The Financing of Healthcare in Brazil: Underfunding and Austerity Policies

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Abstract

This work seeks to analyze the effects of the economic crisis and austerity measures on the guarantee of health rights in Brazil. The main hypothesis is that austerity policies hinder the guarantee of the right to health, assuming its realization requires adequate and resilient funding towards the business cycle. However, the historical underfunding of the system which was deepened in the last years and the worsening of social indicators since 2015, that deteriorate the health of the population, create a scenario of high demand for public health related services alongside the decrease of supply capacity of the system. Therefore, it is fundamental to understand the current state of the Brazilian public healthcare system so that appropriate strategies that guarantee health rights in Brazil can be developed, especially in times of economic and sanitary crises.

Based on this scenario, four main objectives were set: (a) build theoretical connections between human rights and economics, which, in general, do not intersect; (b) highlight evidence in the literature about the relation between the crisis conjuncture, worsening of healthcare indicators and limited budget resources; (c) analyze the evolution of the legal framework responsible for the establishment and financing of the Brazilian healthcare system (SUS, "Sistema Único de Saúde" in Portuguese) between 1988 and 2019; (d) analyze the history of the budget execution between 2002 and 2019, putting in evidence the current legislation set by Constitutional Amendment 95/2016 – which froze all public expenses for 20 years – and its impacts for the future of health financing in Brazil.

The main results are: (a) mainstream economics view have a static perception of the public budget, disregarding its dynamics that consider the importance of both countercyclical policies and guarantee of social rights like the right to health; (b) social deterioration, represented by unemployment and poverty, leads to more mental health problems, bigger exposure to risk factors

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and diseases, and diminishing of coverage rate of private health insurance; (c) all the legal framework involved in SUS funding was insufficient to reach its goals; (d) between 2004 and 2014, the total amount invested in SUS increased an average of 6% per year approximately, but since then the total amount invested is frozen in real terms, which trends to continue due to Constitutional Amendment 95/2016.

While Constitutional Amendment 95/2016 is in effect, SUS will continually lose its capacity of response dealing with structural and conjuncture trends. On the structural side, there is a demographic movement of populational ageing which changes its epidemiologic profile. On the conjuncture side, there is evidence about the worsening of population health due to economic crises. The understanding of the Brazilian healthcare system history and financing is essential to comprehend its reach and limits. In this way, this work can serve as a starting point for planning strategies on how Brazil can deal with the coronavirus pandemic, taking into consideration that its healthcare system was already fragilized by austerity policies.

1. Right to Health and Fiscal Policy

1.1 Introduction

The right to health is situated in the second generation of human rights and, as such, emerge as a positive obligation to the State for its effectiveness in search of social justice (SARLET, 2012). The transition of human rights from the first to the second generation is related to the historical moment marked by the realization that “the formal consecration of freedom and equality did not generate the guarantee of its effective enjoyment” (SARLET, 2012, p. 45), i.e. the State ought to have an active role in the realization of such rights. Thus, formal equality paved the way for substantial equality, the latter is weighted by the social portrait and not a mere abstract and generic guarantee as the former. The progress of the active character assigned to the State in ensuring the right to health can be seen from the evolution in its formal guarantee through the Universal Declaration of Human Rights (UDHR) of 1948, the International Covenant on Economic, Social and Cultural Rights (ICESCR) of 1966 and the Additional Protocol to the American Convention on Human Rights in the field of economic, social and cultural rights of 1999.

Precisely because it depends on an active State policy, this generation of rights that encompasses health has an important economic dimension (POTRICH, 2013). As summarized by David (2018, p. 301): “Fiscal policy is a public policy and, as such, it is subject to the human rights principles obligations of governments”. The priorities defined by the State are embodied in the formulation and execution of the public budget after political debate and correlation of forces (INESC, 2017). Thus, it is necessary to define the budget as a political piece instead of a technical resource allocation. The debate over fiscal policy and, ultimately, the budget, becomes especially critical in times of crisis in which the so-called scarcity of resources overrides rights. In the juridical field, there is a dispute over the degree of interference that the sphere of economics could have in guaranteeing human rights. As indicated by Potrich (2013), the main objection to the effectiveness of these rights is due to the principle of the possible reserve, which is limited, however, by the principle of the existential minimum.

The possible reserve refers to the restriction of resources for the enforcement of the instituted right, subjecting these rights to political discretion synthesized in the public budget (SARLET, 2012). However, one must distinguish the “substantial difference between the lack of resources and the resources allocation decision” (POTRICH, 2013, p. 11), in order to avoid creating an artificial insufficiency of resources as an excuse for spending on other areas, out of step with that established in national and international legislation.

In turn, the principle of the existential minimum concerns the guarantee of a minimum level of satisfaction of the basic needs of society, providing a dignified life. Although the existential minimum composition may be discussed, several literature points to health as the main member of this “rights minimum nucleus” (POTRICH, 2013). The right to health is necessary for a dignified existence and, at the limit, for existence itself. As stated by Olsen (2006, p. 354): “In the case of the fundamental right to health, it is necessary to observe whether the restrictive procedure of public authorities is not nullifying the possibility of rehabilitation of the patient, condemning him to death due to arguments such as artificial resource scarcity ”. In the discussion about the degree of discretion allowed to public managers with respect to human rights, especially economic, social and cultural rights, Article 2 of ICESCR (1966) states that:

> §1. Each State Party to the present Covenant undertakes to take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full

> realization of the rights recognized in the present Covenant by all appropriate means, including particularly the adoption of legislative measures. (UN, 1966).

Regarding the maximum use of available resources, Bohoslavsky (UN, 2018) points out that governments ought to mobilize all possible funding sources, in other words, in addition to existing resources, new sources of revenue should be sought respecting the principle of justice which does not burden the most vulnerable population:

> 9.2 States must not only use existing resources to fulfil this obligation but also generate potential resources in a sustainable way when the former are not sufficient to ensure the realization of rights. This requires, for example, seeking international assistance and cooperation, mobilizing domestic resources in ways compatible with environmental sustainability and with the rights of people affected by extractive industries, as well as regulating the financial sector.
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> 9.3 States' obligation to mobilize resources includes: tackling tax evasion and avoidance; ensuring a progressive tax system, including by widening the tax base with regard to multinational corporations and the richest; avoiding international tax competition; improving the efficiency of tax collection; and reprioritizing expenditures to ensure, among other things, adequate funding of public services (UN, 2018, p. 9).

Such an assertion has the power to cast doubt on the validity of the principle of possible reserve. In the discussion of the juridical field, the budget seems static and immutable. However, the economic reality reveals that the budget is dynamic and has several possible ways to expand revenue in order to preserve or expand the level of guarantee of human rights and, in addition, to correct the tax injustice given by regressive systems, as in the case of Brazil (INESC, 2017). The fiscal austerity policy, in turn, reinforces the view of the possible reserve, concealing the degree of freedom that the public manager has in capturing and allocating resources.

