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**MUNICIPAL TAX EFFORT: AN ANALYSIS OF THE BEHAVIOR OF THE  
MUNICIPAL PARTICIPATION FUND (FPM) IN RELATION TO THE TAX  
REVENUE OF MUNICIPALITIES IN THE MICRO-REGION OF ARAÇUAÍ/MG  
FROM 2013 TO 2018**

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**ABSTRACT**

This research sought to analyze the behavior of the FPM in relation to the tax revenue of municipalities in the Araçuaí/MG micro-region, from 2013 to 2018; as well as to analyze the behavior of the FPM transfer in relation to budget revenue; to evaluate the application of the FPM and to verify whether there are measures by municipal governments to increase tax revenue. In view of this, it is hoped that this study, by demonstrating the origins of the resources and the financial amount of the FPM transfer, will contribute to the study of public finance and to the population of the Araçuaí/MG micro-region. This research is characterized as: bibliographical, documentary and field. It was found that revenue from other sources is not able to maintain the fiscal balance and investments of the municipalities. The results also showed a low tax effort index.

**Keywords:** Municipal Participation Fund (FPM). Tax revenue. Budgetary revenue. Araçuaí/MG micro-region.

**JEL Code:** H71 State and Local Taxation, Subsidies and Revenue. H77 Intergovernmental Relations - Federalism - Secession.

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## 1. INTRODUCTION

In 1824, D. Pedro I granted Brazil its first constitution, which established that every city and town would have a city council, which would be responsible for the economic and municipal government (Mello 2001). Even so, this constitution prohibited the provinces from taxing themselves, so it maintained the characteristic of a unitary state (Korff 1977).

After the Proclamation of the Republic and the introduction of federalism in Brazil, the 1891 Constitution made a brief mention of the municipality, stating that the states would be organized in such a way as to ensure the autonomy of the municipalities in everything that concerned their peculiar interests (Mello 2001).

The 1934 Constitution then defined municipal taxes for the first time. Another novelty was the participation of municipalities in 50% of the state tax on industries and professions, the first case of shared taxes (Mello 2001).

In 1946, when a new constitution was established, municipal taxes were expanded, as was the introduction of a 10% municipal share of income tax (Mello 2001). In turn, in 1961, this percentage was increased to 15%, with the inclusion of the transfer to municipalities of 10% of the tax on the consumption of goods (Bremaeker 1993). In 1988, there was political and financial decentralization, accompanied by tax decentralization promoted by CF/88, as well as changes in the distribution of powers in the country, in order to generate new political and social pacts and commitments (Massardi & Abrantes, 2016). This new scenario has led to changes in municipalities' own revenue and an increase in their share of federal and state revenue, so that the strengthened (Mello 2001).

In this context, the 1988 Constitution ratified the Municipal Participation Fund (FPM), with an increase to 22.5% of the net collection of IR and IPI (STN 2018).

According to Moutinho, Kinesiess and Maccari (2013), the process of transferring resources between the spheres of the federation is an important tool that allows federative entities to act better and can be seen from two perspectives. The first is the possibility of materializing local public actions. In the second, it is hoped that the application of the resource will be more effective in that sphere, because it is closer to the beneficiary population.

In this sense, this work seeks to answer the following research problem: How did the Municipal Participation Fund (FPM) behave in relation to the tax revenue of municipalities in the Araçuaí micro-region between 2013 and 2018?

Therefore, the general objective of this study was to analyze the behavior of the Municipi-

pal Participation Fund (FPM) in relation to the tax revenue of the municipalities in the Araçuaí micro-region from 2013 to 2018.

To answer the general objective, the following specific objectives were established: to analyze the behavior of the FPM transfer in relation to the budget revenue of municipalities in the Araçuaí micro-region, from 2013 to 2018, to evaluate the application of the FPM and to verify whether there are measures by municipal governments in the Araçuaí micro-region to increase tax revenues.

In view of this, it is hoped that this study will contribute to public finance studies and to the population of the Araçuaí/MG micro-region, by demonstrating the origins of resources, as well as the financial amount received from the FPM transfer, in order to understand the behavior of this transfer in relation to municipal tax collection. We also hope to help provide useful information for municipal managers, especially with regard to making fiscal efforts to increase municipal tax collection and possible solutions to reduce dependence on transfers from the Municipal Participation Fund.

In addition to this introduction and the bibliographical references, this work is structured in four sections: the first presents the theoretical background, which covers considerations about the FPM, the criteria for calculating municipal coefficients, as well as municipal efforts to maximize tax revenues. The second section presents the methodology of this study, indicating the procedures used to carry out the research. The third section analyzes the data and discusses the results, and the fourth section presents the final considerations.

## **2. THEORETICAL REFERENCE**

In Brazilian federalism, the constitutional technique of income discrimination refers above all to the system of distribution of powers. The Constitution rigidly and exhaustively contemplated the four autonomous entities of the Federation: the Union, the States, the Federal District and the municipalities, each of which was expressly empowered to institute taxes, fees and social and improvement contributions, in order to establish tax jurisdiction and give each sphere of government exclusivity over the tax assigned to it (Tristão 2003).

According to the STN's National Revenue Manual (2008), revenue plays an essential role in public administration, as it is involved in unique situations, such as its distribution and allocation between government spheres and its relationship with the legal limits imposed by the Fiscal Responsibility Law.

