Fiscal Responsibility Law and Life Quality: Public Health Analysis

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Abstract

This article seeks to identify the existence of correlation between responsible management of the public finances as a result of the Lei de Responsabilidade Fiscal (LRF) ("Fiscal Responsibility Law") and the life quality of the population in the municipalities of the Zona da Mata Mineira, in relation to health. The aim is to measure the impact of the LRF in the life quality of the population. A time analysis of the data of the period from 2000 to 2010 was carried out, using the collection of secondary data. The statistic technique used was the average test. The results of this study showed that, in relation to the selected variables, there was an average of considerable progresses concerning this fact. All the variables researched obtained, in 2010, higher averages to those obtained in 2000. It is noticed that the LRF enabled higher financial power to the public health services, resulting in social welfare.

Keywords: LRF; responsible management; public administration, public health, life quality

1. Introduction

This article seeks to identify the existence of significantly positive correlation between the responsible management of the public finances, as a result of the Lei de Responsabilidade Fiscal (LRF) ("Fiscal Responsibility Law"), and the life quality of the population in the municipalities of the Zona da Mata Mineira, in relation to health. In order to measure the impact of the LRF in the social conditions, the time series was evaluated from a period between 2000, when the referred law was edited, to 2010, when it completed 10 years.

The evaluation of the correlation between fiscal responsibility and the variables selected to this study, related to health, aims to verify if the LRF has been promoting a better life quality to the society, in other words, if it has been providing social development.

The mesoregion studied, the Zona da Mata Mineira[1], is one of the twelve mesoregions of the Brazilian state of Minas Gerais, formed by 142 municipalities gathered in seven micro-regions. It is located in the southeast portion of the state, close to the division of the states of Rio de Janeiro and Espirito Santo.

The Complementary Law nº 101/2000, known as Fiscal Responsibility Law, was created with the objective of promoting the financial control and watch for the balance of the public finances. It establishes budgetary policies and guidelines to be followed by governmental sectors, which have as assumptions the responsibility, the planning and the clarity in the fiscal management; seeking the prevention of possible deviation and risks in the public budget, as well as the total fulfillment of the debt until the end of the mandate.

The LRF supports itself in four concepts: (1) Planning – done by the intermediate of mechanisms such as Plano Plurianual (PPA), Lei de Diretrizes Orçamentárias (LDO) and Lei Orçamentária Annual (LOA), which establish goals to guarantee an effective administration of the public expenses; (2) Transparency – wide and diverse disclosure of the reports in the communication media, including internet, so that everyone will have opportunity to follow the public money application; (3) Control – enhanced by the bigger transparency and by the quality of the information, requiring a more effective and continuous action of budgetary control by the Tribunais de Contas; (4) Accountability – it consists of sanctions which the responsible person suffer for the misuse of the public resources. These sanctions are foreseen in the legislation that talks about the crimes of fiscal responsibility

(Law 10.028, October 19, 2000).

The Fiscal Responsibility Law brought to the municipalities an important contribution to the fiscal adjustment, reinforcing its tributary potential, making the politicians develop a responsible tributary policy and charging, effectively, all the tributes which are of its responsibility.

In this context, the general objective of this study is to measure and evaluate the impact of the LRF in relation to the life quality of the population when it comes to public health in the municipalities of the Zona da Mata Mineira. For this purpose, it is necessary to establish the correlation between the variable selected referring to the LRF and those laws related to health, seeking to identify the possible influence of the LRF over the public health.

Thus, it becomes relevant to verify if the LRF brought improvements to the life quality of the population, specially, in relation to health. Therefore, the present article aims to answer to the following question: did the Fiscal Responsibility Law result in improvement in the life quality of the population?

This article is composed by seven sections. Thus, after this Introduction, the Brazilian Historic Contextualization; the Theoretical Fundament composed by the topics: Managerial Public Administration, Fiscal Adjustment, Fiscal Responsibility Law and Public Health will be approached. Next, the Methodological Procedures will be detailed. In the fifth section, the Results of the Empiric Research will be demonstrated, in the sixth section we will show the Conclusion and, finally, in the seventh section the Bibliographic References will be displayed.

2. Brazilian Historic Contextualization

In Brazil, since its discovery, the public sector was always marked by patrimonial practices and, despite the progresses achieved in the last decades with the re-democratization process, evidences of a policy marked by the authoritarianism are still found, which are derived from a role of power of a dominant elite in the federal sphere, as well as in the state and municipal spheres.

The crisis of the 1980's caused big social inequality and, allied to the reform of the State, in the 1900's, led to the destabilization and to the trade opening. Besides that, the fiscal crisis worsened the shortage of financial resources in the public sector. Thus, from the decade of 1980 on, the incapacity of the public machinery in overcoming the challenges of the new requirements imposed by the international agencies or by the society in relation to the public policies was verified.