1.2 Economic Crisis, Fiscal Austerity and the Right to Health

It is worth rescuing the relationship between health and living conditions that Social Medicine already discussed in the 18th and 19th centuries. According to such studies, as stated by Silva and Alves (2011), in addition to physical and biological factors, social and economic factors must also be taken into account to analyze the health-disease process: there is thus an expanded concept of health that it is made from a biopsychosocial reading. Along the same line, the Constitution of the World Health Organization (WHO, 1946), determines in its preamble the

concept of health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”. As summarized by Santos (2017):

> [...] health is the result of the individual's living conditions, taking into account housing, food, education, leisure, income and also access to health services and other conditions that allow individual and collective development, thus being a product of the social organization, capable of producing huge inequalities regarding to living standards (SANTOS, 2017, p.4).

Thus, health reflects a set of determinants related to the social and economic development of society. However, economic crises – recurrent in the capitalist system – aggravate these determinants and put obstacles to the search for the full enjoyment of the right to health. According to Vieira (2016), this restriction is imposed in three ways: broader social issues, the health situation of the population and the public health system.

Vieira (2016) exemplifies that the social consequences refers to increased social exclusion, reduced wages, impoverishment and increased unemployment, which are related to financial losses and household indebtedness. Job insecurity is added as a stress factor and there is a scenario of decreased quality of life, increased exposure to diseases and increased risk of non-adherence to treatment, deteriorating the health situation as a whole. Mental health is the first to be achieved, with an increase and worsening of anxiety and depression disorders, use and abuse of alcohol and illicit drugs and an increase in suicide cases (SEQUEIRA et al., 2015).

As indicated in Vieira (2016), greater exposure to risk factors – smoking, unhealthy eating, physical inactivity and harmful use of alcoholic beverages – and the mental health deterioration may be “at the origin of other processes of health deterioration of the population for causing a decrease in the body's immune response, resulting in an increase in chronic and infectious diseases.” (Vieira, 2016, p.20).

There is also an impact at the family level that occurs with the transfer of certain care responsibility to the family, more specifically to the caregiver who ends up overburdening and suffering the deterioration of his own health (SEQUEIRA et al., 2015). It is worth highlighting the issue of gender here, considering that care is among the characteristics attributed to the stereotype of women. In Brazil, according to data from the Continuous National Household Sample Survey (or PNAD Contínua, in Portuguese) 2019, women spend an average of 21.4 hours per week on activities for the care of people and/or household chores, while men spend only 11 hours. It is

inferred that this burden of transferring care from the public to the private sphere falls mainly on women.

Studies reviewed by Schramm, Paes-Souza and Mendes (2018) point to worsening outcomes related to infectious diseases, such as malaria, tuberculosis and dengue, during periods of recession, often as a result of greater contact between people living in precarious situations, less access to existing treatments and therapies and difficulties in adherence. In relation to chronic non-communicable disease, these studies observe an increase in hypertensive peaks in emergencies, the incidence of acute myocardial infarction and diabetes.

Catalano et al. (2011) from a broad bibliographic review on the impacts of the economic recession on health, identifies three mechanisms responsible for this chain: stress, frustration-aggression and budget. The stress mechanism – which is known to trigger several diseases – is prevalent in the literature and occurs from experiences such as job loss, increased incidence in strenuous work, material and financial difficulties. The frustration-aggression mechanism is based on the perception of unfair loss of gains that can generate antisocial and self-destructive behavior, substance abuse and violence. Finally, the budget mechanism is seen in the effort to adapt the standard of living of people when they lose jobs and income, which can be the origin of the abandonment of healthy habits such as good nutrition, physical exercise and adequate medication.

The fiscal austerity policy compromises the realization of human rights both through the restriction in the supply of public goods and services, highlighting the SUS here, and by the consequences on demand that aggravate and are aggravated by the problem of unemployment (FURCERI; LOUNGANI; OSTRY, 2016). As outlined by Vieira (2016), the combined effect of the economic crisis and fiscal austerity measures results in financial and material losses, impoverishment, health problems and a decrease in the ability to pay for health offered in the private sector. This combination of determinants converges increasing the demand for public health services meanwhile the response capacity of the health system – embodied in the access and quality of services – decreases (VIEIRA, 2016). This paradox ends up aggravating the social consequences of the crisis as pointed out by Bohoslavsky (UN, 2018) and endorsed at the General Assembly of the UN Human Rights Council:

> [...] it is precisely during these periods [of economic and financial crisis] that the population – in particular those who are disenfranchised, living in poverty or at high risk of falling into poverty – is in greatest need of State compliance with its obligations to respect, protect and fulfil human rights (UN, 2018, p. 5)

1.3 Brazilian Crisis Scenario

As argued by Rossi and Mello (2017), in 2014 an economic deceleration started due to the contraction of investments, although the consumption component continued to contribute to growth. In 2015, the government appoints Joaquim Levy as Finance Minister and begins to implement a set of economic austerity policies that strongly impact the components of aggregate demand, acting in a pro-cyclical manner, against the program that elected president Dilma Roussef (2011-2016). With the impeachment in 2016 – that occurred in grounds highly contested –, the government of Michel Temer (2016-2018) starts to favor liberalizing structural reforms, such as EC nº 95/2016, instead of short-term adjustments, but still maintaining the logic of austerity. As a summary, "in an already fragile economy, an adjustment option was taken that contributed to transforming a slowdown in the biggest crisis in Brazilian history" (ROSSI; MELLO, 2017, p. 4). The current government of Jair Bolsonaro (2019-) aims to deepen austerity and liberalization policies, extending the crisis.

Table 1 – Labor underutilization and poverty in Brazil – 2014 and 2019 (in million of people)

Category	Subcategory	2014	2019	Variation abs. (2014 - 2019)	Variation % (2014 - 2019)
Labor underutilization	Unemployment	6.66	12.63	+ 5.97	+ 89.64 %
	Time-related underemployment	3.34	7.01	+ 3.67	+ 109.88 %
	Potential labor force	1.52	4.76	+ 3.24	+ 213.16 %
Poverty	U$ 1.90 - U$ 5.50/day per capita (poverty)	36.82	38.09	+ 1.27	+ 3.45 %
	< U$1.90/day per capita (extreme poverty)	9.00	13.88	+ 4.88	+ 54.22 %