In order for there to be an efficient public administration, it is necessary to distribute responsibilities in such a way as to enable better conditions for implementation, as a fundamental mechanism for reducing regional inequalities, in the continuous search to promote socio-economic balance (Mendes 2004).

As a result, from 1988 onwards, municipalities became a federal entity and were included in the definition of the areas in which all federal entities should work together to develop fundamental social and economic policies for the country. As a result, tax distribution began to be made by means of transfers (Mendes 2004).

### *2.1 Intergovernmental Transfers*

Intergovernmental transfers are a very important tool, as they make it possible to correct interregional socioeconomic inequalities, giving smaller municipalities, in particular, better conditions to provide public goods and services to the local population (Massardi and Abrantes 2016).

Currently, intergovernmental transfers in Brazil can go from the Union to the states, from the Union to the municipalities and from the Federated States to the municipalities, as the Brazilian transfer system is characterized by a vertical flow (from top to bottom), where the federal government transfers resources to the states and municipalities and the states transfer only to the municipalities. There are no transfers from the states to the federal government, from the municipalities to the states, or from the municipalities to the federal government (Santos and Santos 2014).

The most important sources of transfers from the states to the municipalities are the share of the Tax on the Circulation of Goods and Services (ICMS) and the Tax on the Ownership of Motor Vehicles (IPVA). The criteria for distributing these taxes are laid down in the 1988 Federal Constitution (Tristão 2003).

The Rural Land Tax (ITR) is a federal tax, but 50% of the proceeds of its collection must be transferred to the municipality where the property is located. The municipality can also choose to supervise and collect the tax, at which point it becomes entitled to the entire collection, as determined by articles 153 and 157 of the Federal Constitution of 1988.

In addition to the distribution of the ITR, the Federal Government must also share with the municipalities the proceeds of the Tax on Financial Transactions (IOF) levied on gold, according to Article 153 § 5 of the 1988 Federal Constitution.

In addition to these transfers, the Federal Government also transfers the Municipal Participation Fund (FPM) to the states and municipalities, which is one of the Union's main transfers.

### ***2.1.1 Municipal Participation Fund (FPM)***

In the mid-1960s, municipalities faced changes as a result of tax reform. There was a reduction in municipal taxes and innovation in terms of participation in federal and state taxes, since Constitutional Amendment No. 18, in its article 21, gave rise to the Municipal Participation Fund (STN 2018).

According to Mendes *et al* (2008, p. 30), “the Municipal Participation Fund (FPM) is a redistributive transfer from the Federal Government to all municipalities in the country. It is unconditional, obligatory and without counterpart”.

Article 21 of Constitutional Amendment No. 18 of 1965 stipulated that 80% of the proceeds of the federal tax on income and earnings of any kind (IR) and industrialized products (IPI) would be federal revenue and the rest would go 10% to the Participation Fund of the States and the Federal District, and 10% to the Municipal Participation Fund. This same amendment created individual participation coefficients for the municipalities, defined according to the number of inhabitants each had.

The limits of the number of inhabitants and the respective coefficients of the Municipal Participation Fund were published by: Complementary Act No. 35 of 1967, Complementary Act No. 40 of 1968, Decree No. 69.680 of 1971, Complementary Act No. 5 of 1975, Constitutional Amendment No. 17 of 1980 and Decree-Law No. 1,881 of 1981.

It is noteworthy that in 1988 there was political and financial decentralization, accompanied by tax decentralization promoted by the 1988 Federal Constitution, where there were also changes in the country's distribution of powers, generating new political and social pacts and commitments (Massardi and Abrantes 2016). This new scenario led to changes in municipalities' own revenue and an increase in their share of federal and state revenue, which strengthened them (Mello 2001).

In this context, the 1988 Constitution ratified the Municipal Participation Fund and increased it to 22.5% of the net collection of income tax and IPI (STN 2018).

Over the years and with the enactment of the Federal Constitution of 1988, according to art. 159, the FPM was made up of 22.5% of the IR and IPI taxes. In 2007, Constitutional

Amendment 55 added paragraph “d” to article 159, item I, adding 1% to the FPM percentage (which thus became 23.5%). This extra percentage, however, would be accumulated in the National Treasury’s Single Account over 12 months (from December of one year to November of the next), to be delivered to the municipalities in full on the 1st decend of December of each year (STN 2018).

Constitutional Amendment No. 84 of December 2, 2014, by adding paragraph “e” to article 159, item I of the 1988 Federal Constitution, increased the transfer of FPM resources for 2015 by 0.5% percentage points, so that the total was 24%. The amounts were accumulated from January to June 2015 and paid in the 1st decend of July 2015. From 2016 onwards, the percentage rises to 1%, and the amounts are accumulated from July of one year to June of the following year, and paid in the 1st decend of July. Thus, as of 2016, the FPM is made up of 24.5% of the net collection of IR and IPI (STN 2018).

It should be noted that the Federal Court of Auditors (TCU) will notify Banco do Brasil S.A., by the last working day of each financial year, of the individual participation coefficients provided for in Article 159, item I, points “b” and “d” of the Federal Constitution (Brazil, 1966, art. 92).

According to the STN (2018), the calculation is based on information provided by the Brazilian Institute of Geography and Statistics (IBGE) to the TCU by October 31 of each year, which includes the population of each municipality and the per capita income of each state.

#### *2.1.1.1 Criteria for calculating the coefficients for municipalities*

The FPM is distributed according to the classification of the municipalities and the amount of the FPM, where 10% belongs to the state capitals, 86.4% belongs to the municipalities in the and the remaining 3.6% constitutes a reserve to supplement the participation of the most populous municipalities (Mendes *et al*, 2008).