According to Albuquerque, Medeiros and Feijó (2008), the period between the beginning of the 1980's decade until the mid of the 1990's decade was marked by a phase of intense instability, with elevated inflationary indexes, of which the control was repeatedly pursued with the introduction of inconsistent economic plans. The administration of the public finances, in the three levels of government, experienced expressive fiscal imbalances, worsening the difficulties of the macro-economical management.

To the authors quoted above, this crisis finds a parallel in the de-structuring of the State, based on the questioning that the public resources were inexhaustible. In this sense, the fiscal imbalances of that time cannot be assigned only to the economy missteps. The Brazilian political conjuncture, in the 1980's, served as an encouragement for the society to widen its demands over governmental expenses, specifically after the promulgation of the 1988 Constitution, which elevated the volume of the budget transferences of the revenues of the Municipals and States Union and widened rights at the governmental expenses.

In this context, with the re-democratization process which was being installed in Brazil, the political atmosphere allowed that relevant social demands were shown, previously confined by the absence of mechanisms of manifestation of the society. However, with the stagnated economy, the financing of the increasing expenses could not be maintained only with the amplification of tributary collection (Albuquerque et al., 2008).

In order to provide an answer to the new expenses necessity, the State used some mechanisms that allowed the execution of expenses in higher sums to those capable of immediate payment, causing the commitment of future budgets and consequently the imbalance in the public accounts in all the spheres of the government (Albuquerque et al., 2008).

In reaction to this chaotic scenario, according to the authors quoted above, in order to regain the finance viability and enhance the mechanisms of public accounts management, several initiatives were adopted such as the programs developed for the evaluation of the debts of the States and Municipalities.

Inasmuch as the federal government started to transfer attributions, which were managed before by it in the state structures and, above all in the municipal structures, changes and innovations occurred in the regulation and standardization of the use of the public resource, such as: the popular participation in the application of the

resources, the stimulus to the efficiency by the seek of optimized results in the public expenses, the search for the quality in the service provision, as well as the control, the monitoring and the periodic analysis of the administrative and governmental performance, obtaining, thus, big progresses in these aspects (Santos, 2001).

With re-democratization process of the country, the Federal constitution of 1988, establishes a series of norms driven to the adoption of participatory instruments in the public administration. Its objective is a more democratic and participatory administration. This constitutional text was an answer to the social mobilization and to the pressures exercised by various segments of the society, which started to require a more active position of the State when it came to questions such as race, gender, ethnicity, religion, etc.

In this context of crisis, the public policies were necessary to decrease the deficit of the government with the population, mainly the poorest one. Thus it was fundamental to make more effective policies, increasing its action range. In this sense, the concepts of decentralization and participation of the citizens in the formulation and implementation of the public policies are emphasized.

The referred Constitution also brought another innovation, by promoting the Municipality to a autonomous federative entity status, in other words, what was only a state administrative unity became the principal executor of the public policies, receiving not only the financial resources, but also responsibilities. In this line of reasoning, the proximity of the municipality with the local community facilitates the gain of information over the necessity of the population. This allied to the magnitude of the Brazilian territory and its disparities are the factors which led the municipality to be the principal executor of the public policies. Thus, the decentralization of the power and the strengthening of the municipal power are considered as decisive tools. The idea is to make the citizens assume responsibilities to the community they belong, influencing the local political processes.

Sena and Rogers (2007) highlighted that, among the three levels, the municipality is what possesses more direct links to the citizen, because it assumes all the responsibilities in the ordinance of the city and in the organization of the local public services. The public managers, in the municipal scope, have been living with new responsibilities, which go farther than the necessity of maintaining the balance between revenues and expenses: they need to develop actions which have as objective better results in the application of the resources available.

However, with the appearance of the neoliberal ideals in the 1990's, the 1988 Constitution was considered the principal obstacle to the governability and to the modernization of the public administration. Thus, the 1988 Constitutional reform defended a new way of administration, called new public or managerial administration, instituted in the government of Fernando Henrique Cardoso (1995 to 2002).

3. Theoretical Fundament

The theoretical reasoning, approached next, comprehend the items Public Management, Fiscal Adjustment, Fiscal Responsibility Law and Public Health, which were selected as being strongly correlated to this research theme.

3.1 Public Management

Bresser-Pereira (1996) reports that the first public administration reform that occurred in Brazil was the bureaucratic one in 1936, adopted to substitute the patrimonial administration, in which the public and the private patrimony were misunderstood. This type of administration revealed to be incompatible with the industrial capitalism and the parliamentary democracies which appeared in the XIX century. However, the assumption of efficiency of the referred model did not reveal to be real.

The quoted author reports that at the moment in which the small liberal State transformed itself into the big social State (Welfare State) and economical of the XX century, it assumed an increasing number of social services such as education, health, culture, social security and assistance, scientific research, besides economic roles such as the intern economic system regulation and the international economic relations, the currency stability, as well as the financial system stability, the provision of public and infrastructure services. Thereby, the problem of the efficiency became essential.

