

Local Governmental Financial Condition: a Study with Municipalities in the Metropolitan Region of Salvador-Bahia

Condição Financeira Governamental Local: um Estudo com Municípios da Região Metropolitana de Salvador-Bahia

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Resumo

O estudo tem como objetivo conhecer, por meio da análise de indicadores, como se caracteriza a condição financeira dos municípios da Região Metropolitana de Salvador no período pré-pandemia da Covid-19. Realizou-se um estudo exploratório-descritivo e de caráter qualitativo dos entes com população de até 100.000 habitantes, referente ao período 2016-2019, fazendo-se uso do modelo desenvolvido por Brown (1993), denominado de “*ten-point test of financial condition*”. Ficou evidenciado que embora os municípios façam parte da mesma região metropolitana, não demonstram padrões individuais de desempenho regulares e lineares, pois, no período analisado, identificou-se variação significativa nos indicadores de todos eles, à exceção do município Mata de São João. Os municípios investigados são heterogêneos em termos de indicadores individuais, embora similares no que se refere ao contexto territorial e demográfico, e dependentes, em diferentes níveis, da cooperação técnica e financeira da União e dos Estados, para atendimento de emergências financeiras não previsíveis.

Palavras-chave: indicadores, condição financeira, municípios.

Abstract

The study aims to know, through the analysis of indicators, how the financial condition of the municipalities in the Metropolitan Region of Salvador is characterized in the pre-pandemic period of Covid-19. An exploratory-descriptive and qualitative study of entities with a population of up to 100,000 inhabitants was carried out, referring to the period 2016-2019, using the model developed by Brown (1993), called the “*ten-point test of financial condition*”. It was evident that although the municipalities are part of the same metropolitan region, they do not demonstrate regular and linear individual performance patterns, since, in the analyzed period, a significant variation was identified in the indicators of all of them, with the exception of the municipality of Mata de São João. The investigated municipalities are heterogeneous in terms of individual indicators, although similar in terms of territorial and demographic context, and dependent, at different levels, on the technical and financial cooperation of the Union and the States, to respond to unpredictable financial emergencies.

Keywords: indicators, financial condition, municipalities.

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1 Introduction

Central to this study is the concept of governmental financial condition, which objectively consists of the ability of a government to continue to provide services to the community and meet its financial obligations as soon as required, whether in the short or long term (GASB, 1987). Studies have demonstrated the importance of this concept, since it goes beyond the data contained in the balance sheets published by the various governments (GASB, 1987; Brown, 1993; Diniz, 2007; Ramsey, 2013; Lima & Diniz, 2016; Lucianelli et al., 2017). However, searches in the Portal de Periódicos Capes and Spell databases did not return many papers with this theme (in Spell, only four papers were located). Among the studies conducted in Brazil, the focus is on understanding the financial condition of governments, especially at the municipal level (Diniz, 2007; Souza, Andrade, & Silva, 2015; Lima, Albuquerque, & Correia, 2019; Araújo, Leite, & Leite Filho, 2019; Souza, Leite Filho, & Pinhanez, 2019). The work of Lima and Diniz (2016), on the other hand, seeks to shed light on the topic, presenting possibilities and models that can both help governments in monitoring their fiscal health, and assist academia in the development of studies and research in this field.

It is noteworthy that since the enactment of the Federal Constitution in 1988 municipalities were elevated to the status of members of the federation, gaining autonomy to plan, control, collect, and spend public resources. This same law recognizes the relevance, essentiality, and onerosity of the health service provision to the population, for besides indicating it as a social right, it also elects it as a responsibility of all the federative entities, when it states that this service should be provided by the municipalities, with technical and financial cooperation from the Union and the State (Brasil, 1988). However, with the emergence of Covid-19, the precariousness of the public health system in most municipalities was unveiled, which leads one to believe that these entities would be highly dependent on the technical and financial cooperation of the Union and the State to provide the health service.

In light of the above, the central question that emerged to guide the investigation was defined as follows: How is the governmental financial condition of the municipalities of the Metropolitan Region of Salvador-Bahia characterized? The objective is to characterize the financial condition of the municipalities of the Metropolitan Region of Salvador in the pre-pandemic period of Covid-19. Specifically, we aimed to calculate the 10 indicators for each selected municipality using the model developed by Brown (1993), called "ten-point test of financial condition", and then compare the results of each municipality with the other municipalities in its group.

It is reasonable to assume that the emergence of Covid-19, in itself, demands studies in several areas of knowledge, since it is a multifaceted fact. It is expected, therefore, that this effort to systematize the knowledge about the governmental financial capacity of these municipalities will contribute to the discussion of the theme, encouraging other studies to advance in their understanding by the areas of knowledge that relate to them, especially the area of Public Administration. The contribution, therefore, lies in developing an approach on this specific dimension of public management, the financial one, considering that knowing the financial capacity of the municipal government matters when facing high pressure for additional spending due to sudden events.

