that were not necessarily updated or released daily.

The high rates of budget availability, present in 80.3% of the cities, related to the fight against coronavirus can be related to Law No. 13,979 of February 6, 2020[63], which disposes about

[61] In four municipalities, data were not available. It was possible to access to collect information from three on the city hall website, leaving only one municipality with missing value and 7 with more than two days from the last available information.

[62] Measures the active and passive transparency on public expenditure in 2016.

[63] Available: http://www.planalto.gov.br/ccivil_03/_ato2019-2022/2020/lei/l13979.htm

measures to fight the virus. It determines that all contracts or acquisitions must be made available within a maximum period of 5 working days on the official website.

**Table 3 – Active transparency description**

| Municipalities (means) | Total | Urban | Intermediary | Rural |
|---|---|---|---|---|
| Population | 75662.8 | 200061.6 | 18046.1 | 7273.6 |
| Confirmed /$10^5$ inhabitants | 791.2 | 871.1 | 855.2 | 637.1 |
| Deaths | 53.4 | 152.1 | 4.2 | 1.5 |
| **Website with information on COVID** | | | | |
| Institutional website | 56.0% | 73.8% | 51.6% | 42.4% |
| Specific website for COVID | 7.3% | 15.4% | 4.8% | 1.5% |
| Transparency Portal | 13.0% | 16.9% | 11.3% | 10.6% |
| Social networks[a] | 68.9% | 75.4% | 69.4% | 62.1% |
| **Data presentation** | | | | |
| COVID bulletin | 78.2% | 83.1% | 82.3% | 69.7% |
| Daily COVID bulletin | 59.6% | 69.2% | 62.9% | 47.0% |
| Updated COVID bulletin | 72.0% | 81.5% | 71.0% | 63.6% |
| Raw Data | 2.6% | 4.6% | 1.6% | 1.5% |
| Time Series | 10.4% | 23.1% | 3.2% | 4.5% |
| Data Panel | 5.7% | 10.8% | 1.6% | 4.5% |
| **COVID Budget** | | | | |
| Expenses and Revenue | 80.3% | 86.2% | 80.6% | 74.2% |

Note: research results. We consider COVID information data about the number of confirmed cases and death.
[a] Municipality Facebook and/or Instagram accounts

To find out whether the severity of the pandemic is correlated or not with the specific active transparency on the novel coronavirus, even considering factors commonly pointed out in the literature that explain the variation in transparency, we present in Table 4 the logit regression with robust standard errors. The results are clear about the positive correlation of the number of confirmed new coronavirus cases with daily disclosure of epidemiological bulletins and the use of social networks for information disclosure, considering a 10% significance, which is also the case of the use of the institutional website of the municipality. Furthermore, probably due to the aforementioned law that enforces transparency of COVID related expenses in all Brazilian municipalities, there is no significant relation between transparency and higher or lower number of COVID cases. I.e., the fact that a municipality have more or less infected does not matter because the law requires disclosure of expenses for all. Another interesting fact is that, in contrast with the evidence of recent researches about municipalities transparency in pre-pandemic context, socioeconomic variables do not present a significant relation with these representative variables

of active transparency. The only exception is the positive or negative relation of some regions and the MPF's transparency score, which increased the probability of the institutional website with epidemiological information. While cities from Northeast presented more chances to present daily bulletins, Midwest cities are more likely to break the law on transparency in expenditure.