According to the same author, after the II World War, there is a reaffirmation of the bureaucratic values, although, the principles of the enterprise administration start to influence the public administration. The decentralizing and administrative flexibility ideas gain strength in all the governments and its principal representatives were Thatcher and Reagan, in England and in the United States but also points out the studies of Bresser-Pereira (1996), respectively.

In Brazil, the government of Fernando Henrique Cardoso (1995 to 2002) was the period in which the managerial public administration reached its peak, being strongly influenced by the transformations which occurred in the

societies of all the world related to the Modern State reform, having as its principal pillar the monitoring, the control and the efficiency of the public finances.

The contour of the New Public Administration was gradually being delineated: (1) decentralization of the political point of view, transferring resources and attributions to the regional and local political levels; (2) administrative decentralization, by means of the authority delegation to the public administrators transformed in managers increasingly autonomous; (3) organizations with few hierarchical levels instead of pyramidal ones; (4) assumption of the limited trust and not the total distrust; (5) control by results, *a posteriori*, instead of the rigid control, step by step, of the administrative processes and (6) an administration focused in the citizen service, instead of an administration focused on itself (Bresser-Pereira, 1996).

The reform Project comprehended three dimensions: an institutional-legal dimension, focused on the decentralization of the organizational structure of the State apparel by means of the creation of new organization formats, such as executive and regulatory agencies and the social organizations; a management dimension, defined by the bigger autonomy and the introduction of three new ways of accountability of the managers: the administration by results, the competition administrated by excellence and the social control in partial substitution of the rigid regulation, the supervision and the audit, which characterize the bureaucratic administration; and a cultural dimension of mentality change, aiming to go from the generalized distrust, which characterizes the bureaucratic administration, to a bigger trust, even though a limited one, special to the managerial administration (Bresser-Pereira, 2000).

The managerial reform of the public administration, by introducing substantial modifications in the models of public services control, allowed bigger transparency to the administrative decisions and contributed to the increase of the accountability of the public administrators.

3.2 Fiscal Adjustment

The objective of the managerial reform is to reach, by means of institutional changes in the State, efficiency in its acting. With that, the Fiscal Adjustment is one of the principal objectives of the Brazilian State reform, because it talks about the implementation of changes in the bureaucratic functioning and implantation of control and accountability mechanisms, with the objective of generating efficiency and costs reduction (Rezende, 2004).

Still according to Rezende (2004), in order to generate an increase of development in the bureaucratic apparel, the occurrence of various actions is necessary, with the intention of promoting a budgetary balance, a costs reduction, a control of the governmental costs, besides the necessity of generating an institutional change in the role of the State which goes from bureaucratic to managerial.

In this context, in order to establish structural mechanisms which allowed the prevention of future misfits, the Fiscal Responsibility Law was edited.

3.3 Fiscal Responsibility Law

The Complementary Law ("Lei Complementar") nº 101, May 4, 2000, or Fiscal Responsibility Law ("Lei de Responsabilidade Fiscal") (LRF), regulates the article nº 163 of the Federal Constitution, establishing the regulation norms of the public finances of the country. Among the values which guide the elaboration of this Law, there is the understanding that the desired enhancing of the public accounts management will be obtained by the introduction of new management practices, especially regarding the planned and transparent action which allows the prevention of risks and the correction of deviances that can affect the balance of the governmental accounts. Thus, the motivation for the edition of the Law was, then, the necessity of conditioning the governmental actions to the strict limits of their effective capacity of expense, in order to prevent fiscal deficits and the consequent lack of control of the public accounts. Summarizing, the focus of the LRF is the prevention of the fiscal imbalances (Albuquerque et al., 2006, p. 68-69).

This way, according to Rezende and Cunha (2005), the story of public finances in Brazil can be divided into two phases: before and after the LRF. In other words, right after the financial crisis in January, 1999, the LRF represented a water divisor in the Brazilian public administration. After all, among the recent institutional changes, focused in the support of the macroeconomic stability and the construction of solid background to the recovery of growth of the Brazilian economy, its promulgation deserves highlight. Its principal objective is to reach a balance in the public accounts in the Municipal, State and Federal scope, constituting, thus, an important instrument for the fiscal adjustment.

To Albuquerque *et al.* (2005), the LRF establishes, in national regime, parameters to be followed, related to the public expense of each federal entity (states and municipalities) in Brazil. The budgetary restrictions aim to preserve the fiscal situation of the federal entities, according to its annual balances, with the objective of

guaranteeing the financial health of the states and municipalities, the application of the resources in the adequate spheres and a good administrative inheritance for future managers. Among its items it is foreseen that each expense increase needs to come from a correlated financial source and the managers need to respect issues related to the end of each mandate, not exceeding the allowed limit and handing healthy accounts to theirs successors.

One of the strongest instruments of transparency in relation to the public expenses, indicating the parameters of an efficient administration, the Brazilian LRF was inspired in other well-succeeded examples around the world, such as United States and New Zealand.