2 Theoretical Background

2.1 Governmental Financial Condition: Some Indicators

The financial condition of a public entity reflects a situation in which the government entity is able to meet its present and future obligations, including both short- and long-term financial emergencies. It is one of the crucial elements when one wants to know the capacity of public entities to provide public services that can satisfy the needs and welfare of the population (GASB, 1987; Miller, 2001). Financial condition is "the ability of a local government or school district to balance recurring expenditure needs with recurring revenue sources, while providing services on an ongoing basis" (Hevesi, 2003, p. 2).

The measures related to the revenue base, according to Lima and Diniz (2016), for example the per capita revenue, provide a measure of the fiscal capacity of municipalities to raise their revenue through taxation, making it possible to compare the municipality with the average per capita revenue of a reference group. This indicator shows the changes that occur in the level of revenue in relation to changes in population size. Thus, when the population increases, it is expected that there will be an increase in the level of services to serve the community, and, on the other hand, revenue growth is also expected. The share of current revenue shows its representativity in relation to the total revenue collected. This indicator is important because it reveals the capacity of the entity to self-finance its operations without resorting to credit operations. The participation index of transfer revenues in relation to total revenue is also of great importance, as it reveals the financial dependence of the municipality on resources from higher governmental spheres (Lima & Diniz, 2016).

One of the indicators involving current expenditure shows the share of this expenditure in relation to total expenditure, revealing how much of the total expenditure is represented by operational expenses intended for the maintenance of the entity. A low ratio for this indicator suggests that the government prioritizes the application of resources in infrastructure and operational assets. In turn, a high ratio means that most of the expenses are related to the functioning and operationalization of the municipality, evidencing the need for external resources to finance investments (Lima & Diniz, 2016).

Regarding the indicator resources to cover the fall in revenue, still according to the latter authors, based on the fact that the financial surplus should be seen as the representation of the financial slack of the municipality, it is important to know it, to check whether in case of a critical situation, it will allow the coverage of the eventual fall in revenue (Lima & Diniz, 2016).

One of the main indicators to measure the debt load, according to Lima and Diniz (2016), is the debt per capita, which measures the size of the debt relative to the size of the government, expressing the debt that corresponds to each citizen. It provides the idea that the government's ability to generate revenue and pay the debt is related to the size of the population, representing the amount of taxes that each citizen will have to pay in the future to settle the debt. Maintaining the financial health of the government should be one of the goals of the government, in order to properly meet short-term financial obligations. Hence, it is important to know the relationship between your cash and current or short-term obligations.

These indicators are part of Brown's (1993) model, called the "ten-point test of financial condition," and used by other authors. It was conceived from a study conducted by the author in small North American cities to evaluate their financial condition. In this model there is a set of 10 indicators (revenue per capita, representativeness of own revenue, share of transfer revenue, share of operating expenses, coverage of expenses, resources to cover revenue shortfalls, resources to cover short-term obligations, commitment of current revenue to short-term obligations, debt per capita, and commitment of current revenue to debt) that involve the main data made available by the governments, such as revenue, expenses, debt structure, and operating position. Brown's (1993) test, chosen as the baseline for the study, allows for a short term evaluation of small municipalities over a certain period of time. Added to the reasons



already given for choosing the Brown (1993) model is the convergence between the model and the Fiscal Responsibility Law.

2.2 Convergence between Brown's model and the Fiscal Responsibility Law

By regulating the provisions of Article 163 of the Federal Constitution, which states that a complementary law will provide on Public Finance, the LRF imposed limits and conditions for the management of revenues, expenses and debt, materializes the recognition, at least from the point of view of the legal system in force, of good fiscal management as a basic condition for government entities to establish healthy macroeconomic fundamentals and, thus, manage to favor the achievement of sustainable economic growth. The LRF was an important advance for the control of public accounts and represented a favorable change for fiscal balance in the country (Giambiagi & Além, 2016).

It can be seen that the indicators of the model established by Brown (1993) for analyzing the government financial condition and the management indicators required by the LRF complement each other. Among the other convergent aspects between both, there are, for example: a) the concern with the commitment of revenues to expenses, since Brown's model (1993) uses as a variable current expenses as a function of revenue, while the LRF imposed a ceiling for spending on personnel - which is one of the types of current expenses - in 60% of net current revenue (RCL) in the municipal sphere, ceiling this distributed as follows: 54% for expenses in the Executive and 6% for the Legislative, including the Municipal Court of Accounts and; b) the indicator that deals with the commitment of current revenues to debt, in other words, the coefficient between consolidated debt and net current revenue both compose Brown's model and the management indicators established by the LRF.

As environmental factors are not part of the indicators that establish the limits recommended by the LRF, one can affirm in light of the literature on government financial condition, that the focus of the LRF should be understood as one of the components of government financial management, since by including in its indicators only internal variables of the governments it only shows the financial position of the entity at the end of each financial year, December 31, which is the date established for the lifting of the Balance Sheet, Budgetary and Financial by government entities.