**Table 4 – Logit regression for active transparency**

| Variables | Daily updated bulletin (1) | Expenses and revenue (2) | Institutional website (3) | Social networks (4) |
|---|---|---|---|---|
| COVID cases (log.) | 0.349** | 0.197 | 0.280* | 0.326** |
| | (0.163) | (0.197) | (0.161) | (0.164) |
| GPD (log.) | -0.043 | 0.923 | 0.093 | 0.134 |
| | (0.328) | (0.668) | (0.276) | (0.331) |
| Urban | -0.120 | -0.516 | 0.767 | -0.002 |
| | (0.504) | (0.656) | (0.528) | (0.512) |
| Rural | -0.369 | 0.223 | 0.130 | 0.173 |
| | (0.459) | (0.566) | (0.462) | (0.504) |
| Transparency score | 0.091 | -0.046 | 0.125** | 0.042 |
| | (0.064) | (0.084) | (0.063) | (0.066) |
| HDI Education index | 0.952 | 5.821 | -1.064 | -3.853 |
| | (2.837) | (3.863) | (3.055) | (2.974) |
| HDI Longevity index | 2.916 | 5.207 | -5.017 | 8.181 |
| | (6.781) | (8.365) | (6.642) | (7.456) |
| Population (log.) | -0.324 | -0.982 | -0.079 | -0.213 |
| | (0.308) | (0.742) | (0.175) | (0.264) |
| Northeast | 2.475*** | -0.354 | 0.262 | 1.260* |
| | (0.940) | (1.139) | (0.677) | (0.751) |
| Midwest | 1.819* | -2.972** | 0.108 | 1.084 |
| | (1.030) | (1.270) | (0.878) | (0.894) |
| Southeast | 1.535 | -1.601 | 0.571 | 1.012 |
| | (0.956) | (1.244) | (0.788) | (0.849) |
| South | 1.229 | -2.249* | -0.530 | 1.331 |
| | (1.001) | (1.342) | (0.832) | (0.903) |
| Constant | -2.364 | -7.166 | 2.187 | -5.877 |
| | (5.241) | (6.642) | (4.745) | (5.312) |

Note: *p<0.1; **p<0.05; ***p<0.01. Standard deviation in brackets. N.= 192.

### 5.2 Passive transparency

The data collected from the sampled municipalities on passive transparency are shown in Table 5. In a considerable number of municipalities, it was not even possible to carry out a request for

information (19.7%), as the access to information system presented problems or did not exist. In the period between 31 and 35 calendar days past the request, only 24.3% of the municipalities replied both requests for information (considering those that answered at least one, 31%). Although many municipalities have already disclosed information related to budget, as seen in the previous section, the second request (exclusively for questions in this subject) was the least replied, despite the small difference of 3.6%. For those that responded to the second request, 72% referred to active transparency in at least one question, while only 17.5% submitted questions in the first request. We can observe that, in general, there was a higher response rate for urban municipalities in relation to intermediate and rural municipalities, a pattern that is repeated in the specific questions of the different subjects.