Thus, the minimum limits of expenses with Education and Health are defined in law as well as the maximum limit of expense with staff. In the Health case, the minimum percentage which shall be applied is of 15% of the municipal collection, defined in the item III, article 77 of the Federal Constitution: "In the case of the Municipalities and the Federal District, fifteen percent of the product of the taxes collection […]".

The mentioned law presents as its objectives: planned and transparent action; risk prevention and correction of diversions capable of affecting the balance of public accounts; fulfillment of goals between receipts and expenses; counter the deficit by limiting personnel expenses, hindering the creation of new companies, enforcing adjusts to compensate the expenses renouncement and demanding more conditions for repayment between the government and private institutions; and reduce the public debt level by inducing the attainment of primary surplus, restraining the indebtedness, including the "Remnants to Pay", requiring maximum limits, of continuous observance, to the consolidated debt (Ribeiro, Abrantes & Pereira, 2011, p. 5).

Some studies about the theme were developed from this law, as elaborated by Gapinski, Clemente, Taffarel and Gerigk (2010) whom researched changes in the indicators of financial performance of municipalities with population between 50 and 100 thousands habitants located south in Brazil, between the first management (from 2001 to 2004) and the second management (from 2005 to 2008), after the period of LRF. The results indicate that LRF influenced positively the finances of the studied municipalities, with growth of the liquid capacity, reduction of the average level of personnel expenses and indebtedness, besides the reduction of the Remnants to Pay (Gerigk & Clemente, 2011).

Costa (2005) analyzed the impacts of LRF in Brazilian municipalities, which results suggests that the law was created only to control the municipalities that were more indebted, in which point out São Paulo as one of them.

Giuberti (2005), mentioned by Gerigk and Clemente (2011), analyzed the fiscal context of the Brazilian municipalities and if the situation presented required a specific legislation control. The research shows that LRF did not provide effect upon the behavior of public managers regarding personnel expense, since few were above the proposed limit. However, the LFR caused positive impact upon the municipalities that presented higher expenses of this kind.

Mello and Slomski (2006) analyzed the period of 1998 to 2000, situated before the LRD, and compared the results from 2001 to 2003, thought as the period where the reflexes of the LRF would show, concluding that the mentioned law did not had the expected results with its implantation (Soares, Ceretta & Kelmara, 2013).

3.4 Public Health

Despite its creation, by the federal government, the strong instruments of transparency regarding the public expenses, indicating parameters to an efficient management, between them the LRF, which determines the minimum percentage of 15% of municipality collection to be applied in public health, decided in item III, section 77 of the Federal Constitution, the public health system in brazil, still has been targeted for numerous critics and, specially, reason of population uprising.

According to Elias *et al.* (2006), the basic attention to health is a set of actions in the individual and collective scope, that comprehend the promotion and protection of health, prevention of diseases, with early diagnostics, the treatment and rehabilitation of the individual. According to these authors, the basic attention is capable of solving most of the necessities and health problems, highlighting the importance of prevention and immunization in this attention level (Gonçalves, Santos, Dias & Ferreira, 2012).

According to data of the Health Department (2007), mentioned by Gonçalves *et al.* (2012) the results that Brazil has obtained in the health area, bearing in mind the sum invested, are below the expectations. Little by little the makers of those policies are starting to admit that the money was not well applied. There are only two possible solutions to the problem: raise the sum of financial resources – impossible due the limit of resources – or raise the efficiency of resources allocation.

In that way, the main objective of LRF is to attain a balance in public accounts in the municipal, state and federal scope, constituting a important instrument to fiscal adjustment, capable of promoting a more efficient public administration, compromised with social development, implying a better life quality for people.

4 Methodological Procedures

Four variants were selected, in which three dependents related to public health and one independent variant referring to the LRF, from 2000 to 2010, including the municipalities of Zona da Mata Mineira, bringing 142 observations in total.

The present article aimed finding a significant relation between LRF and the life quality of the population. Initially, the research presents itself as descriptively. The descriptive research demands from the investigator a series of information on what it desires to research. This kind of study intends to describe the facts and phenomenon of determinate reality (Triviños, 1987).

The base to developing this research was theoretical and empiric. According to Roesch (1999, p. 119), the research process involves precisely theory and reality, which means, it emphasize the importance of relation theoretical data and empiric data.

In these terms, regarding the theory a bibliographic analysis was made about the studied theme. Regarding the empiric development, was made an descriptively statistical analysis, using information about the municipalities of Zona da Mata Mineira, obtained in the Índice Mineiro de Responsabilidade Social ("Minas Gerais Social Responsibility Index"), in which was used the average test.

Gonçalves (1978, p. 7) describes that descriptively statistics consists in a joint of methods that teach how to reduce a great quantity of data into a small number of measurements, substitutes and representatives of that amount of data.

The average test is used in statistical analysis, and may be done using one sample, two samples, three or more samples. To Bruni (2009, p. 148), "the test of one sample to average is characteristic to situations in which one seek to test an affirmation about the average parameter of the population". For the two-sample test, "one desire to decide if one group is different from another".