2.3 Previous studies

Among the previous studies carried out on this theme in Brazil, we highlight the pioneering work of Diniz (2007), who developed a model to test the financial condition in Brazilian municipalities, using a sample of 2,076 municipalities with population smaller than 10,188 inhabitants, based on the "Test - 10 Point" (Brown, 1993). Following the proposed model, 10 indicators were used to evaluate the financial condition of the municipalities in the sample, as well as compare them among the municipalities and define their relative position in relation to the others in a group of which each municipality is part, which can favor the definition of ranks of the municipalities in relation to financial condition. Thus, the study enables the manager to understand the reality of his municipality individually, as well as in relation to another group of municipalities, while for the academia, it advances in the use of the concept of financial condition especially in the Brazilian reality.

The work of Souza, Andrade, and Silva (2015) also sought to evaluate whether the efficiency in the allocation of resources in education is influenced by the financial conditions of the municipalities. From a sample with 75 most populous municipalities, using the Data Envelopment Analysis (DEA) methodology and a multiple linear regression model, which sought to relate efficiency level in education with the indicators of government financial

condition for the year 2012. If on the one hand, the work allowed indicating efficiency levels in education from the indicators used, on the other hand, the multiple linear regression model did not suggest significant relationships between the indicators of financial condition and efficiency level in the allocation of resources in education. In this case, only the per capita revenue showed statistical significance at 5%. As the authors point out, this does not mean that the financial condition variables do not influence the efficiency in the allocation of resources in education, but that the proposed model was not adequate to evaluate this relationship. In this sense, this study encourages the need for further studies that effectively seek to understand even more the very concept of financial condition and its relationships with other dimensions of public management.

In another vein, Lima, Albuquerque, and Correia (2019) conducted a study to identify the factors that influenced the financial condition of Brazilian states two years before and two years after the 2014 economic crisis. Using the indicator categories cash solvency, budget solvency, long-term solvency and service solvency (Wang, Dennis, & Tu, 2007) and the factor analysis method, the authors concluded that the crisis that occurred in 2014 changed the composition of the factors that define the financial condition of the states. While before the crisis it was possible to perceive the factors more clearly in the composition of the financial condition, following an order of importance: first long-term financial information, followed by short-term financial information, and then fiscal, budgetary and socioeconomic information, in the second moment, it is no longer so clear the segregation of factors as described by Wang, Dennis and Tu (2007), because the factors formed gather firstly short and long-term financial information, together, then fiscal, budgetary and socioeconomic information.

The work of Araujo, Leite, and Leite Filho (2019) verified how financial condition indicators influence the granting of government grants by Brazilian states in an economic crisis environment. The study performed this analysis using the model of Wang et al. (2007), with unbalanced panel data regression as the method, for the years between 2010 and 2016. The results show that there was no difference between the averages of grant-making in crisis periods, as well as "crisis" was not statistically significant in the regression model, indicating that this variable does not explain grant-making. Furthermore, for the financial condition indicators, the results did not fully confirm the hypothesis set for the study that government financial condition indicators have a direct relationship with government grants. This is because not all indicators showed a direct relationship with the granting of subsidies or did not show a significant relationship with it.

In the study by Souza, Leite Filho, and Pinhanez (2019), it was investigated to what extent socioeconomic factors influence the financial condition of a sample of 3,045 Brazilian municipalities that had the information available to the study, based on Brown's model (1993), using multiple regression as the method of analysis. The financial condition of the Brazilian municipalities according to Brown's method (1993) varies according to the regions, being that "among the best", the South region has 255 municipalities that correspond to 54.6% of the group. At the other end, in the category among the worst, the Northeast region has 54 municipalities, which correspond to 76.1% of the total of municipalities in this category. With regard to the regression model that seeks to identify the influence of socioeconomic factors on financial condition, among the variables used in the model, only the GDP did not show statistical significance. While the others (rural population, poor population, illiteracy rates) were statistically significant at the 5% level. Similarly, different regions showed significant to explain the financial condition of the municipalities. Thus, it is possible to state that socioeconomic factors influence the financial condition of municipalities, although with a caveat for GDP.



Another study using the same model as a basis for investigation was the one conducted by Nobre, Diniz, and Araújo (2019) in municipalities in the state of Paraíba with a population of less than 100,000 inhabitants. These authors inserted the values obtained through Brown's model (1993) in a statistical model, along with the variables public transparency and fine, by means of panel Tobit and concluded that the better the financial condition, the better the transparency indexes in the municipalities.

These exploratory studies revealed that in Brazil there is a lack of studies that make use of models to evaluate the governmental financial condition. Among the few that were located, it was found that Brown's model (1993) has been the preferred one and that these studies use as sample municipalities with a population of less than 100,000 inhabitants. Given the scarce number of studies identified, it is expected that the work presented herein will contribute to increase and systematize the knowledge about the relevance of the use of models available in the literature for analyzing the financial condition of governments in Brazil, especially the model of Brow (1993) presented herein.

3 Methodological Procedures

The research is characterized as qualitative, having been conducted through a work of exploratory-descriptive nature, because, in line with what is prescribed by Gil (2009), it seeks to describe the characteristics of a specific population in relation to a phenomenon, the municipal financial condition, still lacking expressive amount of studies in the country. It is also classified as secondary and documental, since only official information from the National Treasury was used, through reports made available in the Accounting and Financial Information System of the Brazilian Public Sector (SICONFI), from the Brazilian Institute of Geography (IBGE) and from the Audit Court of the Municipality of Bahia (TCM-BA).