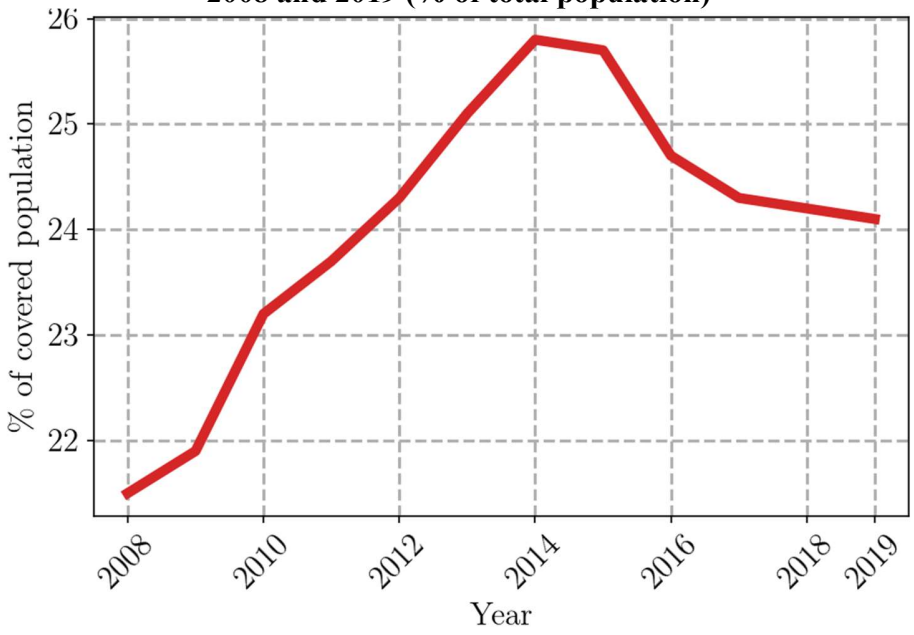
Source: IBGE

Throughout the period of 2014 to 2019, the implementation of austerity policies – embodied in short-term adjustments and structural reforms – was placed as a condition for the immediate recovery of the economy given the resumption of confidence among private agents. However, after "Expenditure Ceiling" with EC nº 95/2016, Labor Reform in 2017 and Pension Reform in 2019, there was no sustained recovery in economic growth which still has not reversed the losses of the recession. According to IBGE data, at the beginning of 2020 Brazil achieved the baseline of early 2013. For social indicators, the evolution in the same period is dire, as shown in Table 1. Labor underutilization in 2019 reached, in average, 24.4 million of Brazilians, more than

double of 2014. Extreme poverty reaches records year after year, at the end of 2019 there was 13.88 million of people living in miserable conditions.

In view of this situation of prolonged crisis and according to the literature previously reviewed, the rate of coverage of private health insurance decreased, as shown in the Figure 1. This inflection is due to the trend in the labor market, that diminish the adherence through companies, in addition to the impoverishment of the population that starts to face budget restrictions. Therefore, SUS is once again the preferred system in which people seek to guarantee their right to health. The increase in demand for public health goods and services associated with budget reduction creates a worrying scenario of possible reduction in access and quality (VIEIRA, 2016).

Figure 1 – Evolution of private health insurance coverage in Brazil – between 2008 and 2019 (% of total population)



Source: ANS/DataSUS

2. Legal Framework of Financing Healthcare (SUS)

Before the Brazilian public healthcare system SUS (Unified System of Health), there was a segmented and excluding healthcare system. According to Saldiva and Veras (2018), access to

healthcare was offered in three ways: payment for private service, exclusive system for formal workers on National Institute of Medical Assistance for Social Security (Inamps) and “merciful” systems such as “Santas Casas”, Teaching Hospitals or charities. Integral attention for formal workers in contrast to residual care for the poor and needy people reveals a segmented and excluding healthcare system that operated either under the logic of social insurance or under the logic of “assistencialism” (JORGE et al., 2007). Both of them are problematic from the point of view of ensuring the right to health: social insurance establishes a contractual relationship, in which the benefits depends on the prior contribution; while “assistencialism” materializes as insufficient compensatory measures that have stigmatizing character (FLEURY, 2009).

Within the proclamation of the Federal Constitution of Brazil in 1988, emerges the social security model that aims to universalize the right to health through the healthcare system SUS. The regulatory mechanism in this case is supportive and redistributive, which means that the benefits are granted based on social justice requirements (FLEURY, 2009) and no longer on previous contributions or charity and mercy.

The SUS conception occurred through a neoliberal rise in Brazil and in world. The national scenario of hyperinflation and macroeconomic restrictions was hostile to the constitution of a universalist social policy guaranteed by a vision of citizenship (SOARES, 2014). This antagonism gave rise to the chronic underfunding of the health system that hindered the real fulfillment of the requirements applied in the Federal Constitution of 1988. Despite the legal statement that social and economic policies must assure the Unified Health System (SUS), the Constitution did not precisely define the *modus operandi* of health financing policy.

In articles 194 and 195 (BRASIL, 1988), health is set as an integral part of social security, alongside pension system and social assistance. However, the vague establishment in art. 198 (BRASIL, 1988) that the SUS would be financed “with resources from the social security budget of Union, states, Federal District and municipalities, in addition to other sources” is absolutely insufficient to guarantee the execution of the ambitious healthcare system intended. It was provisionally defined in art. 55 of the Transitional Constitutional Provisions Act (or ADCT, in Portuguese) (BRASIL, 1988) that a minimum of thirty percent of the social security budget, excluding unemployment insurance expenditure, would be allocated to the health sector. This legal commitment would be valid until the approval of the Budgetary Guidelines Law (or LDO, in Portuguese) that would define each year the percentage aimed for healthcare (PIOLA et al., 2013).

However, the thirty percent rule was not fulfilled in that year and was not maintained in the following LDO after 1993 (SOARES, 2014). As pointed out by Piola et al. (2013), a scarcity of resources generated an internal dispute between social areas, such as healthcare and social security. In 1993, this dispute culminated in the non-transfer of social security contributions to health financing. On an emergency basis to guarantee a minimum of resources for health, the Workers' Support Fund (or FAT, in Portuguese) took place (PIOLA et al., 2013).

Social Security Budget (or OSS, in Portuguese) assured in the Constitution soon began a conflict against the advance of neoliberal measures. In 1994, according to Jorge et al. (2007, p. 6) "non-compliance with OSS started to be institutionalized with the creation of the Social Emergency Fund (or FSE, in Portuguese)". This mechanism changed its name in 1997 to Fiscal Stabilization Fund (or FEF, in Portuguese) and in 2000 it became the current Untying of Federal Revenue (or DRU, in Portuguese). Part of the funds raised at the federal level can now be used freely, decreasing in practice the resources allocated to social security in general and health in particular.

Fernando Henrique Cardoso government's response to the lack of definition of health financing came through the creation of a new tax in 1996: the Provisional Contribution on Financial Transactions (or CPMF, in Portuguese) whose collection would be used to finance health actions and services (PIOLA et al., 2013). Despite being conceived as provisional, CPMF was extended based on several Constitutional Amendments, being extinguished only in January 2008 (SOARES, 2014). According to Piola et al. (2013, p. 10) “[...] CPMF's immediate contribution was more effective in guaranteeing the stability of health financing than in expanding its resources, since its impact was dampened by the retraction of other sources of health financing ”.