According to Barletta (2008), many times the researcher possesses a conjecture about the behavior of some variants or of one possible association between variants, in that way, the research needs to occur as to test the veracity of the ideas about the studied population and about the hypothesis created in the research. This test may occur through statistical tools, called hypothesis test or significance test. In this context, according to the author, the average test, also known as the t test, may be used to compare two sets of quantitative data, according to their average value. It may be an analysis of paired data, independent or comparing average.

The researcher needs a method that provides the minimum significant difference between two averages. This difference would be the measurement instrument. Each time that the absolute value of the difference between two averages is equal or higher than the significant minimal difference, the averages are considered statistically different, to the level of established significance (VIEIRA *et al.*, 1989).

The statistical estimative were made in the period from 2000 to 2010, with the purpose of checking the reflexes of LRF upon the life quality. The statistical calculations were made through the Statistical Package for the Social Science (SPSS), with a significance level of 5%. The test were made with ten pairs, always using the variant of a year and the result on the next.

To achieve this study, the following variants were used:

Table 1. Variant description

ACRONYM	VARIÁNT	SOURCE
C VAC	Inoculation Coverage of Triple Viral (%) – Years: 2000 to 2010	IMRS
PSF	Proportion of the Population supplied by the Family Health Program (PSF) (%) – Years: 2000 to 2010	IMRS
PR NAS VI	Proportion of Born Alive whose Mothers performed 7 or more Prenatal Checks (%) – Years: 2000 to 2010	IMRS
GAST P C S	Per Capita expenses with Health Activities (%) – Years: 2000 to 2010	IMRS

Source: IMRS (2011)

4.1 Triple Viral Vaccine (%)

Is prepared from dampened measles living viruses (strain Schwarz, Moraten and Edmonston Zagreb), from mumps (strains Jeryl Lynn, L-3 Zagreb and Urabe AM9) and from rubella (strain Wistar RA27/3). In Brazil, this vaccine is indicated to children starting to 12 months, best applied at 15 months, receiving an only dose of 0.5ml via subcutaneous of the deltoid region (vacinas.org).

4.2 Family Health Program (PSF) (%)

The Health Department created, in 1994, the Family Health Program (PSF). Its initial purpose is to reorganize the practice of health attention in new bases and substitute the traditional model, taking health closer to families and, with that, enhancing the life quality in Brazil.

The PSF strategy prioritizes the prevention actions, promotion and recovery of people health, in continuous and complete way. The customer care takes place at the basic health unity or at the residence, by professionals (doctors, nurses, nursing auxiliary and community health agents) that compose the Family Health teams. Therefore, these professionals and the cared population create bonds of co-responsibility, what makes it easier to identify and attend to the health problems of the community (Health Department).

4.3 Prenatal Checks

The average t test of the independent variant Expenses per Capita with Health Activities (%) was performed aiming to know its behavior throughout the studied period, were excluded the municipalities of Carangola, Fervedouro, Itamarati de Minas, Manhuaçu, Mar de Espanha, Rio Pomba, Piranga, Tombos and Viçosa, due the lack of information in database.

The variant Expenses per Capita with Health Activities showed expressive raises throughout time, going from around R$201,50 in 2000 to R$429,56 in 2010, which means, more than doubled the value during the studied period, as shown on the table below:

Table 2. Paired samples statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	GAST P C S 00	201.5071	133	108.78777	9.43310
	GAST P C S 01	215.4049	133	102.43637	8.88236
Pair 2	GAST P C S 01	215.4049	133	102.43637	8.88236
	GAST P C S 02	233.8485	133	103.43392	8.96886
Pair 3	GAST P C S 02	233.8485	133	103.43392	8.96886
	GAST P C S 03	219.2350	133	101.38150	8.79089
Pair 4	GAST P C S 03	219.2350	133	101.38150	8.79089
	GAST P C S 04	235.8717	133	115.87338	10.04750
Pair 5	GAST P C S 04	235.8717	133	115.87338	10.04750
	GAST P C S 05	278.0890	133	139.42919	12.09004
Pair 6	GAST P C S 05	278.0890	133	139.42919	12.09004
	GAST P C S 06	349.5927	133	189.47028	16.42916
Pair 7	GAST P C S 06	349.5927	133	189.47028	16.42916
	GAST P C S 07	355.4074	133	160.29925	13.89971
Pair 8	GAST P C S 07	355.4074	133	160.29925	13.89971
	GAST P C S 08	391.8718	133	171.69754	14.88806
Pair 9	GAST P C S 08	391.8718	133	171.69754	14.88806
	GAST P C S 09	394.0586	133	183.45880	15.90790
Pair 10	GAST P C S 09	394.0586	133	183.45880	15.90790
	GAST P C S 10	429.5598	133	173.12628	15.01195

Source: research data.