The study was developed based on Brown's Model (1993), considering as universe the 13 (thirteen) municipalities that make up the Metropolitan Region of Salvador (RMS), in order to ensure the territorial similarity between the compared entities. Furthermore, due to the specificities of the model for calculating the municipal short-term financial condition, only the 09 municipalities with a population of less than 100,000 inhabitants - Vera Cruz, Itaparica, Madre de Deus, Mata de São João, Pojuca, São Francisco do Conde, São Sebastiao do Passé, Candeias and Dias D'Ávila- were considered, and Salvador, Camaçari, Lauro de Freitas and Simões Filho were excluded from the sample. After that, the three sequential steps of Brown (1993, p. 21-24) were followed: Step 1: Calculation of the 10 indicators for each selected municipality; Step 2: Comparison of the results of each municipality with the other municipalities of its group, according to the classification in the previous table, by calculating the minimum, maximum, Q1, Q2 (median) and Q3 values; and Step 3: For each of the 10 indicators, its measure of position was used to locate each municipality in its respective quartile.

Figure 1 - Brown's indicators

Expected Result	Description and Number Assigned to the Indicator	Formula
The bigger the better	Revenue per capita (1)	$\frac{\text{Total Revenue}}{\text{Population}}$
	Own revenue representativeness (2)	$\frac{\text{Total Current Revenue} - \text{(-)Current Tranfers}}{\text{Total Revenue}}$
	Expense Coverage (5)	$\frac{\text{Current Revenue}}{\text{Total Expenditure}}$

	Resources to cover shortfalls in collection (6)	<u>Financial Surplus</u> Total Revenue
	Resource to cover short term obligations (7)	<u>Availabilities</u> Current Liabilities
The smaller the better	Share of transfer revenues (3)	<u>Current Transferences Revenue</u> Total Revenue
	Operational Participation (4)	<u>Current Expenditure</u> Total Expenditure
	Commitment of current revenues with short term obligations (8)	<u>Short-term liabilities</u> Net Current Revenue
	Debt per capita (9)	<u>Consolidated Debt</u> Population
	Commitment of current revenues with indebtedness (10)	<u>Consolidated Debt</u> Net Current Revenue*

* Note: It is defined in the law that regulates its limit and what effectively matters is the payment (as defined in the law of limits and percentages of debt payment of States and Municipalities).
 Source: Elaborated by the author, 2020, based on Brown, 1993 and survey data.

Before moving on to the next step, it is understood to be fundamental to present the following details of variables that may generate doubts as to how they are calculated.

Figure 2 - Composition of Variables.

Variable	Composition
Financial Surplus	Positive difference between Financial Assets and Financial Liabilities
Availabilities	The balance of the cash and cash equivalents account was considered
Current and short term liabilities	The balance of the current liabilities group was considered

Source: Elaborated by the author, 2020, based on Lima and Diniz, 2016.

In the third step, the calculation of the position of municipalities in quartiles, we used the categorization of Brown (1993, p.23): first quartile goes to the 25th percentile; 25th percentile > second quartile = 50th percentile; 50th percentile > third quartile = 75th percentile and, finally, the last quartile includes the percentiles above 75th percentile. To operationalize the classification of the score of the financial condition of each municipality it was taken into account its location quartile, from the assignment of 4 possible total scores: -1 (quartile 1 indicators); 0 (quartile 2 indicators); +1 (quartile 3 indicators) and +2 (quartile 4 indicators), thus allowing the existence of municipal financial condition scores in the range between -10 and +20.

Brown's (1993) model indicates that municipalities are classified from these total scores as having a financial condition in comparison to their peers as: of -5 or less (among the worst); between 0 and -4 (worse than most); between +1 and +4 (average); between +5 and +9 (better than most) and; of +10 or more (among the best). The research results are presented in a

descriptive form, with tables generated from produced spreadsheets, aiming to facilitate the understanding in relation to the findings, an option that does not characterize the making of a quantitative study.

4 Results and Discussion

4.1 Year 2016

Initially, the total scores of the municipalities for the year 2016 are presented as shown in Table 1.

Table 1 - Total scores of the Municipalities in 2016.

Municipality	2016	FC in 2016
Candeias	5	Better than the majority
Dias D'Ávila	15	Among the best
Itaparica	6	Better than the majority
Madre de Deus	2	On average
Mata de São João	12	Among the best
Pojuca	-1	Worse than the majority
São Francisco do Conde	0	Worse than the majority
São Sebastião do Passé	1	On average
Vera Cruz	6	Better than the majority

Source: Elaborated by the author, 2020.

In 2016, the municipalities that presented the best financial conditions were Dias D'Ávila and Mata de São João, and Dias D'Ávila was the entity of the sample that reached the best total score in the fiscal year: 15. Vera Cruz, Itaparica and Candeias were in the "better than most" condition; Madre de Deus and São Sebastião do Passé were in the "average" condition; Pojuca and São Francisco do Conde were in the "worse than most" condition, and Pojuca had the worst total score in the whole sample: -1. As we can see, of the nine municipalities that make up the sample, 03 were ranked "better than most", and this, therefore, is the position where most municipalities concentrated in the year under analysis.