The instability arising from the lack of definition of financing sources led to several parliamentary initiatives that were brought together in Constitutional Amendment (or EC, in Portuguese) nº 29/2000. This law established a new category for SUS funding, that is Public Health Actions and Services (or ASPS, in Portuguese) which defines the core expenses of public healthcare that must be considered to check if the current minimum expenditure level is being respected. Although ASPS establishment was an advance to SUS funding, it received critics given its lack of definition which opened fiscal space to frauds.

Tying resources to be applied in ASPS occurred in a different way for the Union, states and municipalities. The minimum application, as a percentage of revenues, was defined - which

could be gradually achieved according to a determined progression - in 12% for the states and the Federal District and 15% for the municipalities, percentages calculated on tax collection and which should be reached by 2004 , and the initial percentage would be 7% for states and municipalities. Those percentages were important to define a minimum level of mandatory spending on health at states and municipalities. However, in the case of the Union, the definition would come by a Complementary Law (or LC, in Portuguese) to be later regulated (BRASIL, 2000). EC nº 29/2000 defined minimum levels until 2004, delegating the establishment from 2005 to Complementary Law (LC). In case of absence of LC, the levels promulgated before would remain in force (BRASIL, 2000).

The expected Complementary Law indicated was enacted only twelve years later, it is LC nº 141/2012. There was a lot of expectation around its regulation: it was an opportunity to expand resources for SUS due to the correction of deviations from the definition of ASPS, the introduction of measures to avoid noncompliance with minimum levels and, especially, the creation of new financing sources for the system (PIOLA et al., 2013). In fact, LC nº 141/2012 defined which budget categories would be considered as ASPS to calculate the minimum level established for each federative entity and also determined that if this level was not reached, the responsible entity should compensate for the difference in the following year, without the amount entered the current year's accounts as ASPS. However, the expectation of expanding the level of health spending frustrated itself.

LC nº 141/2012 succeeded in defining which ASPS the SUS should finance, the minimum investment of resources in ASPS - which again treated the Union differently -, the criteria for apportioning resources to other spheres and the rules of inspection, evaluation and control of health expenses (BRASIL, 2012). The percentages of 12 and 15% were maintained for states and municipalities respectively while for the Union it was defined that the amount would be equivalent to the amount committed in the previous financial year plus, at least, the percentage of nominal GDP variation that occurred in the previous year of the Annual Budget Law (or LOA, in Portuguese) (BRASIL, 2012). In practice, the criterion adopted for the Union represented the continuity of what was provisionally established in EC nº 29/2000 plus the explicit definition of a mobile base year by year, which had been a discussion theme.

For the federal minimum calculation, LC nº 141/2012 defined that the expenses considered would be: “I - expenses certified and paid in the year; II - committed and unpaid expenses, entered

in unpaid commitments up to the limit of cash available at the end of the year, consolidated in the health fund" (BRASIL, 2012).

To be clear, the stages of the expenditure cycle consists of the following phases: commitment, certification and payment. The commitment stage represents the allocation of a value to serve a specific purpose, it may be contracting a service or acquiring a material. The certification stage involves checking the delivery of the material or service execution, and then recognizing that the expense must be paid. Finally, the payment stage consists of settling accounts with the creditor, finalizing the expenditure cycle. However, when the expense has been committed but not paid until the end of the current financial year at December 31, that expense becomes an entry in unpaid commitments (UC) of the following financial year.

In other words, the statement of LC nº 141/2012 determines, according to Vieira, Piola and Benevides (2018), that the commitment stage should be used to determine the minimum level of federal expenditure in public health system as ASPS confirming what had been provisionally instituted in EC nº 29/2000. In addition, the inscription on unpaid commitments is limited to cash available so that the item is considered an expense in ASPS. However, the inscription on unpaid commitments would further be used as a form of subterfuge for the real expenditure on health, considering that this amount is partly canceled and not immediately offset in subsequent years, which may result in an effective expenditure below the minimum constitutional level in the commitments years referred (VIEIRA; PIOLA, 2016).

Regarding this problem, LC nº 141/2012 determined in Article 24 the compensation of amounts related to canceled unpaid commitments that imply expenditure below the minimum level of the year in which the expenditure was committed (BRASIL, 2012). However, there was no consensus on the replacement of unpaid commitments from 2012 onwards regardless of the commitment year according to Vieira, Piola and Benevides (2018), prevailing the interpretation that only the unpaid commitments related to years of commitment from 2012 could be compensated.

In 2015, the first institutional step was taken in the budgetary setback for health, embodied in EC nº 86/2015, known as the mandatory budget. As explained by Piola, Benevides and Vieira (2018), this name referred to the mandatory execution of the budget programming included by parliamentary amendments, half of which should be allocated to ASPS. The problem lies in the fact that this resource would be counted as part of the minimum level to be invested by Union,

without going through the policy planning and not even counting on social participation in the allocative choice (DAVID, 2015). The measure defined the value that should be the minimum allocated to health by the Union as a percentage of 13.2% of the Current Net Revenue (or RCL, in Portuguese) that would be progressively expanded until reaching 15% of the RCL in 2020.

Comparing to Complementary Bill (or PLP, in Portuguese) nº 321/2013 proposed by the Sanitary Reform Movement that suggested the setting of 10% of Current Gross Revenue (or RCB, in Portuguese), despite the higher percentage, the reduction in the basis for the calculation when considering the RCL instead of RCB would imply less resources. At the time, according to Piola, Benevides and Vieira (2018), the percentage of 10% of RCB was equivalent to 18.7% of RCL, much higher than the 13.2% of RCL that would be implemented immediately after EC nº 86/2015. The budgetary setback is revealed by the data pointed out by the National Health Council (or CNS, in Portuguese) that, in 2014, ASPS were financed with 14.38% of the RCL of the year, that is, the establishment of 13.2% of the RCL for 2016 would represent a contraction in the health budget, that still would be aggravated by the drop in tax collection given the crisis situation (CNS, 2015).

It was also defined in EC nº 86/2015 that resources from oil and natural gas exploitation, known as oil royalties, would no longer have an “additional” character as determined in Law nº 12.858/2013 and would be considered for the calculation of the minimum percentage to be spent by the Union, representing another way of reducing health financing. Based on the human rights principle of non-retrogression in the implementation of social rights, Federal Prosecutor for Citizen's Rights, Deborah Duprat, forwarded to the Prosecutor General of the Republic Rodrigo Janot the request for Direct Action of Unconstitutionality (or ADI, in Portuguese) of articles 2 and 3 of EC nº 86/2015 that deal with the minimum level and the accounting of oil royalties (ABRASCO, 2016). ADI 5595 request was sent to the Federal Supreme Court (or STF, in Portuguese), which granted an injunction to suspend the effectiveness of those articles. The urgency was justified by Minister Ricardo Lewandowski, given the “chronic underfunding of public health in the country, which causes a formidable number of preventable deaths and injuries to the health of Brazilian citizens” (STF, 2017). Despite the validity granted via a precautionary decision, the Union failed to comply with the measure, incurring losses to health that were judicialized. By the time this work was presented, ADI 5595 has not been judged by the STF. The progress of this action matters insofar as it affects the 2017 budget, which will serve as a base until

2036, according to EC nº 95/2016, which will be analyzed below, and also bearing in mind that oil royalties represent a great potential financing item SUS (DAVID, 2015).