The 86.4% of the FPM distributed to the municipalities is shared according to the participation coefficient based on the number of inhabitants in each municipality, which defines the coefficients that vary between 0.6 and 4.0, according to the scale shown in Table 01:



**Table 01** - Coefficients by population group

Range of inhabitants	Coefficient	Range of inhabitants	Coefficient
Up to 10.188	0,6	From 61.129 to 71.316	2,4
From 10.189 to 13.584	0,8	From 71.317 to 81.504	2,6
From 13.585 to 16.980	1,0	From 81.505 to 91.692	2,8
From 16.981 to 23.772	1,2	From 91.693 to 101.880	3,0
From 23.773 to 30.564	1,4	From 101.881 to 115.464	3,2
From 30.565 to 37.356	1,6	From 115.465 to 129.048	3,4
From 37.357 to 44.148	1,8	From 129.049 to 142.632	3,6
From 44.149 to 50.940	2,0	From 142.633 to 156.216	3,8
From 50.941 to 61.128	2,2	Above 156.216	4,0

Source: (STN 2018). Adapted by the author.

According to Mendes et al (2008), a from 1989, when creation and installation of new municipalities, the resources to be passed on to these new units must be deducted from the other municipalities in the same state. As a result, the sum per state of the municipalities' participation coefficients remains linked to the size of each state's population on July 1, 1989, according to the estimate of the Brazilian Institute of Geography and Statistics (IBGE).

Table 02 shows the share of each state's municipalities in the interior FPM.

**Table 02** - States' share of the total to be distributed

State	Share %	State	Share %
Acre	0,2630	Paraíba	3,1942
Alagoas	2,0883	Paraná	7,2857
Amapá	0,1392	Pernambuco	4,7952
Amazonas	1,2452	Piauí	2,4015
Bahia	9,2695	Rio de Janeiro	2,7379
Distrito Federal	0,0000	Rio Grande do Norte	2,4324
Ceará	4,5864	Rio Grande do Sul	7,3011
Espirito Santo	1,7595	Rondônia	0,7464
Goiás	3,7318	Roraima	0,0851
Maranhão	3,9715	Santa Catarina	4,1997
Mato Grosso	1,8949	São Paulo	14,2620
Mato Grosso do Sul	1,5004	Sergipe	1,3342
Minas Gerais	14,1846	Tocantins	1,2955
Pará	3,2948	TOTAL	100,0000

Source: TCU Resolution 242/90. Adapted by the author.

Below is an illustration of a case from December 2018, from the municipality of Araçuaí/MG. The TCU Normative Decision for that year was No. 162, of November 22, 2017, Annex IX, which lists the individual percentages of the capitals' participation in the FPM.

**Table 03** - Calculation of municipal coefficients

Municipality	Population (source: IBGE, ref. 01/07/2017) A	CIFPM - Inside B	Relative Share of the State Total F
			(B / tot.B) x 100
Araçuaí	37.361	1,8	0,2122641509%
State total	18.595.742	848,0	100%

Fonte: Normative Decision 162/2017. (Adaptado pela autora).

Table 03 shows the data required for this example, taken from the aforementioned Annex. In December 2018, an amount of R\$11,894,520,705.84 (eleven billion, eight hundred and ninety-four million, five hundred and twenty thousand, seven hundred and five reais and eighty-four cents) was distributed to the states, according to data from the STN. The distribution of the FPM-Municipalities is as follows:

**Step 1** - The Interior quota applies, 86.4%:

$$\text{R\$ } 11.894.520.705,84 * 86,4\% = \text{R\$ } 10.276.865.889,845 \quad (01)$$

**Step 2** - Find the amount to be received by the state:

$$\text{R\$ } 10.276.865.889,845 * 14,1846\% = \text{R\$ } 1.457.732.319,011 \quad (02)$$

**Step 3** - Find the amount to be received by the municipality:

$$V_{ic} = \text{R\$ } 1.457.732.319,011 * 0,2122641509\% \quad (03)$$

$$V_{ic} = \text{R\$ } 3.094.243,12 \quad (04)$$

Where:

$V_{ic}$  = amount to be received by the municipality, located in the state;

As a result, the municipality of Araçuaí/MG received a transfer of R\$ 3,094,243.12 (three million, ninety-four thousand, two hundred and forty-three reais and twelve cents) from the Municipal Participation Fund in December 2018.

### *2.1.1.2 Criteria for calculating the reserve coefficients*

According to the STN (2018), the municipalities that belong to the reserve are those that

are not capital cities and have a population of 142,633 or more, i.e. those with a coefficient of 3.8 or 4.0, as shown in Table 01. These municipalities are also beneficiaries of the 86.4% share.

Below is an illustration of a case from 2018, from the municipality of Montes Claros/MG. The TCU Normative Decision for that year was No. 162, of November 22, 2017, whose Annex V lists the individual percentages of the capitals' participation in the FPM.

**Table 04** - Calculation of reserve coefficients

Municipality	Population (source: IBGE, ref. 01/07/2017)	Popu- lation factor	Per capita income 2018 (R\$) (*)	Per capita income factor capita	CIFPM - Booking	Relative Share of Total of the Reserve
	A	B	C	D	E	F
					(B x D)	(E / tot.E)x100
Montes Claros	402.027	2,0	24.885	1,2	2,40	0,6300866369%
Total Reserve	54.763.352		29.326		380,90	100%

Source: Normative Decision 162/2017. (Adapted by the author).