It was also verified that the two municipalities that were "among the best" - Dias D'Ávila and Mata de São João - stood out especially in indicators 2, 4, 7, 9 and 10, showing that they have good representation of their own revenue, low participation of operational expenses, more resources available for covering short term obligations, and better debt conditions - both with regard to per capita debt and the consolidated debt to net current revenue ratio. The worst indicator for Dias D'Ávila in the period was Revenue per capita, where it got a score of zero. The worst indicator for Mata de São João was 5, where it scored -1, which shows that, along with São Sebastião do Passé, it has one of the lowest capacity to cover expenses among those in the sample.

Regarding the municipalities positioned as "better than most", Vera Cruz, Itaparica and Candeias, it was verified that Candeias did not reach the best score - 5 - but was a positive highlight in indicators 2, 3 and 5. However, this same Municipality has a situation that stands out negatively in indicators 6, 7, 9 and 10, revealing, in general, to have less available funds to cover short-term expenses and more debt. In general, Vera Cruz and Itaparica are very similar in each of the indicators, so much so that they reached the same total score, 6.

As for the municipalities positioned as "in the average" - Madre de Deus and São Sebastião do Passé - it called attention to the fact that it was in indicator 1 - per capita income - that the first one reached one of its best scores, while the second one one of its worst, -1, which was repeated in indicator 5, that is, while Madre de Deus indicated it has high per capita income and expense coverage when compared to the other entities of the sample, São Sebastião do Passé showed exactly the opposite. Both showed the same score in indicators 6 and 10.

As for the two municipalities that were "worse than most" (Pojuca and São Francisco do Conde), it was found that they are similar as to the indebtedness indicators, but opposite as to the per capita revenue indicators - where São Francisco do Conde obtained the maximum score and Pojuca the minimum score - and commitment of current revenue to short-term obligations - where Pojuca obtained the maximum score and São Francisco do Conde the minimum score.

4.2 Year 2017

As done in the previous subsection, first the total scores of the municipalities for the year 2017 are presented as shown in Table 2.

Table 2 – Total scores of the Municipalities in 2017.

Municipality	2017	FC in 2017
Candeias	9	Better than the majority
Dias D'Ávila	12	Among the best
Itaparica	2	On average
Madre de Deus	2	On average
Mata de São João	10	Among the best
Pojuca	0	Worse than the majority
São Francisco do Conde	2	On average
São Sebastião do Passé	6	Better than the majority
Vera Cruz	5	Better than the majority

Source: Elaborated by the author, 2020.

We can see that Dias D'Ávila and Mata de São João maintained the best financial condition result, the first reducing to 12 and the second to 10; Candeias, São Sebastião do Passé and Vera Cruz were the three entities positioned in the "better than most" financial condition, obtaining, respectively, a total score of 9, 6 and 5; São Francisco do Conde, Itaparica and Madre de Deus were in the "average" position with a score of 2; in the "worse than most" situation only Pojuca remained with the worst score, 0. Thus, of the nine municipalities surveyed, 03 present "average" scores, making the concentration of FC results in this position to be maintained in the sample.

Dias D'Ávila remained "among the best", standing out with score 2, indicators 2, 4, 6 and 7, with high representativeness of own revenues, a good level of own revenues to cover shortfalls in collection and low participation of operating expenses and greater resources available to cover short-term obligations. The worst indicator was number 1, with a score of 0, maintaining a lower per capita revenue ratio than some other entities. Mata de São João had the best indicators 3, 4, 8, 9 and 10, showing improvement in the participation in operating revenues



and expenses, in the commitment with short-term and total debt, as well as regarding the debt per capita. The worst score was -1 in indicator 5, pointing to a worsening of its condition in guaranteeing coverage of expenses.

Among those evaluated as "better than most" were Candeias, São Sebastião do Passe and Vera Cruz. The best classified in this category, Candeias, also presented as best indicators 2,3,5 and 6 with score 2. However, its worst indicators, number 9 and 10, with score -1, indicate results of higher per capita debt and commitment of current revenues with indebtedness.

The entities classified as "average", São Francisco do Conde, Itaparica and Madre de Deus were classified in the same way. However, their best and worst indicators varied. Thus, for the first municipality, the best indicators were 1 and 5, characterizing good results in per capita revenues and own revenues to cover short-term obligations. For Itaparica, the positive highlight was only indicator 8, characterizing a good relation of commitment of current revenues with short-term debt; its worst indicators, with a score of -1, were 1 and 3, characterizing a worse position than the others in relation to per capita revenues and the participation of transfer revenues. In Madre de Deus, the positive highlight was indicator 1, per capita income, while the negative indicators were indicators 5, 6 and 7. It can be seen that only indicator 7, own revenues to cover short term obligations, was a common negative point, and, even so, only between São Francisco do Conde and Madre de Deus. The fact that, once again, the entity with the highest per capita revenue is the one that has one of the two worst results in indicator 2 confirms the continuity of the low representativity of own revenue generation in São Francisco do Conde, a municipality that still has poor results in indicators 2, 7, 8, 9 and 10, thus confirming the previous finding.