In the same year that EC nº 86/2015 was approved, two other measures of relevance to the public health sector were enacted: Constitution Amendment Project (or PEC, in Portuguese) nº 87/2015 and Law nº 13.097/2015. PEC 87/2015 extended the Untying of Federal Revenue (DRU) until 2023 and increased from 20% to 30% the retention rate of the revenue collected that belongs to the Social Security Budget, further reducing the volume of resources available to preserve various social policies, including public health (VIEIRA, 2016). In turn, Law nº 13.097/2015 amended Ordinary Law 8.080/1990, allowing foreign capital to enter for supposed expansion in the health sector financing base. However, what was observed was the appropriation of the national public fund and the effective outflow of capital (DAVID, 2015).

The year of 2015 marks the beginning of macroeconomic policies guided by austerity still under the government of Dilma Roussef, against her own program. But this course was fully accomplished after the impeachment process with EC nº 95/2016 approval by the new government of Michel Temer, instituting the New Tax Regime (or NRF, in Portuguese) valid for 20 years until 2036, only the correction index could be revised in 2026. According to this rule, as pointed out by Rossi and Dweck (2016), the primary expenditure of the federal government - which excludes the payment of interest on public debt - is limited in real values, that is, the expenditure of the previous year is readjusted only by the accumulated inflation measured by the Broad Consumer Price Index (or IPCA, in Portuguese) in the last 12 months up to the month of June of the previous year. In practice, under the “Expenditure Ceiling” as it is known, there will be a reduction in public spending in relation to GDP and the number of inhabitants. Furthermore, unlike the international experience, the NRF has no escape clause that allows a certain margin of maneuver in the face of economic crises.

At the time of EC nº 95/2016 enacting, as pointed out by Vieira, Piola and Benevides (2018), two routes of impact on SUS funding were discussed: (I) the imposition of the “Expenditure Ceiling” which froze the minimum level of federal expenditure with ASPS in an amount equivalent to 15% of the 2017 RCL for the period from 2018 to 2036 and (II) the possible change in the stage of the expenditure cycle considered at ASPS calculation.

As indicated in Vieira, Piola and Benevides (2018), the NRF started to apply a regime based on payment stage of the expenditure cycle to limit total expenses, which means the

consideration of the items “Paid” and “Paid Unpaid Commitments” in the current year. For the minimum level of federal expenditure with ASPS, this view would change its form of calculation considering that, since EC nº 29/2000 reaffirmed by LC nº 141/2012, the stage considered was “committed”. However, it is noted in the Statement of Expenses with Actions and Public Health Services (ASPS) of the Union's Summary Report on Budget Execution (or RREO, in Portuguese) that the understanding by the government's economic team prevailed that, although the total expenditure is based on payment stage, the minimum level of federal expenditure with ASPS remains based on commitment stage.

According to Vieira, Piola and Benevides (2018), this decision further encouraged the practice of registering unpaid commitments as a subterfuge for compliance with the minimum level of federal expenditure with ASPS – calculated with committed values – despite the non-realization of the expense implying the non-offer of goods and public services that have their execution postponed. This amount of unpaid commitments can be postponed indefinitely – without being adjusted for inflation – and even canceled, resulting in an effective spent lower than the minimum level in the years in which they were committed (PIOLA; BENEVIDES; VIEIRA, 2018). Despite this, the unpaid amount contained in unpaid commitments, from a fiscal point of view, is interpreted as a saving effort that widens the government's primary surplus.

There are two fallacies in the political narrative in defense of EC nº 95/2016 related to SUS funding that need to be highlighted: (I) that there was an increase in SUS funding given the advance percentage of 15% of RCL to 2017 since it was predicted as a minimum only in 2020 according to EC nº 86/2015 and (II) that nothing prevents health spending from increasing, since the “Ceiling Expenditure” applies only to total spending.

Regarding the first statement, it should be noted that the minimum level provided for in EC nº 86/2015 already implied a budget reduction for ASPS, therefore the apparent increase given the “advance” percentage of 15% of RCL did not represent an advance in health financing. It is also worth remember that the ASPS budget tends to decrease as revenue expands, since the percentage no longer has a mobile base (RCL year by year), but rather a fixed base (2017 RCL). In turn, the second statement assumes that other expenditures could be reduced by opening fiscal space for expanding health financing. As shown in a projection by Rossi and Dweck (2016), even though the Pension Reform stabilizes pension spending at 8.5% of GDP, which is considered unlikely, and the economy grows on average 2.5% per year “It is shown that it is impossible –

mathematically impossible – for Brazil to arrive in 2036 with a higher level of spending on health and education in proportion to GDP, even in the anarcho-capitalist hypothesis of eliminating all other public spending" (ROSSI; DWECK, 2016 , p. 4).

As is typical of economic cycles, at a certain moment the Brazilian economy will resume growth. When this occurs, while EC nº 95/2016 is in force, primary surpluses will occur. However, these resources will not be allocated to public policies for the common good, such as health, but rather to the payment of interest on public debt and the increase in monetary reserves, in addition to complying the fiscal target. By not using economic growth as a parameter for the minimum level in ASPS, but rather only inflationary correction, it is ignored: (I) the need for expansion of public health spending given the current demographic and epidemiological trends and (II) the costs of inputs, materials, medicines and health technologies. The first factor concerns to the process of aging and population growth: according to the population projection made by the Brazilian Institute of Geography and Statistics (or IBGE, in Portuguese), the percentage of elderly people (over 65 years old) will go from 8.5% in 2016 to 16% in 2036, in addition to the population growth of approximately 17.7 million people. This demographic change tends to increase the demand for public health services in view of the epidemiological profile of the elderly population. Regarding the second factor, it must be taken into account that "in general, health services have a continuous growth in their relative prices, that is, inflation above the average of the economy" (TN, 2018, p. 7).

3. Healthcare Funding in Brazil: Data Analysis (2002 – 2019)

3.1 Methodological Note

In order to analyze the direct impact of austerity on SUS funding, data on the Union's budget execution from 2002 to 2019 were analyzed. The database used was Siga Brasil Platform, the Federal Senate's online information system. Following the methodology indicated in Vieira and Piola (2016), the values for the budget execution of each financial year referring to budget department id 36000 – Health Ministry were obtained for subsequent procedures that deduct from the total expenses those that are not considered ASPS, according to the legal framework in force in each year.