The statistics from test t of average difference has shown that the raises were significant in practically every year. The only years without significant statistical changes were from 2006 to 2007 and from 2008 to 2009. As shown on the table below:

Table 3. Paired samples test

		Paired Differences					t	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	GAST P C S 00 - GAST P C S 01	-13.89774	57.10279	4.95144	-23.69218	-4.10331	-2.807	132	.006
Pair 2	GAST P C S 01 - GAST P C S 02	-18.44361	59.74877	5.18088	-28.69189	-8.19532	-3.560	132	.001
Pair 3	GAST P C S 02 - GAST P C S 03	14.61353	50.40262	4.37046	5.96833	23.25874	3.344	132	.001
Pair 4	GAST P C S 03 - GAST P C S 04	-16.63669	47.69518	4.13570	-24.81751	-8.45588	-4.023	132	.000
Pair 5	GAST P C S 04 - GAST P C S 05	-42.21737	58.51062	5.07351	-52.25328	-32.18146	-8.321	132	.000
Pair 6	GAST P C S 05 - GAST P C S 06	-71.50368	107.64034	9.33360	-89.96647	-53.04090	-7.661	132	.000
Pair 7	GAST P C S 06 - GAST P C S 07	-5.81466	105.82147	9.17589	-23.96547	12.33615	-.634	132	.527
Pair 8	GAST P C S 07 - GAST P C S 08	-36.46444	51.38988	4.45607	-45.27898	-27.64989	-8.183	132	.000
Pair 9	GAST P C S 08 - GAST P C S 09	-2.18684	78.15886	6.77723	-15.59288	11.21919	-.323	132	.747
Pair 10	GAST P C S 09 - GAST P C S 10	-35.50120	81.55618	7.07182	-49.48996	-21.51245	-5.020	132	.000

Source: research data.

The preliminary results show that during the studied period there was an increasing application of resources in public health, as shown on tables 2 and 3, one may deduce that the investments doubled during the studied period.

However, only determine that there was a bigger investment on health is not a sign that, as consequent, there were improvements in the life quality of the population. Before all, one needs to investigate if those resources are being applied correctly, which means, efficiently resulting in better services to the community.

On that matter, several average tests of dependent variants were made: Coverage of Triple Viral, Proportion of the Population supplied by the Family Health Program (PSF) (%) and Proportion of Born Alive whose Mothers performed 7 or more Prenatal Checks (%), aiming to know if the number of services done for the population, relating to the studied variants, also tagged along with the average raise of investments in the health area, during the studied period. After analyses of data, it has been:

To the variant referring to the coverage of the Triple Viral vaccine one may notice that the averages trough the time had an important raise, from 80.39 in 2000 to 94.08 in 2010. But it is important to observe that in 2002 the coverage has improved to 93.74, and was even bigger in 2003, with 96.95.

Table 4. Paired samples statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	C VAC 00	80.3948	141	20.74266	1.74685
	C VAC 01	86.7760	141	16.42230	1.38301
Pair 2	C VAC 01	86.7760	141	16.42230	1.38301
	C VAC 02	93.7404	141	10.20995	.85983
Pair 3	C VAC 02	93.6234	142	10.26873	.86173
	C VAC 03	96.9565	142	8.61212	.72271
Pair 4	C VAC 03	96.9565	142	8.61212	.72271
	C VAC 04	94.4039	142	11.23129	.94251
Pair 5	C VAC 04	94.4039	142	11.23129	.94251
	C VAC 05	95.3462	142	8.96195	.75207
Pair 6	C VAC 05	95.3462	142	8.96195	.75207
	C VAC 06	95.1408	142	9.73072	.81658
Pair 7	C VAC 06	95.1408	142	9.73072	.81658
	C VAC 07	95.2650	142	9.04205	.75879
Pair 8	C VAC 07	95.2650	142	9.04205	.75879
	C VAC 08	92.9215	142	10.55625	.88586
Pair 9	C VAC 08	92.9215	142	10.55625	.88586
	C VAC 09	93.7988	142	9.72231	.81588
Pair 10	C VAC 09	93.7988	142	9.72231	.81588
	C VAC 10	94.0863	142	9.06832	.76100

Source: Research data.

The test statistics t mean differences show that significant differences mainly in the early years: from 2000 to 2001, 2001 to 2002, 2002 to 2003 and 2003 to 2004.

Table 5. Paired samples test

		Paired Differences							Sig.
			Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	(2-tailed)
		Mean			Lower	Upper			
Pair 1	C VAC 00 - C VAC 01	-6,38121	20,71843	1,74481	-9,83078	-2,93163	-3,657	140	,000
Pair 2	C VAC 01 - C VAC 02	-6,96433	15,72103	1,32395	-9,58185	-4,34681	-5,260	140	,000
Pair 3	C VAC 02 - C VAC 03	-3,33310	11,13898	,93476	-5,18106	-1,48514	-3,566	141	,000
Pair 4	C VAC 03 - C VAC 04	2,55254	13,15830	1,10422	,36957	4,73550	2,312	141	,022
Pair 5	C VAC 04 - C VAC 05	-,94225	11,20155	,94001	-2,80059	,91609	-1,002	141	,318
Pair 6	C VAC 05 - C VAC 06	,20535	8,61754	,72317	-1,22430	1,63501	,284	141	,777
Pair 7	C VAC 06 - C VAC 07	-,12415	9,83385	,82524	-1,75559	1,50728	-,150	141	,881
Pair 8	C VAC 07 - C VAC 08	2,34345	11,00175	,92325	,51826	4,16865	2,538	141	,012
Pair 9	C VAC 08 - C VAC 09	-,87725	9,52280	,79914	-2,45709	,70258	-1,098	141	,274
Pair 10	C VAC 09 - C VAC 10	-,28746	10,20385	,85629	-1,98029	1,40536	-,336	141	,738

Source: Research data.