As for Pojuca, classified as "worse than most", it was found that its worst indicators are numbers 2, 3, 4 and 6, in which it obtained, in each indicator, the score -1; being, however, one of the two municipalities that obtained the best classification in indicator 7, receivables to cover short-term obligations, with the score 2.

4.3 Year 2018

The total scores of the municipalities for the year 2018 are presented from Table 3.

Table 3 - Total scores of the Municipalities in 2018.

Municipality	2018	FC in 2018
Candeias	11	Among the best
Dias D'Ávila	9	Better than the majority
Itaparica	-4	Worse than the majority
Madre de Deus	4	On average
Mata de São João	13	Among the best
Pojuca	7	Better than the majority
São Francisco do Conde	2	On average
São Sebastião do Passé	3	On average
Vera Cruz	5	Better than the majority

Source: Elaborated by the author, 2020.

In 2018, the entities with the best financial condition were Mata de São João and Candeias, respectively with total scores of 13 and 11; in the financial condition "better than most" were three municipalities Dias D'Ávila, Pojuca and Vera Cruz, with scores of 9, 7 and 5;

Madre de Deus, São Sebastião do Passé and São Francisco do Conde, respectively with scores of 4, 3 and 2; in the situation "worse than most" is only Itaparica, with a total score of -4.

Among the best is Mata de São João, where indicators 2, 3, 4, 9 and 10 stand out, showing its good situation in own revenues, share of transference revenues, share of operational expenses, per capita debt, and composition of current revenues with indebtedness. The worst indicators were 5 and 6, with a score of 0, characterizing a low capacity to cover expenses and resources to cover revenue shortfalls.

In the condition "better than most", the municipality with the highest score was Dias D'Ávila, with a positive highlight for indicators 3, 4, 8 and 9, with score 2, showing a good representation of the participation of transference revenues, participation of operational expenses, relation between current revenues and short term obligations, and debt per capita. Their worst results were in indicators 1 and 5, with worse results than the other municipalities in per capita revenues and expenditure coverage. Vera Cruz, the worst classified in this category, had indicator number 1, with a score of -1. Among the municipalities classified as "average", the best was Madre de Deus with positive indicators 1 and 10, both with score 2; its worst indicator was number 6, with a score of -1. Thus, in comparison with the other entities, one can see good results for per capita revenue and commitment of current revenue to debt, accompanied by a worse result with regard to the level of own revenue to cover the drop in collection. São Francisco do Conde was the worst classified in this category, its best score was in indicator 1, in which it had a score of 2, showing a good result compared to the others with regard to per capita revenue. However, its score of -1 in indicators 7, 8, 9 and 10 show results below the other entities with regard to own revenues covering short term obligations, relation between current revenues, short term obligations and debt per capita, and commitment of current resources with debt.

Itaparica was the only municipality classified as "worse than most", presenting the worst results in half of the indicators, specifically numbers 2, 3, 4, 5, 6 and 7.

4.4 Year 2019

The total scores of the municipalities for the year 2019 are presented in Table 4.

Table 4 - Total scores of Municipalities in 2019.

Municipality	2019	FC in 2019
Candeias	7	Better than the majority
Dias D'Ávila	5	Better than the majority
Itaparica	0	Worse than the majority
Madre de Deus	-1	Worse than the majority
Mata de São João	19	Among the best
Pojuca	4	On average
São Francisco do Conde	2	On average
São Sebastião do Passé	5	Better than the majority
Vera Cruz	4	On average

Fonte: Elaborated by the author, 2020.



It can be seen that in 2019 only Mata de São João occupies the position "among the best", obtaining the best score, not only for the year, but for the entire series: 19; in the financial condition "better than most" were São Sebastião do Passé, Candeias, and Dias D'Ávila, with the best score of this group being the one obtained by Candeias, 7; situated in the "average" were the municipalities Vera Cruz, Pojuca, and São Francisco do Conde - the first two with scores 4 and the last with scores 2; In the situation "worse than most" were Itaparica - repeating the performance of the previous year - and Madre de Deus, which was surprising, because in the three previous periods it had always occupied an "average" position.

As for the position "among the best", the outstanding position of Mata de São João this year is explained by the fact that this entity obtained the maximum score in 9 of the 10 indicators, the only exception being indicator 1, Revenue per capita.

As for those located as "better than most", it was found that Candeias stands out positively in indicators 2, 3 and 6, i.e., the representativeness of own revenue, share of transfer revenues and resources to cover shortfalls in collection of this entity is among the best of the sample, and that São Sebastião do Passé stood out in indicator 8, meaning that the commitment of current revenues with short-term obligations of this entity is lower than the others. It was observed that among the three, Dias D'Ávila is the one that presents the worst indicator Revenue per capita, with a score of -1.