**Table 5 – Passive transparency description**

| Municipalities (means) | Total | | Urban | | Intermediary | | Rural | |
|---|---|---|---|---|---|---|---|---|
| Population | 75662.8 | | 200061.6 | | 18046.1 | | 7273.6 | |
| Confirmed/$10^5$ inhabitants | 592.4 | | 674.0 | | 616.6 | | 475.4 | |
| Deaths | 49.9 | | 143.2 | | 3.3 | | 0.9 | |
| **Response to requests** | | | | | | | | |
| Possible to request | 80.3% | | 86.2% | | 80.6% | | 74.2% | |
| Replied the 1st request | 29.5% | | 46.2% | | 24.2% | | 18.2% | |
| Days to respond (average) | 13.7 | | 13.0 | | 13.4 | | 16.0 | |
| Replied the 2nd request | 25.9% | | 35.4% | | 24.2% | | 18.2% | |
| Days to respond (average) | 13.5 | | 11.1 | | 15.1 | | 16.3 | |
| **Epidemiological data** | Replied[a] | Complete[b] | Replied[a] | Complete[b] | Replied[a] | Complete[b] | Replied[a] | Complete[b] |
| All | 22.3% | 20.7% | 35.4% | 33.8% | 17.7% | 17.7% | 13.6% | 10.6% |
| Recovered | 26.4% | 22.3% | 43.1% | 35.4% | 21.0% | 21.0% | 15.2% | 10.6% |
| Suspect | 25.4% | 23.3% | 40.0% | 36.9% | 21.0% | 21.0% | 15.2% | 12.1% |
| Hospitalized | 23.3% | 21.2% | 38.5% | 35.4% | 17.7% | 17.7% | 13.6% | 10.6% |
| Deaths | 26.9% | 23.3% | 43.1% | 38.5% | 21.0% | 21.0% | 16.7% | 10.6% |
| **Treatment capacity** | | | | | | | | |
| All | 21.8% | 18.7% | 27.7% | 26.2% | 21.0% | 16.1% | 16.7% | 13.6% |
| Hospital beds | 22.8% | 21.2% | 35.4% | 33.8% | 19.4% | 19.4% | 13.6% | 10.6% |
| ICU beds | 22.8% | 20.2% | 36.9% | 32.3% | 17.7% | 17.7% | 13.6% | 10.6% |
| **Legislation** | | | | | | | | |
| Mask and restrictions | 25.4% | 24.4% | 40.0% | 38.5% | 21.0% | 21.0% | 15.2% | 13.6% |
| **Budget** | | | | | | | | |
| All | 21.8% | 18.7% | 27.7% | 26.2% | 21.0% | 16.1% | 16.7% | 13.6% |
| Monthly spend | 25.9% | 23.8% | 35.4% | 35.4% | 24.2% | 21.0% | 18.2% | 15.2% |
| Public procurements | 25.9% | 23.8% | 35.4% | 35.4% | 24.2% | 21.0% | 18.2% | 15.2% |
| Revenues | 23.8% | 22.8% | 29.2% | 29.2% | 24.2% | 22.6% | 18.2% | 16.7% |
| Donations | 21.8% | 19.2% | 27.7% | 26.2% | 21.0% | 16.1% | 16.7% | 15.2% |

Note: research results.
[a] Whether the municipality answered the question completely or incompletely.
[b] If the municipality answered the question completely

Detailing the results on the question topics, we see that the response rate varied between 21.8% and 25.4% considering whether the totality of the questions on a given topic were answered, i.e., leaving no question unanswered. Adopting the exact answer criterion of what was asked (complete answer), values are not so different. They did not necessarily answer all questions, since 44% of the municipalities that answered ignored at least one question. However, although

municipalities are unlikely to answer questions related to the pandemic, if they do, the answer will be satisfactory.

Based on the results of the logistic regression that aimed to ascertain possible relationships between the local severity of the pandemic and socioeconomic factors with passive transparency, the differences in comparison with active transparency are remarkable. Each dependent variable represents whether all question from a topic were replied. Unlike the factors representing the other type of transparency, the confirmed cases of COVID do not explain whether the municipalities answered the questions associated with a theme or not. Considering the significance level of 5%, only the municipal GDP showed a (positive) correlation with the fact that the municipality answered all questions about epidemiological information as well as whether there is legislation about restrictions on commerce or the use of masks. In addition, municipalities with a higher level of transparency in 2016 were more likely to have answered the question about the legislation, and considering the significance level of 10%, the same applies to other variables on whether the municipality answered the thematic questions.