To the variant of the Proportion of the Population supplied by the Family Health Program (PSF) (%) we may observe that the averages along the period of study had a clear raise and of expressive value, which means, and average of 36.22 in 2000 to 93.52 in 2010.

Table 6. Paired samples statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PSF 00	36.2216	142	33.45193	2.80722
	PSF 01	49.3337	142	34.46542	2.89227
Pair 2	PSF 01	49.3337	142	34.46542	2.89227
	PSF 02	65.9395	142	33.31821	2.79600
Pair 3	PSF 02	65.9395	142	33.31821	2.79600
	PSF 03	71.2203	142	31.38911	2.63412
Pair 4	PSF 03	71.2203	142	31.38911	2.63412
	PSF 04	75.6176	142	27.97939	2.34798
Pair 5	PSF 04	75.6176	142	27.97939	2.34798
	PSF 05	79.4270	142	24.41693	2.04902
Pair 6	PSF 05	79.4270	142	24.41693	2.04902
	PSF 06	86.46	142	19.252	1.616
Pair 7	PSF 06	86.46	142	19.252	1.616
	PSF 07	89.3951	142	18.50869	1.55322
Pair 8	PSF 07	89.3951	142	18.50869	1.55322
	PSF 08	91.7747	142	15.25615	1.28027
Pair 9	PSF 08	91.7747	142	15.25615	1.28027
	PSF 09	93.6931	142	13.71601	1.15102
Pair 10	PSF 09	93.6931	142	13.71601	1.15102
	PSF 10	93.5226	142	15.68115	1.31593

Source: Research data.

The statistics from test t were significant in practically every year. The only year in which the difference was not significant was in 2009 to 2010, probably because the value was already high, and the difference from one year to another was too small (from 93.69 to 93.52).

Table 7. Paired samples test

		Paired Differences					t	df	Sig. (2-tailed)
			Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
		Mean			Lower	Upper			
Pair 1	PSF 00 - PSF 01	-13.11204	21.98770	1.84517	-16.75981	-9.46427	-7.106	141	.000
Pair 2	PSF 01 - PSF 02	-16.60585	24.14850	2.02650	-20.61209	-12.59960	-8.194	141	.000
Pair 3	PSF 02 - PSF 03	-5.28077	13.36117	1.12124	-7.49740	-3.06415	-4.710	141	.000
Pair 4	PSF 03 - PSF 04	-4.39732	12.66575	1.06289	-6.49858	-2.29607	-4.137	141	.000
Pair 5	PSF 04 - PSF 05	-3.80944	20.31207	1.70455	-7.17922	-.43966	-2.235	141	.027
Pair 6	PSF 05 - PSF 06	-7.03134	14.15536	1.18789	-9.37972	-4.68296	-5.919	141	.000
Pair 7	PSF 06 - PSF 07	-2.93676	14.47376	1.21461	-5.33796	-.53556	-2.418	141	.017
Pair 8	PSF 07 - PSF 08	-2.37958	10.19013	.85514	-4.07012	-.68903	-2.783	141	.006
Pair 9	PSF 08 - PSF 09	-1.91838	7.28846	.61163	-3.12754	-.70922	-3.136	141	.002
Pair 10	PSF 09 - PSF 10	.17049	10.19319	.85539	-1.52056	1.86155	.199	141	.842

Source: Research data.

The Proportion of Born Alive whose Mothers performed 7 or more Prenatal Checks (%) had a significant raise in the average in practically every year (the only exception is from 2004 to 2005, when there was a slight reduction from 54.76 to 53.67). Also, in the statistics from the t test were observed significant statistically differences in several years: 2001 to 2002, 2002 to 2003, 2003 to 2004, 2005 to 2006, 2007 to 2008 and 2009 to 2010.