Table 04 shows the data needed for this example, taken from the aforementioned annex. In the decend of December 2018, an amount of R\$ 11,894,520,705.84 (eleven billion, eight hundred and ninety-four million, five hundred and twenty thousand, seven hundred and five reais and eighty-four cents) was distributed to the state of Minas Gerais, according to data from the STN.

The distribution of the FPM-Reserve is as follows:

**Step 1** - The Interior quota applies: 3.6%:

$$\text{R\$ } 11.894.520.705,84 * 3,6\% = \text{R\$ } 428.202.745,41 \quad (05)$$

**Step 2** - Find the amount to be received by the municipality participating in the reserve:

$$V_{ir} = \text{R\$ } 428.202.745,41 \times 0,6300866369\% \quad (06)$$

$$V_{ic} = \text{R\$ } 2.698.048,27 \quad (07)$$

Where:

$V_{ir}$  = amount to be received by the municipality participating in the reserve.

As Montes Claros/MG is also part of the reserve, its total in December 2018 was R\$

2,698,048.27 + R\$ 6,876,095.84 = R\$ 9,574,144.12 (nine million, five hundred and seventy-four thousand, one hundred and forty-four reais and twelve cents), from the Municipal Participation Fund.

## *2.2 Municipal efforts to maximize revenues taxes*

According to Moraes (2006), the tax effort is the measure that represents the effort to collect all the tax revenue available from an own tax base. It is an index obtained from the ratio between own revenues collected and potential revenues measured by the available tax base.

Fiscal effort is linked to the concept of tax capacity and involves comparing the tax collection of each member of the federation with its existing tax base (Massardi and Abrantes, 2016).

For Veloso (2008), the tax effort is linked to the efficiency with which taxes are applied to the respective tax base, which involves two factors. The first is related to sub-national tax policy, influenced by political and economic interests, which takes place through the definition of tax rates. The second is local tax management, affected by institutional aspects, which occurs through actions related mainly to tax control, inspection and collection. The author also states that:

Tax capacity depends on the local tax base and is linked to the ability of taxpayers in a given jurisdiction to pay. This tax base is determined by the tax system, such as the spheres of competence and the structure and incidence of taxes, and by economic characteristics that affect the size of the base, among which we can highlight the size of the population, per capita income, the sectoral composition of production, the degree of urbanization, informality, the personal and functional distribution of income, among others (Veloso 2008).

Cossío (1995, p. 79) gives a brief summary of the relationship between intergovernmental transfers and the fiscal effort of municipalities:

The logic of the transfers/collection effort relationship is based on the preference of administrators at lower levels of government to finance the provision of local public goods with resources from third parties (in this case, through federal transfers), rather than extracting tax resources from their communities. The rise tax pressure generates political costs that do not exist in the case of non-tax financing (Cossío, 1995, p. 79).

Although Cossio (1995) argues that municipalities should avoid the political burden of

imposing taxes, Moraes (2006), in line with Veloso's (2008) defense, ratifies the need for municipalities to make efforts to increase their tax base, through policies to strengthen local entrepreneurship and the consequent generation of employment and income, in order to contribute to an increase in municipal tax collection.

### **3. METHODOLOGY**

In terms of procedures, this research is bibliographical and documental, since various bibliographical references relevant to the proposed topic were used, such as books, theses, dissertations and relevant legislation, especially STN (2018), Tristão (2003) and Veloso (2008).

As far as the object is concerned, this is a field study, because in its operationalization, a questionnaire was applied to those involved in the strategic, tactical and operational field of the management of the municipalities of the Araçuaí/MG micro-region, with the aim of collecting data to verify measures adopted by the municipal governments of the Araçuaí/MG micro-region to increase tax revenue, as well as to evaluate the application of the FPM in municipalities of the Araçuaí/MG micro-region in the period from 2013 to 2018.

The research universe is made up of 6 (six) municipalities in the Araçuaí/MG micro-region, which belongs to the Jequitinhonha meso-region. Its population, according to the last IBGE census in 2010, was 106,766. This micro-region is made up of the following municipalities, with their respective populations, according to IBGE estimates in 2018: Araçuaí (36,705), Coronel Murta (9,228), Itinga (14,956), Padre Paraíso (20,052), Ponto dos Volantes (12,061) and Virgem da Lapa (13,764).

The municipalities that make up the research universe were chosen because there was no research in the region on the subject of this work.