EC nº 29/2000 established the concept of Public Health Actions and Services (or ASPS, in Portuguese), but it lacked an exact definition, opening space to frauds. Several debates on the subject culminated in CNS Resolution nº 322/2003, which pointed out guidelines to define the values that can be computed to comply with the minimum level in ASPS. However, the Resolution was not widely accepted among public managers who used the vagueness of ASPS as a subterfuge for the insertion of other expenses – as pension and basic sanitation expenses – in the calculation so that the minimum level was reached. Some years later, LC nº 141/2012 consolidated the definition of ASPS, serving as a support for the non-diversion of resources destined to public health. Given this legal framework evolution, until 2012 the deductions provided in CNS Resolution nº 322/2003 (procedure A) were considered, taking into account that the budget execution of the entire period was approved by the council itself. From 2013 onwards, deductions imposed by LC nº 141/2012 (procedure B) – which are broader compared to the first period – were considered.

It is worth mentioning that the choice of the procedure group (A or B) depends of the year that the referred expense was committed. As an example, take the budget execution of 2018: for the items that were committed until 2012, deductions for A are applied; in turn, the items that were committed from 2013 onwards are deducted in accordance with B. Such a procedure is necessary given the longevity and the volume of unpaid commitments that are postponed year after year. In order to have a dimension of this problem: in 2018 there was still a remaining amount to be paid related to 2003 commitment, and this amount was not adjusted using accumulated inflation.

3.2 Results

Following the appropriate deductions (A or B), the nominal data were aggregated in Table 2 in order to serve as a basis for further analysis in relation to compliance with the minimum level established over the period and the real growth rate in expenses paid as ASPS. It should be noted in advance that of the eighteen years analyzed (2002 to 2019), only five presented a total paid higher than the commitment, indicating the recurrent practice of enrolling unpaid commitments.

Table 2 - Nominal ASPS budget execution in Brazil – between 2002 and 2019 (nominal values, in million R$)

Year	Committed	Paid	UC Paid	Total Paid
2002	24,568	22,793	1,725	24,517
2003	27,012	25,022	1,298	26,320
2004	32,505	29,670	1,638	31,308
2005	36,292	32,999	2,022	35,021
2006	40,521	36,163	2,295	38,458
2007	44,052	38,449	3,509	41,957
2008	48,428	42,738	3,243	45,981
2009	58,017	49,433	4,122	53,556
2010	61,656	55,278	6,427	61,705
2011	71,986	63,575	5,130	68,705
2012	79,720	71,191	6,448	77,638
2013	83,053	75,411	6,833	82,244
2014	91,899	84,764	7,264	92,028
2015	100,055	92,205	5,914	98,118
2016	106,236	98,684	8,057	106,741
2017	114,701	100,579	6,016	106,595
2018	116,821	105,053	11,886	116,939
2019	122,270	111,253	11,064	122,317

Source: Siga Brasil

Between 2002 and 2015, applying the rule of EC nº 29/2000, the basis for calculation was obtained in two manners: (I) when it presents an committed amount above the current minimum, from the amount committed in the previous year or (II) when it presents the committed amount below the current minimum, from the minimum in the previous year. In turn, the current minimum value was obtained from the basis for calculation plus the nominal GDP variation considered in RREO, which refers to the previous year. In 2016, under the rule of EC nº 86/2015, the minimum was obtained by extracting 13.2% of the RCL of the same year. Finally, in the years 2017, 2018 and 2019, EC nº 95/2016 established that the minimum would be 15% of the RCL in 2017 and, for the following years, this value would be only adjusted by the accumulated IPCA in twelve months up to June of the previous year. The details of the calculation for determining the current minimum value can be seen in Table 3.

Table 3 - Calculation to get the ASPS current minimum expenditure level in Brazil – between 2002 and 2019 (nominal values, in million R$)

Year	Current Rule	Current Net Revenue (RCL)	GDP nominal variation	Basis for calculation	Minimum level
2002	EC nº 29/2000	-	9.21	22,324	24,380
2003		-	12.29	24,568	27,587
2004		-	15.61	27,587	31,893
2005		-	13.52	32,505	36,900
2006		-	9.68	36,900	40,472
2007		-	8.65	40,521	44,026
2008		-	9.61	44,052	48,285
2009		-	12.91	48,428	54,680
2010		-	5.06	58,017	60,953
2011		-	16.38	61,656	71,755
2012		-	9.89	71,986	79,105
2013		-	6.01	79,720	84,511
2014		-	10.31	84,512	93,225
2015		-	6.98	93,225	99,732
2016	EC nº 86/2015	709,930	-	-	93,711
2017	EC nº 95/2016	727,254	-	-	109,088
2018		805,348	-	-	112,359
2019		905,659	-	-	117,293

Source: Siga Brasil, RREO, DRCL and IBGE

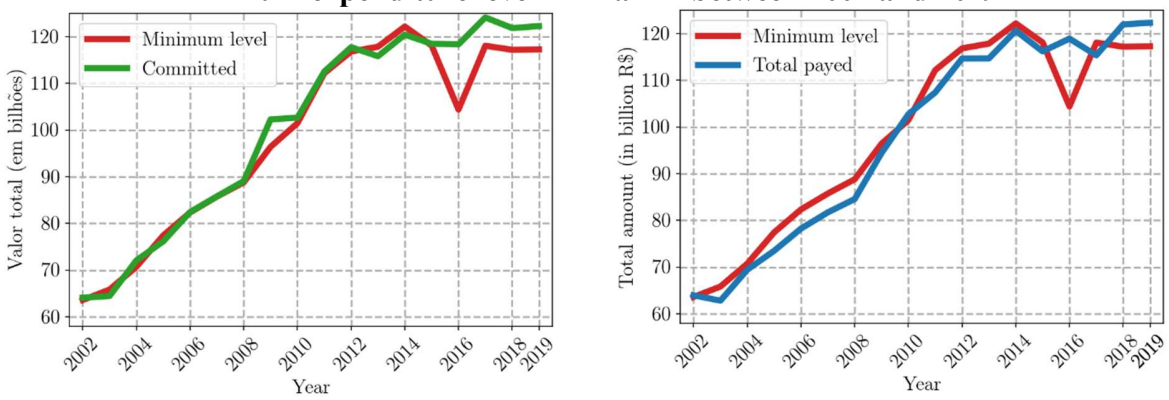
Despite the government's understanding that spending on the commitment stage is enough to fulfill the ASPS minimum level; it is considered that the payment stage “seems to be the most appropriate for the concreteness it gives to the realization of expenses, for the ease of its monitoring and for transparency” (VIEIRA; PIOLA; BENEVIDES, 2018, p.xxiii). Thus, even if the minimum is officially calculated considering the committed amount, the subsequent analyzes mainly consider the total amount paid. Considering the current rules in each period, the following differences were obtained: between the committed amount and the minimum established by the current legislation (official calculation); and between the total paid amount and the minimum established by current legislation (our calculation). The values obtained were updated to 2019 prices using IPCA index and are summarized in Table 4 and in the Figure 2.

