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Articles

THE PUBLIC HEALTHCARE FINANCING POLICY IN BRAZIL: CHALLENGES FOR THE POST-PANDEMIC FUTURE

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ABSTRACT: Healthcare financing is attracting widespread interest due to the coronavirus pandemic. This study aims to assess federal public healthcare financing in Brazil in the light of a legal framework for minimum spending on health and the effects of economic cycles and crises. A literature review showed that public healthcare funding should increase during crises, which is contrary to what fiscal austerity policies postulate. Different formats of fiscal rules for minimum spending on health are analyzed based on the historical evolution of healthcare financing in Brazil. A simulation shows that linking this spending rule to GDP (and especially to current revenue) gives a pro-cyclical character to healthcare financing, which can make it difficult to guarantee health rights in times of crisis. Thus, a debate arises about the need to revise the rule set by the Constitutional Amendment 95/2016 (EC no. 95/2016) and to establish a parameter for growth in public healthcare expenditure

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that eliminates its pro-cyclical characteristic and enables the needs of the country to be met after the pandemic.

KEYWORDS: Public healthcare system; fiscal austerity; tax rules.

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POLÍTICA DE FINANCIAMENTO DO SISTEMA PÚBLICO DE SAÚDE NO BRASIL: DESAFIOS PARA O FUTURO PÓS-PANDEMIA

RESUMO: O financiamento de sistemas de saúde tem atraído amplo interesse devido à pandemia de coronavírus. Este artigo propõe uma avaliação do financiamento do sistema de saúde público no Brasil para o governo Federal à luz da legislação para gasto mínimo em saúde e dos efeitos de ciclos econômicos e crises. A partir de uma revisão da literatura, é indicado que, em momentos de crise, o financiamento do sistema público de saúde deva aumentar, contrário ao que as políticas de austeridade fiscal postulam. Diferentes formatos de regras fiscais para o gasto mínimo em saúde são analisados com base na evolução histórica do financiamento de saúde pública no Brasil. Uma simulação mostra que vincular essa regra de gasto ao PIB, e, principalmente, à receita corrente, atribui um caráter pró-cíclico ao financiamento do sistema público de saúde, o que dificulta a garantia do direito à saúde em momentos de crise. Assim, emerge o debate sobre a necessidade de revisar a regra estabelecida pela Emenda Constitucional nº 95/2016 e definir uma regra de crescimento para o gasto no sistema público de saúde que elimine o traço pró-cíclico e permita que as necessidades pós-pandemia do país sejam atendidas.

PALAVRAS-CHAVE: Sistema de saúde público; austeridade fiscal; regras fiscais.

INTRODUCTION

The pandemic hit Brazil during the implementation of a reform agenda focused on austerity that aimed to reduce the role of the state in the economy. Circumstances changed the direction of economic policies and transformed the fiscal debate in Brazil. Thus, the crisis postponed reforms and created an unprecedented convergence among economists regarding the need to expand spending on health, social assistance, and support for companies and workers. The current crisis has also shown the importance of the Brazilian public healthcare system (SUS, the Brazilian Unified Health System), giving greater political support to the expansion of its financing to face old and new challenges.

However, the desired expansion of public health expenditures is incompatible with the current Brazilian fiscal framework, especially its Constitutional Amendment (EC) no. 95/2016, which, in addition to instituting a spending ceiling for federal primary expenditures, changed the constitutional minimum of Union spending toward public health actions and services (PHAS), instituted by EC no. 86/2015. The current rule imposes a readjustment of minimum spending by the accumulated inflation in 12 months, based on 15% of the current net revenue (CNR) in 2017, up to 2036.

This study aims to think about the future of public health financing in Brazil by evaluating its previous norms, raising its positive and negative aspects regarding its economic cycles and especially economic crises. The main hypothesis states that fiscal austerity and pro-cyclical fiscal rules for minimum healthcare spending hinder the guarantee of the right to health as it assumes that its implementation requires adequate and resilient financing throughout the economic cycle in the country, enabling a greater planning horizon for public health policies.