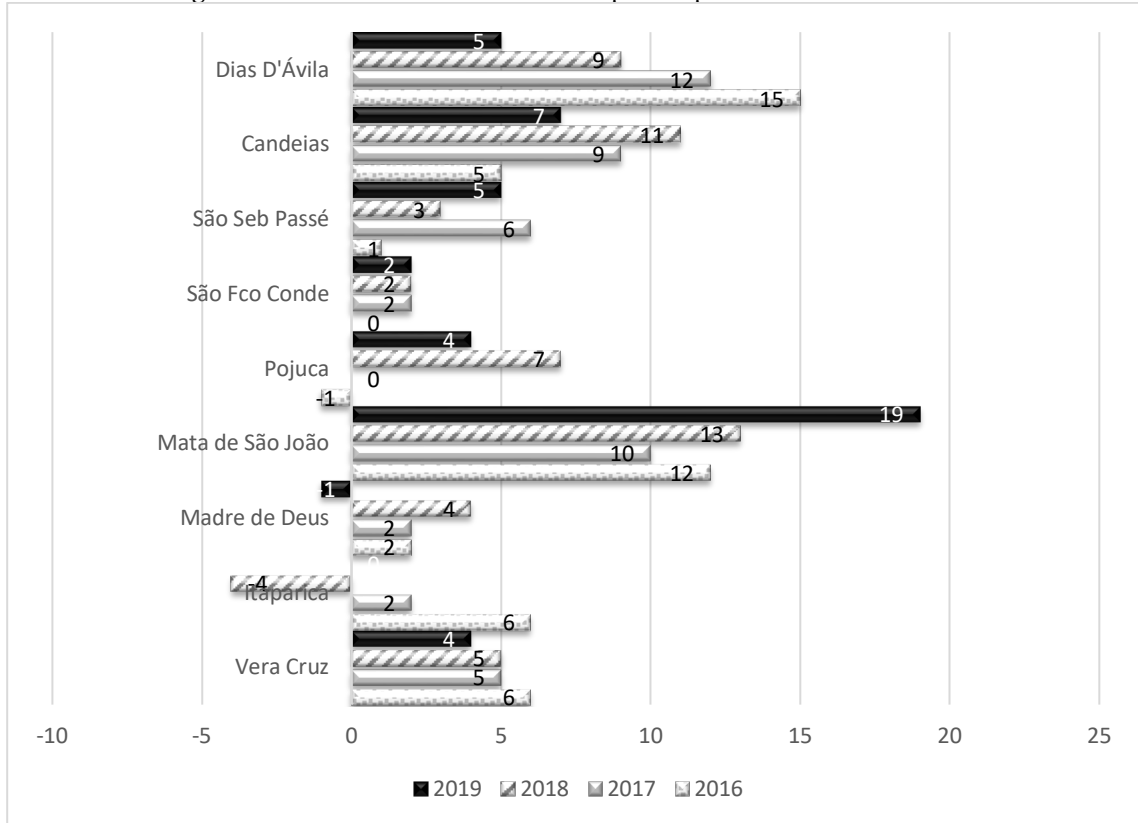
As for the municipalities positioned as "average", Pojuca only got the maximum score in indicator 7, showing its good condition for covering short-term obligations. São Francisco do Conde repeated its good situation in the indicator of Revenue per capita, with a score of 2, a situation that has accompanied it since 2016, obtaining the maximum score in indicator 5, showing that it has good coverage of expenses by revenue.

As for the two municipalities classified as "worse than most" (Itaparica and Madre de Deus), it was found that they had identical and worst results among the entities of the sample in indicators 2, 3, 6 and 7, each obtaining a score of -1. However, Itaparica obtained maximum scores in indicators 9 and 10, showing less debt per capita and commitment of current revenues with debt, while Madre de Deus kept the score 2 in indicator 1, a fact that shows it has a better situation than the others in its Revenue per capita, and that has accompanied it since 2016.

4.5 General Analysis (2016-2019)

This section presents the results of the overall analysis (2016-2019), starting with the presentation of Figure 3 that brings the financial condition of municipalities by fiscal year.

Figure 3 - Financial Condition of Municipalities per Fiscal Year.



Source: Elaborated by the author, 2020.

A first analysis that can be made is that despite the fact that the municipalities are part of the same metropolitan region subject to similar benefits arising from this institutional arrangement, there is not a pattern of performance in the financial condition of the municipalities, nor even a regular and linear performance in each of them, because throughout the analyzed period, there is significant variation in all of them, with the exception of Mata de São João, regarding the financial condition, which certainly limits the capacities of the governments of these municipalities for medium and long term planning and for dealing with unforeseen financial emergencies, such as the crisis resulting from Covid-19.

As can be seen, throughout the analyzed period, the municipalities Mata de São João, Candeias and Dias D'Ávila are the ones that can be pointed out as the ones with the best financial conditions at the time of the pandemic emergency. This inference comes from the fact that these entities have always been in the two highest positions of Brown's model (1993) throughout the whole period. Another inference that can already be made is that the revenue per capita indicator was not decisive for these entities to stand out from the others in the sample, because the ratio between revenue level and population size remained the same for Mata de São João and Candeias, and even decreased in the last two years for Dias D'Ávila.