Table 4 - Difference between ASPS current minimum and committed/total paid values in Brazil – between 2002 and 2019 (real values using 2019 as base year, in million R$)

Year	Inflation (IPCA)	Minimum level	Committed	Paid	(Committed - Minimum)	(Total paid - Minimum)
2002	12.53%	63,594	64,085	63,952	490	357
2003	9.30%	65,838	64,464	62,813	**(1,373)**	**(3,025)**
2004	7.60%	70,738	72,094	69,440	1,357	**(1,298)**
2005	5.69%	77,436	76,160	73,493	**(1,275)**	**(3,942)**
2006	3.14%	82,346	82,446	78,249	100	**(4,098)**
2007	4.46%	85,753	85,804	81,723	51	**(4,030)**
2008	5.90%	88,810	89,072	84,571	262	**(4,238)**
2009	4.31%	96,416	102,300	94,434	5,884	**(1,982)**
2010	5.91%	101,479	102,650	102,731	1,171	1,253
2011	6.50%	112,172	112,533	107,404	361	**(4,768)**
2012	5.84%	116,839	117,747	114,672	908	**(2,167)**
2013	5.91%	117,858	115,825	114,696	**(2,034)**	**(3,162)**
2014	6.41%	122,179	120,441	120,610	**(1,738)**	**(1,569)**
2015	10.67%	118,105	118,487	116,193	382	**(1,911)**
2016	6.29%	104,407	118,362	118,925	13,955	14,518
2017	2.95%	118,057	124,131	115,359	6,074	**(2,698)**
2018	3.75%	117,202	121,856	121,979	4,654	4,777
2019	4.31%	117,293	122,270	122,317	4,977	5,024
Negative balance sum					**(6,420)**	**(38,890)**

Source: Siga Brasil, RREO, DRCL and IBGE

Figure 2 – Total committed (left) and total paid (right) compared to ASPS current minimum expenditure level in Brazil – between 2002 and 2019



Source: Siga Brasil, RREO, DRCL and IBGE

It can be noted that, of the eighteen years analyzed (2002 to 2019), only five had amounts paid higher than the current minimum. Based on the assumption that, in the years that the amounts paid were higher than the minimum value, did not configured the generation of a "surplus" that can be reduced in the years of "deficit", that is, that the minimum level for ASPS is indeed a minimum, a real loss of R$ 38.9 billion accumulates when adding the negative balances of the

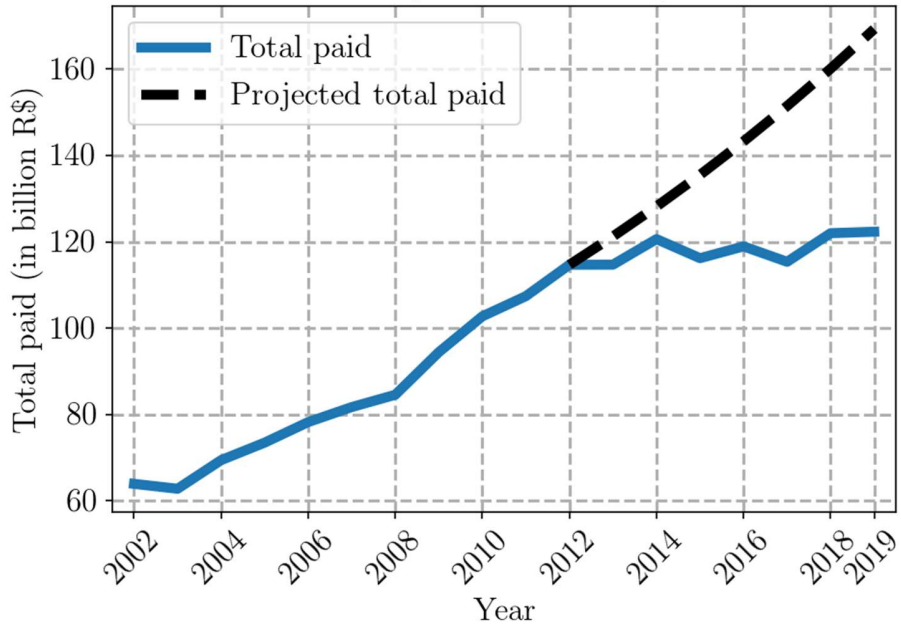
period between total paid and current minimum. If the commitment stage is considered, the real loss decreases to R$ 6.4 billion.

The frequent budget execution below the minimum level is explained by the fact that the difference between the minimum level and the committed amount is usually small, a practice that Piola et al. (2013) called the floor-to-ceiling transformation, as can be seen in Figure 3 on the left side. Thus, the extension and cancellation of unpaid commitments can easily compromise the minimum levels in terms of the provision of public health goods and services, despite the official parameter based on commitment is being respected (VIEIRA; PIOLA; BENEVIDES , 2018).

It should be noted that the positive balance in 2016 in Table 4 does not reflect an increase in the paid amount as ASPS, but rather a decrease in the minimum level, as shown in the Figure 2, due to the change in the legal framework to EC nº 29/2000 for EC nº 86/2015 and the drop in tax collection due to the economic crisis (VIEIRA; PIOLA; BENEVIDES, 2018).

Analyzing the evolution of the total paid (sum of paid and paid "unpaid commitments") in real terms, it is clear from the Figure 3 that the annual real growth rate has been dropping rapidly since 2015, moving away from the 6% real annual growth trend between 2004 and 2014 represented by the dashed line. This deceleration that started in 2013 represented up to 2019 an accumulated real loss of R$ 46.9 billion in relation to the projection.

Figure 3 – ASPS total paid and projection from 2012 onwards in Brazil (real values using 2019 as base year, in million R$)



Source: Siga Brasil – projection based on average growth rate of 5.7% between 2004 and 2014

It is worth noting that the tying of minimum expenditure level to GDP and, even more so, to revenues as RCL or RCB, tends to generate a pro-cyclical trend. However, it is worth doing a reservation about the "naturalization" of this pro-cyclical trend: the tying refers to the minimum expenditure level and not to the amount actually spent, it is up to economic policy through changes, in aimed collection based on tax justice and in the allocation of resources, adapt to the situation in order to respect the principles of prohibition against social regression and maximum use of available resources. The drop in revenues under the Dilma Roussef government, for example, was compounded by tax breaks and the retraction in public investments (CARVALHO, 2018), pro-cyclical measures that aggravated the ongoing social and economic situation. At the same way, counter-cyclical measures could be applied to preserve and increase the budget related to human rights funding.

Additionally, the adoption of a fiscal austerity measure such as EC nº 95/2016 also disrespects all the limits pointed out by Bohoslavsky (UN, 2018) to the extent that it is not limited to the period of the crisis, it does not aim to protect human rights, it is not sustainable, it is not characterized as the only possible alternative, its burden falls in a disproportionate and discriminatory way aggravating existing inequities, it does not take into account the minimum content of economic, social and cultural rights, it was not planned aiming transparency and participation of the affected community and is not subject to continuous evaluation and review. As long as the "Expenditure Ceiling" promotes the institutionalization of fiscal austerity, SUS will continuously lose its capacity to respond to the current demographic and epidemiological movement and to the evolution in the cost of inputs, materials, medicines and health technologies. In addition to these trends, evidence in the literature points to the worsening of the population's health conditions – especially the most vulnerable – in times of crisis, generating an increase in the demand for public health services. Some indicators will be seen below to highlight the consequences of this economic policy on the health of the population.