The first part of Section 1 assesses the relation between fiscal policy and the right to health to build theoretical links between human rights and economics, fields that generally fail to dialogue with each other. The second part of this section surveys the empirical and theoretical literature on the impact of economic crises and austerity policies on the demand for public health. Section 2 historically restores the legal framework responsible for establishing and financing SUS from 1988 to 2019, analyzing EC no. 29/2000, LC no. 141/2012, EC no. 86/2015 and especially EC no. 95/2016 and its impacts for the future of health financing in Brazil. Finally, the section Results and Discussion describes the tax rules that defined the minimum federal healthcare spending in association with PHAS and its interaction with the economic cycle by a contrafactual exercise that retroactively simulated these rules. The used database stems from a compatibilization — following Vieira and Piola (2016) — of the new methodology (PHAS) in the years before 2012, so the entire series (2002-2019) can be compared

according to PHAS. At the end, the final section point to the future of the Brazilian healthcare financing policy in view of the discussion in this study and the current pandemic situation.

1. RIGHT TO HEALTH, ECONOMIC CRISIS, AND FISCAL AUSTERITY

1.1. RIGHT TO HEALTH AND FISCAL POLICY

The right to health is situated in the second generation of human rights and, as such, positively obliges of State to effectively seek it to ensure social justice (SARLET, 2012). The transition of human rights from the first to the second generation relates to a 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; our translation), i.e., the State must have an active role in ensuring such rights.

As summarized by David (2018, p. 301): "Fiscal policies are public policies and, as such, are subject to the obligations governments have toward human rights principles." The priorities defined by the State are embodied in the formulation and execution of the public budget after political debates and correlation of forces (INESC, 2017). Thus, it is necessary to define budget as a political tool instead of a technical resource allocation. The debate over fiscal policies becomes especially critical in times of crisis, in which what is known as scarcity of resources overrides people's rights. The juridical field houses 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 stems from the principle of the reserve of the possible, which is limited, however, by the principle of the existential minimum.

Reserve of the possible refers to the restriction of resources to enforce an instituted right, subjecting these rights to political discretion (synthesized in the public budget) (SARLET, 2012). However, one must distinguish the "substantial difference between lack of resources and the decision to allocate resources" (POTRICH, 2013, p. 11; our translation) to avoid creating an artificial insufficiency of resources as an excuse for spending on other areas, which is out of sync with what is established in national and international legislation.

In turn, the principle of existential minimum concerns the guarantee of a minimum level of protection over the basic needs of society, providing a dignified life for people. Although the existential minimum composition may be discussed, several studies in the literature point to health as the main member of this "minimum rights core" (POTRICH, 2013). The right to health is necessary for a dignified existence and ultimately for existence itself. As stated by Olsen (2006, p. 354; our translation): "In the case of the

fundamental right to health, it is necessary to observe whether the restrictive procedure of public authorities does not nullify the possibility of rehabilitation of the patient, condemning him/her to death due to arguments such as artificial resource scarcity." In the discussion about the degree of discretion of public managers regarding human rights (especially economic, social, and cultural ones), Article 2 of the 1966 International Covenant on Economic, Social and Cultural Rights (ICESCR) 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, the UN Independent Expert on foreign debt and human rights, Juan Pablo Bohoslavsky, points out that governments ought to mobilize all possible funding sources (UN, 2018). In other words, in addition to the present budget, new sources of revenue should be sought, while respecting the principle of justice to avoid burdening 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.
> 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 can cast doubt on the validity of the principle of possible reserve. Budgets seem static and immutable in juridical discussions. However, the economic reality shows that budgets are dynamic and can be executed in several ways. Some alternatives in the public debate include expanding revenue by a tax reform that must reduce the regressive character of Brazilian taxes, distributing income and stimulating

the economic multiplier; reviewing tax exemptions (in the case of health, especially the waiver of individual income tax for medical expenses); and reallocating resources by prioritizing social areas. The fiscal austerity policy, in turn, reinforces the view of the possible reserve, concealing the degree of freedom that public managers have to capture and allocate resources.