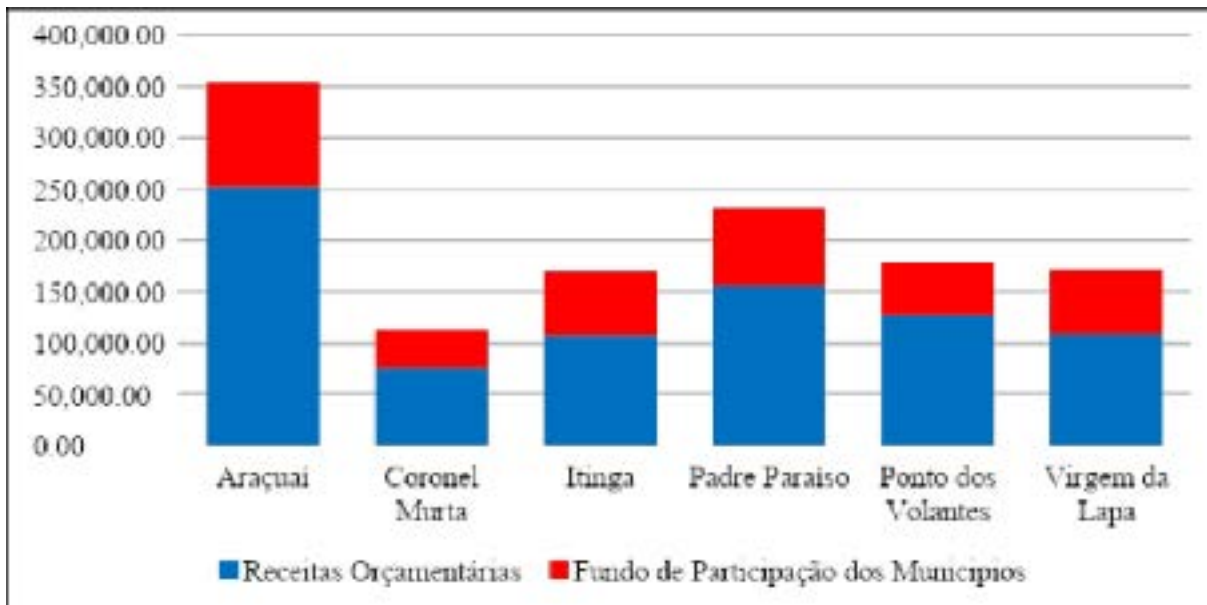
The qualitative and quantitative data was tabulated by standardizing the answers into categories and arranged by means of direct quotation, in charts, graphs and tables in the data analysis and discussion of the results.

### **4. DATA ANALYSIS AND DISCUSSION OF RESULTS**

#### ***4.1 Analysis of the behavior of the FPM transfer in relation to revenue budget***

Graph 01 shows that in all the municipalities surveyed, the FPM was a significant con-

tributor, accounting for almost a third of budget revenue. Own tax revenue, on the other hand, was not a significant part of budget revenue, as it reached percentages below 6% in all municipalities.



**Graph 01** - Budget revenues versus FPM of municipalities in the Araçuaí/MG micro-region  
Source: Field research - September 2019 (Prepared by the author).

When analyzing the *per capita* budget revenue of the municipality of Ponto dos Volantes/MG, it was observed that it has the highest revenue/inhabitant correlation among the municipalities surveyed, raising a ratio of R\$ 14,774.16 per inhabitant between 2013 and 2018. Following them are the municipalities of Virgem da Lapa/MG (R\$12,445.11/inhabitant), Coronel Murta/MG (R\$12,301.83/inhabitant), Padre Paraíso/MG (R\$11,565.50/inhabitant), Itinga/MG (R\$11,362.35/inhabitant) and the municipality of Araçuaí/MG (R\$9,654.98).

This study found that municipalities with smaller populations had a higher correlation with *per capita* budget revenue. However, it should be noted that there is not necessarily a correlation between having fewer inhabitants and higher *per capita* transfers, which reinforces the need to analyze government transfers and own tax revenues together.

It was found that the municipality of Araçuaí/MG had the highest own tax collection per inhabitant among the municipalities analyzed (R\$ 625.41/inhabitant); in followed by the municipalities of Virgem da Lapa/MG (R\$ 476.92/inhabitant), Ponto dos Volantes/MG (R\$ 423.39/inhabitant), Coronel Murta/MG (R\$ 331.32/inhabitant), Padre Paraíso/MG (R\$ 323.24/inhabitant) and Itinga/MG (R\$ 319.81/inhabitant). This suggests that the municipalities of Araçuaí, Virgem da Lapa and Ponto dos Volantes made a greater effort to collect their own taxes than the

other municipalities.

In terms of FPM transfers per inhabitant, the municipality with the lowest FPM transfer value was Araçuaí/MG (R\$ 2,792.60/inhabitant), followed by Padre Paraíso/MG (R\$ 3,790.64/inhabitant), Coronel Murta/MG (R\$ 4.085.29/inhabitant), Ponto dos Volantes/MG (R\$ 4,167.60/inhabitant), Itinga/MG (R\$ 4,201.11/inhabitant) and Virgem da Lapa/MG (R\$ 4,564.94/inhabitant), the latter with the highest transfer per inhabitant among the 6 municipalities.

It was found that Itinga/MG was more dependent on the FPM transfer, because among the six municipalities surveyed in the Araçuaí/MG micro-region, Itinga had the lowest tax revenue and the highest FPM transfer per inhabitant, as shown in graph xx Furthermore, in Itinga/MG, the FPM accounted for 37% of total budget revenue, so that it also had the highest percentage of FPM in relation to budget revenue among the municipalities studied.

Graph 01 shows that the municipality that made the most effort to collect taxes was Araçuaí/MG, with 6% of its budget revenue corresponding to its own tax revenue. In second place was the municipality of Virgem da Lapa/MG, which, throughout the period analyzed, collected 4% of its budget revenue through the exercise of its own tax powers. In the other municipalities surveyed in the Araçuaí micro-region, own tax revenue corresponded to 3% of budget revenue.

The factors that determine the low collection of own tax revenue by the municipalities surveyed are not the subject of this study and deserve in-depth investigation in a separate study. The hypotheses put forward for this low collection are low economic activity in services and a possible mismatch in the formulation of the real estate value plan that serves as the basis for calculating ITBI and IPTU.