It is also inferred that in relation to the municipalities with better governmental financial condition is that more relevant than the revenue per capita, is the control done in other indicators of Brown's model (1993) and that can be associated to the limits imposed by the Law of Fiscal Responsibility (Brasil, 2000), since in these municipalities, the per capita debt indicator has a high score, indicating that the low revenue per capita is not an impediment to the financial health of the municipality because the control exercised by the manager may be adequate to ensure the municipal financial condition, besides indicating the idea that the existing debt is



compatible with the size of the population and with its capacity to generate revenue to pay the debt (Lima & Diniz, 2016).

On the other hand, the municipalities of Itaparica, Madre de Deus and São Francisco do Conde are those with the worst financial condition throughout the analyzed period, from Brown's (1993) model. A first issue that manifests itself similar to all of them, is the inability of their governments to generate own revenue, verified in the poor performance in the indicator of Representativeness of own revenue (Lima & Diniz, 2016; Casal & Gomez, 2014; Lucianelli et al., 2017). This problem can be aggravated during the crisis generated by the pandemic to which can reduce economic activity because of the measures of social distancing to contain the spread of the virus, in addition to the fact that in many of these municipalities, there has been the extension of payments of municipal taxes. Therefore, if the financial condition prior to the emergence of the pandemic of Covid-19 was already bad, by the indicators analyzed, it is unlikely that the municipalities will be able to honor the commitments arising from the pressure for spending in this pandemic context (GASB, 1987; Havesi, 2003).

Still in this group of the worst municipalities in financial condition in the analyzed period, the municipalities of Madre de Deus and São Francisco do Conde draw our attention because both have a high performance in the per capita revenue indicator, indicating a higher amount of resources per inhabitant, but on the other hand, they present bad performances in the per capita debt and transfer revenue participation indicators. It seems contradictory that per capita revenues and per capita debt are pointing in the opposite direction. One of the possible reasons for this is that the population size effect is distorting the indicators, that is, there are municipalities with very diverse population sizes. Besides this, the issue of debt payment is controlled by specific legislation, with percentage limits in relation to the Net Current Revenue, and, when there are severe crises, there has been postponement of payments and new payment conditions.

The indebtedness limits the ability to raise funds through loans, while the dependence on transfers from the federal and state governments can make it difficult for these municipalities to act immediately as soon as the demand for spending is presented. The receipt of these resources requires a slow process due to the legal procedures, as observed in the time it takes for the approval of the complementary law No. 173 of May 27, 2020 and Provisional Measure 978 of June 4, 2020, which deal with financial aid to Brazilian states and municipalities due to the Covid-19 pandemic. It is worth noting that the problems arising from the pandemic, such as the reduction in economic activity that impacted the revenue of the federal entities, started in March 2020, and the financial aid begins to arrive later. Thus, the lack of financial condition, here arising from difficulties with transfer dependence and also low capacity to generate own revenue limits the governments' actions as the demands were appearing (Havesi, 2003; Lima & Diniz, 2016; Lucianelli et al., 2017).

5 Final Considerations

It was found to be possible to perform a longitudinal analysis that determines the financial condition of a given municipality contemplating the multidimensions of this concept from the use of a set of indicators, as recommended by Brown's model (1993). Thus, the test presented a broad account of the sample municipalities. It was evidenced that even though the municipalities are part of the same metropolitan region, they do not show regular and linear individual performance patterns, because in the analyzed period, a significant variation in indicators was identified in all of them, with the exception of Mata de São João.

It is possible to infer that the municipalities need to manage the indicators as a whole, because it is not enough, for example, to have a great per capita revenue indicator, without it being accompanied by a good management of the indebtedness of the entity, this means that

the control exercised by the manager is essential to ensure the municipal financial condition, which allows the planning of medium and long term to meet unforeseen financial emergencies, such as the crisis currently experienced. The results of this work, which are convergent with findings of previous studies that used the same model, point out that in general the municipalities investigated are heterogeneous in terms of individual indicators, although similar in what concerns the territorial and demographic context, requiring therefore, at different levels of technical and financial cooperation from the Union and the States, to face the pandemic.

One of the limitations that can be pointed out in this work concerns the fact that the analysis was carried out taking into account only one territorial clipping; another limitation lies in the fact that only one evaluation model of municipal financial capacity was used. It is understood that the study brought as main contribution the possibility of using Brown's model (1993) to help deepen the discussions related to the financial dimension of municipal public management, a highly relevant issue, especially in times of crisis as the one now experienced with the pandemic.

Considering, however, that every model has limitations, it is indicated, as future studies, to carry out similar research with the use of other models for assessing the financial condition, so that they can serve as a comparison in relation to the results obtained here. It is recommended to explore why the municipalities with the best financial performance have obtained this condition. This can be analyzed by secondary data examining other variables, for example, the impact of population size. Another recommendation is to explore personal knowledge, for example, conducting interviews with the secretaries of finance or planning about the fiscal situation of the municipality. One can also explore a larger number of municipalities for the purpose of increasing the sample, even though the present study dealt with municipalities that are components of a metropolitan region.

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