Table 8. Paired samples statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PR NAS VI00	40.9152	142	19.44899	1.63212
	PR NAS V 01	41.0769	142	18.31929	1.53732
Pair 2	PR NAS V 01	41.0769	142	18.31929	1.53732
	PR NAS V 02	45.5504	142	19.03002	1.59696
Pair 3	PR NAS V 02	45.5504	142	19.03002	1.59696
	PR NAS V 03	49.9815	142	18.60735	1.56149
Pair 4	PR NAS V 03	49.9815	142	18.60735	1.56149
	PR NAS V 04	54.7663	142	18.99882	1.59435
Pair 5	PR NAS V 04	54.7663	142	18.99882	1.59435
	PR NAS V 05	53.6726	142	18.66143	1.56603
Pair 6	PR NAS V 05	53.6726	142	18.66143	1.56603
	PR NAS V 06	56.3332	142	17.13627	1.43804
Pair 7	PR NAS V 06	56.3332	142	17.13627	1.43804
	PR NAS V 07	57.5180	142	15.33954	1.28727
Pair 8	PR NAS V 07	57.5180	142	15.33954	1.28727
	PR NAS V 08	63.4824	142	13.05694	1.09571
Pair 9	PR NAS V 08	63.4824	142	13.05694	1.09571
	PR NAS V 09	62.4972	142	14.28530	1.19880
Pair 10	PR NAS V 09	62.4972	142	14.28530	1.19880
	PR NAS V 10	72.1915	142	12.46119	1.04572

Source: Research data.

Additionally, in the statistics from the t test, statistically significant differences were observed in several years: 2001 to 2002, 2002 to 2003, 2003 to 2004, 2005 to 2006, 2007 to 2008 and 2009 to 2010.

Table 9. Paired samples test

		Paired Differences					t	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	PR NAS VI00 - PR NAS V 01	-.16169	13.42554	1.12665	-2.38899	2.06561	-.144	141	.886
Pair 2	PR NAS V 01 - PR NAS V 02	-4.47352	11.53376	.96789	-6.38698	-2.56007	-4.622	141	.000
Pair 3	PR NAS V 02 - PR NAS V 03	-4.43113	11.64915	.97757	-6.36373	-2.49853	-4.533	141	.000
Pair 4	PR NAS V 03 - PR NAS V 04	-4.78472	12.63937	1.06067	-6.88160	-2.68784	-4.511	141	.000
Pair 5	PR NAS V 04 - PR NAS V 05	1.09366	11.06764	.92878	-.74246	2.92979	1.178	141	.241
Pair 6	PR NAS V 05 - PR NAS V 06	-2.66063	12.22482	1.02588	-4.68874	-.63253	-2.594	141	.011
Pair 7	PR NAS V 06 - PR NAS V 07	-1.18479	11.07022	.92899	-3.02134	.65177	-1.275	141	.204
Pair 8	PR NAS V 07 - PR NAS V 08	-5.96437	16.54471	1.38840	-8.70914	-3.21959	-4.296	141	.000
Pair 9	PR NAS V 08 - PR NAS V 09	.98521	10.66279	.89480	-.78375	2.75417	1.101	141	.273
Pair 10	PR NAS V 09 - PR NAS V 10	-9.69437	12.63201	1.06006	-11.79002	-7.59871	-9.145	141	.000

Source: Research data.

5. Conclusion

After knowing, treating and analyzing the data, it follows that the investments in public health, measured in this paper by the variant Expenses per Capita with Health Activity (%), doubled in the period studied, as shown in tables 2 and 3.

However, as the objective of this research was to analyze the impact of the LRF in the quality of life of the population, it was necessary to understand the relation between Expenses per Capita and Health Activity (%), known as the instrument of LRF, since a minimum value was stipulated from it, to be applied in public health, and the variants Coverage of Triple Viral, Proportion of the Population supplied by the Family Health Program (PSF) (%) and Proportion of Born Alive whose Mothers performed 7 or more Prenatal Checks (%), variants chose to measure the life quality of the population.

In this context, with this study, was found that about every variant analyzed had a raise during the studied period. This means that bigger inputs of resources in the public health area resulted in a bigger number of people supplied by the health programs analyzed here, as a better life quality for the population.

May conclude there are strong indicators that the LRF reflects over the quality of life, even though cannot discard that other factors may have influenced these results.

The result of this work, far from run out the theme, suggests that new researches should be made aiming to analyze other variants, other regions, as it is also essential to make researches that measure the satisfaction of these service users.

In that way, it appears that the Law of Fiscal Responsibility, stipulating the minimum value of 15% of the collections to public health, made possible a bigger financial input to the public health services, resulting in a social welfare, fulfilling the bigger objective of the Public Administration, which is to always satisfy the collective needs.

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Appendix

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[1]According to the Instituto Brasileiro de Geografia e Estatística – IBGE (2010), the Zona da Mata Mineira has an area of 35.747.729 km², with a population of 2.175.254 inhabitants, a density of 60.0 inhabitant/km², a GDP of R$ 19.112.899 and a GDP *per capita* of R$9.786.02 (Jornal Gazeta de Muriaé). The dense forest cover, in its original conditions, was the inspiration for the name Zona da Mata. The agriculture and cattle raising exploration standards, which were established in the Zona da Mata in the beginning of its colonization, led to ongoing tree falling, which was, then, substituted by cultures that would become the traditional of the region. The municipalities that integrate this region have as a basis an economy traditionally supported in the agriculture and cattle raising activity which feeds important agro-industries. (Portal As Minas Gerais).

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