**Table 6 – Logit regression for passive transparency**

| Variables | Epidemiological data (1) | Treatment capacity (2) | Legislation (3) | Budget (4) |
|---|---|---|---|---|
| COVID cases (log.) | 0.112 | 0.292 | 0.253 | 0.292 |
| | (0.219) | (0.218) | (0.233) | (0.218) |
| GPD (log.) | 0.797** | 0.495 | 0.887*** | 0.495 |
| | (0.341) | (0.381) | (0.343) | (0.381) |
| Urban | -0.231 | -1.031 | -0.282 | -1.031 |
| | (0.636) | (0.672) | (0.650) | (0.672) |
| Rural | 0.405 | 0.496 | 0.575 | 0.496 |
| | (0.596) | (0.602) | (0.592) | (0.602) |
| Transparency score | 0.174* | 0.171* | 0.226** | 0.171* |
| | (0.098) | (0.095) | (0.100) | (0.095) |
| HDI Education index | 3.138 | 5.824* | 1.515 | 5.824* |
| | (3.345) | (3.390) | (3.466) | (3.390) |
| HDI Longevity index | 3.263 | -7.461 | 0.317 | -7.461 |
| | (9.599) | (8.686) | (8.948) | (8.686) |
| Population (log.) | -0.328 | -0.075 | -0.327* | -0.075 |
| | (0.203) | (0.200) | (0.198) | (0.200) |
| Northeast | -0.531 | -1.019 | -0.208 | -1.019 |
| | (0.819) | (0.864) | (0.858) | (0.864) |
| Midwest | -0.787 | -0.256 | -0.179 | -0.256 |
| | (1.074) | (1.048) | (1.103) | (1.048) |
| Southeast | -0.784 | -0.726 | -0.322 | -0.726 |
| | (0.976) | (1.014) | (1.054) | (1.014) |
| South | -0.387 | -0.216 | 0.332 | -0.216 |
| | (1.051) | (1.110) | (1.157) | (1.110) |
| Constant | -13.911* | -5.880 | -12.924* | -5.880 |
| | (7.129) | (6.474) | (6.680) | (6.474) |

Note: *p<0.1; **p<0.05; ***p<0.01. Standard deviation in brackets. N.= 192

### 5.3 Relationship between types of transparency

The correlation matrix between the variables representing the active and passive transparency used in the regressions elucidates how information is disseminated in Brazilian municipalities. Based on the significant correlations highlighted with bold numbers in Table 7, considering a p-value less than 0.05, there is evidence that municipalities that actively share information about the pandemic do not necessarily respond to requests for information on the same subject. In other words, active and passive transparency have no correlation between their variables. Based on the previous sections, this can be exemplified with information on the budget to combat the pandemic. Although many municipalities show information about this on their transparency portals, there was no higher rate of responses on the subject when analyzing passive transparency.

Looking at the relationship of variables of the same type of transparency, it appears that the representative factors are correlated with each other. However, the levels of correlation differ considerably in different types of transparency, although in general they are significant and positive. In the case of active transparency, the factors show a weak correlation since the values vary between 0 and 0.5. The correlation variation between the passive transparency factors is considerably greater: between 0.7 and 1. That is, if the municipality completely answers the questions of a certain topic about the pandemic, it tends to answer other topics.

**Table 7 - Correlation matrix between active and passive transparency**

| | Variables | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) |
|---|---|---|---|---|---|---|---|---|---|
| Active transparency | (A) Daily updated bulletins | | **0.25** | **0.53** | **0.21** | 0.03 | 0.02 | 0.04 | 0.02 |
| | (B) Institutional website | **0.25** | | **0.17** | 0.11 | 0.07 | 0.04 | 0.06 | 0.04 |
| | (C) Social networks | **0.53** | **0.17** | | **0.15** | 0.06 | 0.11 | 0.11 | 0.11 |
| | (D) COVID Budget | **0.21** | 0.11 | **0.15** | | 0.01 | -0.02 | 0.02 | -0.02 |
| Passive transparency | (E) Epidemiological data | 0.03 | 0.07 | 0.06 | 0.01 | | **0.74** | **0.92** | **0.74** |
| | (F) Treatment capacity | 0.02 | 0.04 | 0.11 | -0.02 | **0.74** | | **0.79** | **1** |
| | (G) Legislation | 0.04 | 0.06 | 0.11 | 0.02 | **0.92** | **0.79** | | **0.79** |
| | (H) Budget | 0.02 | 0.04 | 0.11 | -0.02 | **0.74** | **1** | **0.79** | |

Note: research results. Same variables from regression. N. = 193. Highlighted in bold text: $p<0.05$.