#### ***4.2 FPM applications in municipalities in the micro-region of Araçuaí/MG***

In order to identify the method of applying the FPM and the efforts made by the municipalities in the Araçuaí/MG micro-region, a questionnaire was applied to those involved in the strategic, tactical and operational fields of municipal management.

When interviewees were asked about the main destinations of FPM funds in the municipality, they answered in order of frequency, with 1 (one) for the least frequent destination and 06 (six) for the most frequent destination. Table 05 shows the most frequent destinations of FPM funds.

**Table 05 - Main destinations of FPM resources**

<b>FPM destination</b>	<b>Araçuaí</b>	<b>Coronel Murta</b>	<b>Itinga</b>	<b>Padre Paraíso</b>	<b>Ponto dos Volantes</b>	<b>Virgem da Lapa</b>
<b>Consumables</b>	4	5	5	5	5	5
<b>Works and installations (Improvements)</b>	4	1	2	4	4	3
<b>Permanent Equipment and Material</b>	3	1	4	3	2	4
<b>Property acquisition</b>	1	1	1	1	1	1
<b>Personnel and Social Charges</b>	6	6	6	6	6	6

Source: Field research - September 2019 (Prepared by the author)

Table 05 shows that there was unanimity regarding the most frequent destination: spending on “personnel and social charges”; following this, spending on “consumables” was rated 5 (five). It is noteworthy that only Araçuaí scored 5 (five) for the “other” option, identifying that the second most frequent destination in the municipality is “debt amortization (INSS and credit operation)” and “interest and debt charges (INSS and credit operation)”.

Table 05 shows that there was unanimity regarding the least frequent expenditure, “acquisition of real estate”. The municipality of Coronel Murta emphasized that the FPM is not used for this expense, where it also marked “works and installations (improvements)” as frequency 1, “equipment and permanent material” with the same justification that the FPM resource is not used for these purposes, and marked “other”, specifying that frequency 4 would be for “service provision”, frequency 3 for “travel expenses” and frequency 2 for “consultancy”.

Still with the analysis of table 05, the municipalities of Itinga/MG and Ponto dos Volantes/MG marked the alternative “others”, where Itinga/MG marked frequency 3 for “precatórios” and Ponto dos Volantes marked frequency 3 for “programas sociais”.

On the other hand, when the interviewees were asked which destinations would suffer in the event of a reduction in the transfer of FPM funds, they answered in order of frequency, with 1 (one) for the destination that would suffer the least and 06 (six) for the destination that would suffer the most. Table 06 shows the destinations that might suffer if the FPM is reduced.



**Table 06** - Destinations affected by the reduction in the FPM

FPM destination	Araçuaí	Coronel Murta	Itinga	Padre Paraíso	Ponto dos Volantes	Virgem da Lapa
Consumables	4	5	5	5	5	5
Works and installations (Improvements)	2	1	2	4	4	3
Permanent Equipment and Material	3	1	4	3	2	4
Property acquisition	1	1	1	1	1	1
Personnel and Social Charges	6	6	6	6	6	6

Source: Field research - September 2019 (Prepared by the author)

Table 06 shows that spending on “personnel and social charges” would be the most affected in all the municipalities surveyed, followed by 5 of the 6 municipalities analyzed who identified spending on “consumables” as the second most affected by the reduction in the FPM. Only Araçuaí/MG marked grade 5 in the “other” option, specifying that the second most affected commitment with the reduction in the FPM would be “debt amortization (INSS and credit operation)” with “interest and debt charges (INSS and credit operation)”.

In table 05, the municipality of Coronel Murta/MG emphasized that the FPM is not used for “works and installations (improvements)”, “equipment and permanent material”, with the justification that the FPM is not used for these purposes, so in table 06, it ticked 1 for the aforementioned expenses, as they would not be affected by the reduction in the FPM transfer. He also ticked “other”, specifying that the expenses to be affected would be “services rendered”, “travel expenses” and “ancillary expenses”, in that order. It is well known that the FPM is freely available and can be used for any expenditure. However, like other revenue from constitutional transfers, an amount must be allocated to comply with the legislation (CNM, 2016).

The municipalities of Itinga/MG and Ponto dos Volantes/MG marked the “other” alternative, where Itinga/MG marked that one of the expenses to be harmed would be precatory payments and Ponto dos Volantes, expenditure on social programs.

When asked what the main expenses would be cut or reduced if tax revenue were reduced, the interviewees answered as shown in Chart 01.

**Chart 01** - Expenses to be cut or reduced with a possible reduction in own revenue

<b>Municipality</b>	<b>Answer</b>
<b>Araçuaí</b>	<ol style="list-style-type: none"> <li>1. Electricity, water and telephone costs;</li> <li>2. Office supplies;</li> <li>3. Overtime;</li> <li>4. Limitation on fuel costs;</li> <li>5. Per diems and travel tickets.</li> </ol>
<b>Coronel Murta</b>	<ol style="list-style-type: none"> <li>1. Works and installations;</li> <li>2. Equipment and permanent material;</li> <li>3. Acquisition of real estate.</li> </ol>
<b>Itinga</b>	<ol style="list-style-type: none"> <li>1. Reduction of staff (mainly commissioned positions);</li> <li>2. Service maintenance costs;</li> <li>3. Carrying out public works.</li> </ol>
<b>Padre Paraíso</b>	<ol style="list-style-type: none"> <li>1. Acquisition of real estate;</li> <li>2. Purchase of equipment;</li> <li>3. Stoppage of works and construction in general;</li> <li>4. Reduction in costing expenses such as purchases of consumables, third-party services, maintenance of equipment and expenses with water, electricity and telephone.</li> </ol>
<b>Ponto dos Volantes</b>	<ol style="list-style-type: none"> <li>1. Purchase of equipment;</li> <li>2. Construction work;</li> <li>3. Maintenance of side roads;</li> <li>4. Rationing.</li> </ol>
<b>Virgem da Lapa</b>	<ol style="list-style-type: none"> <li>1. Needs to establish priorities.</li> </ol>

Source: Field research - September 2019 (Prepared by the author).