In order to analyze the effects of the economic recession and the impacts of spending on social protection and health on adult mortality, Hone et al. (2019) conducted an analysis at the municipal level considering a mortality indicator that took into account the seventeen selected causes of death that are most likely to be affected by economic recessions according to World Health Organization (WHO). The author concludes that:

> Increases in unemployment between 2012 and 2017 were associated with more than 30.000 additional deaths, mainly from cancer and cardiovascular disease. The largest increases in mortality were observed in black and mixed race populations, men, and individuals aged 30-59 years [...] Municipalities with higher expenditures on health and social protection programmes had lower or no unemployment-associated increases in mortality (HONE et al., 2019, p. 1581).

Thus, it shows that social spending can contain the negative effects of crises and that the economic recession tends to aggravate existing social inequalities and access to health, affecting more severely certain groups. Another useful index for analyzing social disparities in guaranteeing the right to health is the total number of "deaths from preventable causes" broken down by years of schooling, which serve as a proxy for income. Between 2008 and 2017, according to data from DataSUS platform, the index increased by approximately 30% for the age group that exceeds twelve years of schooling, while the increase for the age group below twelve years was on the order of 40%, indicating a disproportionate burden for the most vulnerable sections of the population.

Another perspective of analysis occurs from the possible fulfillment or not of goals established in international agreements related to health. Malta et al. (2018) indicates that fiscal austerity measures compromise the goals of controlling non-communicable chronic diseases (NCDs) in Brazil. This group of diseases represents 72% of deaths in Brazil and affects the most vulnerable social groups to a greater extent (MALTA et al., 2019). According to Malta et al. (2018), the goal of reducing premature mortality (30 to 69 years) due to NCDs may not be achieved until 2022 due to the stabilization in the trend of NCD mortality in 2015 and 2016 which "may be a consequence of the change in the behavior of RF [risk factors] and by living conditions and access to services, that were hampered by the economic and social crisis "(MALTA et al., 2018, p. 3117). Comparing the 2010-2014 and 2015-2017 periods relating to risk factors, Malta et al. (2018) point to a reversal in the trend towards less healthy habits such as alcohol abuse and smoking, in addition to reduced consumption of vegetables and physical activity. It is also seen that the population with less education has a higher prevalence of risk factors, indicating greater vulnerability.

Final Considerations

The legal principle that underpins the economic policy of fiscal austerity is the possible reserve that refers to the restriction of available resources for the enforcement of established law. However, attention should be paid to the case of artificial insufficiency of resources as an excuse for spending in other areas that are out of step with that established in national and international legislation. In this sense, currently under discussion there are PECs nº 186 and 188/2019, which explicitly address the "excess collection" and the financial surplus to amortize the public debt, instead of prioritizing public investment and social spending, which could stimulate aggregate demand and mitigate the grave social situation.

As long as the "Expenditure Ceiling" of EC nº 95/2016 promotes the institutionalization of fiscal austerity, SUS will continuously lose its capacity to respond to structural and cyclical trends. Structurally, there is a demographic movement in course of aging population that brings with it a change in the epidemiological profile, demanding more public health for the population; in turn, the evolution in the cost of inputs, materials, medicines and health technologies that have a continuous increase in their relative prices, is also not being considered. At the conjuncture level, theoretical and empirical evidence point to the worsening of the population's health conditions – especially the most vulnerable – in times of crisis. The deterioration of the social situation implies material and financial difficulties that end up increasing exposure to risk factors and diseases, generating stress, discouraging healthy practices, increasing the risk of non-adherence to treatment, in addition to encouraging violent and self-destructive behaviors. Besides, the population's ability to adhere to private health insurance decreases, redirecting the demand for health services to SUS. Even if the economy recovers – as it usually does in business cycles – and fiscal austerity measures are lifted, the consequences left on the population's health will not be reversed.

Despite the crisis conjuncture has motivated this work, it is worth noting that SUS financing was not adequate even in times of economic growth, characterizing the underfunding situation. The level of health spending in relation to GDP is below the 6% target set by Pan American Health Organization (PAHO/WHO) and is also lower compared to other countries that have universal health systems. The use of budget loopholes, such as the registration of unpaid commitments that can be extended indefinitely without being adjusted for inflation and even

canceled, serves as a subterfuge for compliance with the minimum level of federal expenditure with ASPS – measured by the amount committed – and concomitant generation of primary surplus, despite the non-realization of the expense implying the non-offer of healthcare to the population. Such mechanism tends to be exacerbated as long as the mandatory health spending is determined at the commitment stage and not at the payment stage. With the "Expenditure Ceiling", in addition to this subterfuge, the minimum level tends to decrease in per capita terms and in proportion to revenue. The Brazilian public health system was considered insufficient, but now it is in danger of becoming inoperative.

Among all the legal framework analyzed here, it is clear that the "Expenditure Ceiling" traces the worst possible horizon. However, the feasibility of this logic was built over time with budget rules that tied SUS funding sometimes to GDP growth and sometimes to a percentage of current revenue. Therefore, the right to health was subjugated to economic variables taken for granted, hiding the autonomous character that the State has, the multiplier effects that social spending generates on the economy as a whole and, finally, the prohibition against social regression that is widely guaranteed in international human rights agreements. Budget tying was seen in these three decades as an achievement that could guarantee resources for social areas considered as priorities, including health. However, it is time to discuss a rule for real growth in spending for SUS, so that the economic cycle interferes as little as possible in the health of the population. Tax breaks for private health insurance and openness to foreign capital should be reviewed. Objective parameters – such as recurrence of epidemics, goals of prevention campaigns, aging of the population, evolution of health technologies and correction of historical failures in the coverage of SUS – should prevail to determine the amount invested.

The path to an economy that indeed incorporates human rights, necessarily goes through a radical transformation of paradigms to value the allocation of protective resources to the most vulnerable population. In times of crisis, it is necessary for the State to adopt a countercyclical policy in order to stimulate the economy and prevent short-term adjustments from endangering both economic and social development in the long run.

The understanding of the Brazilian healthcare system history and financing is essential to comprehend its reach and limits. In this way, this work can serve as a starting point for planning strategies on how Brazil can deal with the Covid-19 pandemic, taking into consideration that its healthcare system was already fragilized by chronic underfunding and austerity policies. Despite

having a public universal health system, Brazil may surpass USA as the worst country to deal with the Covid-19 pandemic[i]. There are multiple reasons for that, including Bolsonaro downgrade related to the sanitary crisis and, of course, the lack of medical equipment, hospital infrastructure and health workers distributed through all regions. No country was really prepared to overcome Covid-19, but Brazil could be better prepared if it were not for the scraping of its health care system.

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