## 6 Discussion

The findings of this research show the importance of social networks in informing citizens about COVID-19 information. Do municipalities always use these tools or are we experiencing a moment of exception? Future investigation about public transparency should consider this variable in order to show if cities use this tool to inform citizens in normal conditions. We can assume as a hypothesis that social network was used in this case due to the epidemiological nature of the issue and the speed with which information must reach citizens. Also, that it is being largely used because it is easy to input information and it is a direct line that cities have found to communicate with their citizens and make their actions public. Furthermore, it can improve the visibility of the information, as said by Michener and Bersch (2013). This tool could be relevant in other

epidemiological or urgent issues and for disclosure of public policies that needs cooperation from citizens.

We observe that the number of infected seems to influence on the information disclosure related to epidemiological factors, but socioeconomics variables do not seem to have any relevance, different from the observed by some studies as Ribeiro and Zuccolotto (2012), Cruz et al. (2012) and Baldissera (2020). Even though information related to expenses and revenues is largely published, it is due to legislation enforcement, even in municipalities with less cases of new coronavirus. Yet, other basic information about the conditions of the municipalities in face of coronavirus pandemic - such as number of cases, deaths, hospitalizations, suspected cases - are not largely available on the institutional websites.

The publish of information should be accompanied by the quality of the information disclosure, considering visibility and inferibility (MICHENER; BERSCH, 2013). Our results show that a few municipalities are making raw data available, historical series or even data panels. Data presentation is very important, not only to the understanding of the situation, but also to the usability of the data by journalists or researchers. In this case, the quality of information is harmed. Besides that, time series information is very important to understand how the situation is evolving, in order to give the right picture. Good information and quality in data presentation are also important to build credibility and safety.

On the order hand, the passive transparency analysis presented a worrying situation. Around 19.7% of the municipalities analyzed presented problems or did not have a system to submit information requests. Only 29.5% for the first request and 25.9% for the second request were replied, i.e. even the possibility to ask for information, when it is not available, is inefficient. Even when the requests are answered, 44% of the of the municipalities that answered ignored at least one question. That is, even the answer does not guarantee that the information is being made completely available. Unlike active transparency, but partially aligned with the literature, only local GDP is correlated with the probability of municipalities answering certain questions, with no relationship to the local severity of the pandemic. However, it is important to emphasize that complacency to the law of access to information does not have high costs, being, in reality, dependent on incentives and leadership (MICHENER, CONTRERAS & NESKIER, 2018).

Given that most municipalities provide information on expenditures related to the coronavirus, it could be expected that municipalities would have no difficulty in answering the same information through passive transparency. However, this was not found among the selected municipalities. Our hypothesis is that the fact that there is a law that requires specific information to be made available on the institutional website at a time when institutions and civil society are continuously

monitoring governments and their responses to the pandemic increase the likelihood that municipalities will respect law. For instance, information related to epidemiological factors and its quality were very low. On the other hand, this cannot be reproduced for passive transparency. One possible explanation is because passive transparency is more difficult to monitoring by regulatory institutions or civil society and, as observed by Michener, Contreras and Neskier (2018), is more challenger to answer unexpected questions, that come from requests[64].

## 7 Conclusions

This work adopted a representative sample of Brazilian municipalities in order to understand how transparency has been functioning in the context of the new coronavirus outbreak. Through quantitative analysis (descriptive statistics, correlation test and logistic regression) we can identify the profile of transparency in rural and urban municipalities. In general, it is possible to say that this profile is constituted by the dissemination of epidemiological information on social networks and the provision of information on the budget to combat the virus, but the availability of data in a more informative and higher quality way such as time series and interactive data panel are less frequent or absent. Another shortcoming is the lack of response to requests for information, i.e., often municipalities do not respond to requests for information about the pandemic.