Chart 01 shows that the municipalities of Araçuaí/MG and Itinga/MG would like to reduce expenses that have an immediate impact on cash flow, especially electricity, water and telephone costs; office supplies; overtime; and staff reductions (especially commissioned positions). It should be noted that the expenses indicated by the municipalities of Araçuaí/MG and Itinga/MG could be the subject of effective cost and expense management, by optimizing material/human resources and the relevant financial controls.

In turn, the municipalities of Coronel Murta/MG, Padre Paraíso/MG and Ponto dos Volantes/MG would reduce spending on the acquisition of fixed assets, i.e. it would be a less effective measure, as this spending occurs less frequently during the fiscal year.

Next, the municipality of Virgem da Lapa/MG replied that, in the event of a reduction in tax revenue, the municipality would need to establish priorities. It should be noted that municipal public managers have a responsibility to establish, in their public budgets, the contingency measures to be adopted in the event of a reduction in revenue that impacts the expenditure budget. This obligation is laid down in Article 3 of Law 101/2000, which states that “The budget guidelines law will contain a Fiscal Risks Annex, which will assess contingent liabilities and other risks capable of affecting public accounts, informing the measures to be taken if they

materialize”.

#### *4.3 Measures by municipal governments in the Araçuaí micro-region to increase tax revenue*

In order to identify the efforts made by the municipalities in the Araçuaí/MG micro-region, respondents were asked which strategy(ies) the municipal government had adopted to increase tax revenue. Chart 02 lists the measures adopted.

**Chart 02** - Strategies adopted by the municipal government to increase tax revenue

<b>Municipality</b>	<b>Answer</b>
<b>Araçuaí</b>	1. Effective enforcement, especially with regard to the Additional Tax Value (VAF); the Financial Compensation for the Exploitation of Mineral Resources (CFEM); the Tax on Services of any Nature (ISSQN) and the Property Transfer Tax, with assessments of 70 to 100% of the real value. 2. Establishment of the Electronic Services Invoice - Decree 134/2017.
<b>Coronel Murta</b>	1. Collection of municipal debt; 2. Discounts on IPTU payments for citizens who pay on time.
<b>Itinga</b>	1. Creation of incentives for taxpayers, (such as exemption from interest and monetary correction); 2. Offering prizes for payment of IPTU and others.
<b>Padre Paraíso</b>	1. Regular updating of the taxpayer register.
<b>Ponto dos Volantes</b>	1. Maintain oversight; 2. Raising awareness of the importance of paying the IPTU (Urban Property Tax).
<b>Virgem da Lapa</b>	1. Tax incentives (discount on interest and fines).

Source: Field research - September 2019 (Prepared by the author).

It was found that municipalities such as Araçuaí/MG, Coronel Murta/MG, Itinga/MG, Ponto dos Volantes/MG and Virgem da Lapa/MG have adopted educational, incentive and inspection measures to ensure that their taxpayers comply with their tax obligations. For its part, Padre Paraíso/MG replied that it regularly updates the taxpayer register, a measure that allows the municipality to have more effective tax collection.

Chart 02 also shows that the municipality of Araçuaí/MG instituted the Electronic Services Invoice by means of Decree 134/2017, which allows taxpayers to issue invoices via the municipality’s website. This procedure is aimed at reducing bureaucracy in public services, as well as facilitating an increase in tax collection through the collection of ISSQN.

Knowing how significant ISSQN is in the tax revenue of municipalities, the respondent was asked what educational and inspection actions have been developed to improve ISSQN

collection. Chart 03 shows these actions.

**Chart 03** - Educational and enforcement actions to improve ISSQN collection

Municipality	Answer
<b>Araçuaí</b>	<b>Educational:</b> Actions with Terms of Warning and proximity to accountants who work for companies providing services; tax awareness among taxpayers through the adoption of pamphlets. <b>Inspection:</b> Inspection of the issuance of Electronic Invoices and systematization of ISSQN control.
<b>Coronel Murta</b>	<b>Educational:</b> Dissemination on the city council's website, hiring consultants to recover ISSQN and implementing NF-e. <b>Inspection:</b> Opening processes to collect ISSQN from mining companies and contractors.
<b>Itinga</b>	<b>Educational:</b> Updating the tax code to bring it into line with the reality of the public services provided and creating incentives for people to pay their taxes. <b>Inspection:</b> Seek greater inspection of companies that provide services, increase inspection of taxpayers by creating better inspection controls.
<b>Padre Paraíso</b>	<b>Educational:</b> Encouraging small service providers in the holding educational talks on the implementation of electronic invoices. <b>Inspection:</b> Monitoring of the services carried out by the companies and inspection of the value spreadsheets.
<b>Ponto dos Volantes</b>	<b>Educational:</b> Creation of the Sala Mineira to answer questions from traders and service providers on how to regularize their commercial establishment. <b>Inspection:</b> Inspecting commercial establishments in order to obtain their own operating license.
<b>Virgem da Lapa</b>	<b>Educational:</b> No action. <b>Inspection:</b> No action.

Source: Field research - September 2019 (Prepared by the author).

Among the educational and inspection actions implemented, the municipalities of Araçuaí/MG, Coronel Murta/MG, Itinga/MG, Padre Paraíso/MG and Ponto dos Volantes/MG, seek to be close to residents in order to answer questions and encourage them to comply with their tax obligations. On the other hand, the municipality of Virgem da Lapa/MG has no educational or inspection activities.

Considering that ISSQN revenue is a significant source of tax revenue, the importance of more efficient ISSQN inspection is reinforced. It is therefore necessary to train civil servants who work in the tax registry in order to make it possible to plan inspection and control actions, with a view to their effectiveness and tax collection.

According to the Minas Gerais Association of Municipalities (2019), there are several efforts that municipalities could make to improve the collection of their tax revenues, such as: updating municipal legislation in line with the Federal Constitution, the National Tax Code, LC 123/2006, LC 116/03, among others.

However, municipal actions - as shown in chart 03 - are still timid, as they do not show

the potential to increase revenue in the short and medium term, on a permanent basis. The municipal administration should create and implement an ISSQN inspection schedule throughout the year, as its inhibition could lead to a process of improbity, i.e. waiver of revenue, as established in article 10 of Law No. 157/2016.

Chart 04 analyzes the fiscal years in which there were tax collection incentive programs, such as debt refinancing, rebates, among others, in the municipalities of the Araçuaí/MG micro-region between 2013 and 2018.

**Chart 04 - Tax collection incentive programs**

<b>Município</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
<b>Araçuaí</b>	No	No	No	Yes	No	No
<b>Coronel Murta</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Itinga</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Padre Paraíso</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Ponto dos Volantes</b>	No	No	No	No	No	No
<b>Virgem da Lapa</b>	Yes	Yes	Yes	No	No	No

Source: Field research - September 2019 (Prepared by the author).

It can be seen that the municipalities of Coronel Murta/MG, Itinga/MG and Padre Paraíso/MG promoted some kind of tax collection incentive program in all the fiscal years studied. The municipality of Coronel Murta/MG, from 2013 to 2018, used the tool of installment payments and cash discounts on interest and fines. The municipality of Itinga/MG, in the years 2013, 2014 and 2015, offered installment payments of outstanding debt and discounts on IPTU payments, and in the 2016, 2017 and 2018 fiscal years, it offered exemption from the value of interest on IPTU payments. The municipality of Padre Paraíso, on the other hand, offered debt installments of up to 10 installments between 2013 and 2018.

On the other hand, the municipality of Virgem da Lapa/MG did not promote a tax collection incentive program until 2016. In the other fiscal years, it used the interest and fine amnesty program.

In general, the municipalities mentioned above, from 2013 to 2018, sought to offer discounts and installments to taxpayers who had outstanding debts, in order to facilitate the payment of debts and encourage taxpayers to settle their debt.

It was only in 2016 that the municipality of Araçuaí/MG made use of tax collection incentive programs, with the creation of Law 406/2017, which provides for the administrative collection of debts registered as active debt and makes other provisions. Only the municipality

of Ponto dos Volantes/MG did not promote any tax collection incentive programs during the period studied.

## 5. FINAL CONSIDERATIONS

When comparing revenue from the FPM transfer with budget revenue, it was concluded that, despite the growth in budget revenue, the FPM still accounted for around a third of this revenue in the municipalities analyzed. It was also noted that the FPM grew more than budget revenue in the period analyzed, which may be a sign of the growth of the FPM, an indication of the greater dependence of the municipalities surveyed on this transfer from the Federal Government.

The application of the FPM in municipalities in the Araçuaí/MG micro-region was evaluated. There was unanimity as to the most frequent destination in the municipalities surveyed: spending on “personnel and social charges”, followed by spending on “consumables”. Thus, it was concluded that the main destinations of the FPM transfer are expenses that maintain the public machine.

With regard to the measures adopted by municipalities in the Araçuaí/MG micro-region to increase their own tax revenue, it was found that these were timid measures, as they did not show the potential to increase revenue in the short and medium term on a permanent basis. According to the literature researched, the search for an efficient tax system is clear and necessary. However, several authors have highlighted the influence of political issues on fiscal efforts, since the imposition of taxes generates discontent among voters and, for this reason, they seek to limit themselves, to a greater or lesser extent, to the resources passed on by other government bodies.

Therefore, the results made it possible to analyze the behavior of the Municipal Participation Fund (FPM) in relation to the tax revenue of the municipalities in the Araçuaí/MG micro-region. It was found that tax revenue was less representative than the FPM. As a result, the results showed a low tax effort index. Possibly, this scenario stems from the insufficiency of their tax bases to generate tax revenue for the proper operation of the municipalities, which leads to dependence on resources from transfers from the federal or state governments, especially the FPM.

The factors that determined the low collection of own tax revenue by the municipalities surveyed are not the subject of this research and deserve to be investigated in detail in a new

study. The hypotheses put forward for this low collection are the reduced economic activity in services and a possible mismatch in the formulation of the real estate value plan that serves as the basis for calculating ITBI and IPTU.

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