One possible explanation is that normative factors seem to have importance in the variation in the level of transparency. For example, legislation enforcement was important in order to force municipalities to publish information about expenses and revenues related do COVID-19. On the contrary, information related to epidemiological factors which did not have any law enforcing its disclosure was more infrequent. It could be related to the fact that passive transparency is more difficult to monitoring and is more challenger to municipalities answer unexpected questions. Further inquiring is necessary to check the veracity of this hypothesis. Additionally, a good level of one kind of transparency do not guarantee that the other will perform well too, i.e. active transparency does not mean that the same actively published information will be send as a response in case of requests.

These results show the urge to improve both active and passive transparency. Low rates of response to requests demonstrate the insufficient quality of passive transparency, while the quality of information available in active transparency is very low too. Improving them is important, not only in this pandemic reality, but for the proper functioning of democracy. Additional research will be necessary to monitor how the municipalities deal with the need to increase transparency and

[64] For example, though illegal, it seems to be a common practice among public officials to search for the identity of applicants, affecting the quality and possibility of responses.

deepen the analyses exposed here, such as the relevance of social networks as a tool for disseminating information and different enforcement strategies for both active and passive transparency.

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## Appendix

Following, the questions sent to the municipalities through passive transparency, translated into English and the original in Portuguese:

**Request number 1:**

"Dear,

I address some questions in order to understand the situation of the pandemic in Brazilian municipalities.

In amounts referring to June 30:
1. How many coronavirus deaths occurred in the municipality?
2. Of confirmed cases, how many had already been cured?
3. How many beds are used to treat covid-19?
4. How many of these beds are ICU?
5. How many were hospitalized because of the disease?
6. Were the use of masks in the city and the closing of shops determined?
7. How many cases were suspected or under investigation?

Thanks in advance."

**Request number 2:**

“Dear,

I address some questions in order to better understand the situation of the pandemic in Brazilian municipalities and what is the financial impact of measures to combat the disease on the municipal budget.

1. How much did the municipality spend on measures to combat the pandemic (report the amounts separately for each month)?

2. What purchases were made with no bidding due to the pandemic? (enter values separately for each month). We would like the contracts or email address where you can access them.

3. Did the municipality receive transfers from another entity (Federal Government and / or State Government) to combat the pandemic? If so, what were the amounts received? (enter values separately for each month)

4. Did the municipality receive funds from private institutions? If so, what were the amounts received? (enter values separately for each month)

Thanks in advance.”

**Questionário número 1:**

“Prezadas (os),

Encaminho algumas questões com intuito de compreender melhor a situação da pandemia nos municípios brasileiros.

Em valores referentes ao dia 30 de junho:
1. Haviam quantas mortes por coronavírus no município?
2. De casos confirmados, quantos já tinham sido curados?
3. Quantos leitos são destinados para tratamento da covid-19?
4. Quantos desses leitos são de UTI?
5. Haviam quantos internados por conta da doença?
6. Foi determinado o uso obrigatório de máscaras na cidade e o fechamento dos comércios?
7. Haviam quantos casos suspeitos ou em investigação?

Agradeço desde já.”

**Questionário número 2:**

“Prezadas (os),

Encaminho algumas questões com intuito de compreender melhor a situação da pandemia nos municípios brasileiros e qual o impacto financeiro das medidas de combate à doença no orçamento municipal.

1. Quanto o município gastou com medidas de combate à pandemia (informar os valores separadamente para cada mês)?

2. Quais compras foram feitas com dispensa de licitação por conta da pandemia? (informar os valores separadamente para cada mês). Gostaríamos dos contratos ou de endereço eletrônico onde seja possível acessá-los.

3. O município recebeu repasse de outro ente (Governo Federal e/ou Governo Estadual) para combate à pandemia? Se sim, quais foram os valores recebidos? (informar os valores separadamente para cada mês)

4. O município recebeu recursos de instituições privadas? Se sim, quais foram os valores recebidos? (informar os valores separadamente para cada mês)

Agradeço desde já.”