1.2. ECONOMIC CRISIS, FISCAL AUSTERITY, AND THE RIGHT TO HEALTH

Despite the broad legal guarantee and the full capacity of the State to protect social rights throughout an economic cycle, they are often harmed at crises. The fulfillment of the right to health itself reflects a set of determinants related to the social and economic development of society. According to Vieira (2016), crises affect the guarantee of rights in three ways: broader social issues, the population's health status, and the public healthcare system.

Social Medicine discussed the relation between health and living conditions in the 18th and 19th centuries. According to such studies, as stated by Silva and Alves (2011), health-disease process analysis must consider, in addition to physical and biological factors, social and economic circumstances. Thus, an expanded concept of health based on a biopsychosocial reading is considered more accurate. Along the same lines, the in preamble to the Constitution of the World Health Organization (WHO, 1946) determines 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 Santos (2017) summarizes:

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

Vieira (2016) exemplifies that social consequences refer to increased social exclusion, impoverishment, unemployment, and reduced wages as they relate to financial losses and household indebtedness. Job insecurity is added as a stress factor alongside this scenario of decreased quality of life and increased exposure to diseases and risk of non-adherence to treatment, deteriorating the population's health status. Mental health is the first to be affected, with increased and worsened 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 mental health deterioration may be "at the origin of other processes of health deterioration of the population as they cause a decrease in the immune response of the body, resulting in an increase in chronic and infectious diseases" (VIEIRA, 2016, p. 20; our translation).

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 more people living in precarious conditions less access to existing treatments and therapies, as well as difficulties to treatment adherence. Regarding chronic non-communicable diseases, these studies found an increase in hypertensive peaks during emergencies and in the incidence of acute myocardial infarction and diabetes.

Catalano *et al*. (2011) found three mechanisms responsible for the impacts of economic recession on health: stress, frustration-aggression, and low personal 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, and material and financial difficulties. The frustration-aggression mechanism is based on the perception of an unfair loss of gains, which can generate antisocial and self-destructive behavior, substance abuse, and violence. Finally, the budget mechanism occurs in peoples' effort to adapt their standard of living when they lose jobs and income, which can give rise to the abandonment of healthy habits such as good nutrition, physical exercise, and adequate medication.

Therefore, economic crises imply the worsening of health conditions in a population. In this context, a fiscal austerity policy can compromise the achievement of the right to health by restricting the supply of public goods and services such as SUS, but also sanitation, urban cleaning, and other health conditions. This effect occurs by the reduction of social transfers and the macroeconomic consequences pointed out in the literature due to reduced income and increased unemployment with asymmetric effects on the poorest population (DWECK; SILVEIRA; ROSSI, 2018).

As outlined by Vieira (2016), the combined effect of an 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 in the private sector. This combination of converging determinants increases the demand for public health services as the response capacity of the healthcare system (embodied in the access and quality of services) decreases (VIEIRA, 2016). This paradox worsens the social consequences of a crisis as endorsed at the General Assembly of the UN Human Rights Council:

> […] it is precisely during these periods [of economic 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)

Analyzing the Brazilian economic crisis that began in 2015, Hone *et al.* (2019) point to the impacts of spending on social protection and health on adult mortality. From an analysis of municipalities according to a mortality indicator with 17 selected causes of death that were most likely affected by economic recessions according to World Health Organization (WHO), the authors conclude 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, the authors argue that social spending can restrain the negative effects of crises and that economic recession tends to worsen existing social inequalities and access to health, affecting certain groups more severely.

Likewise, Malta *et al.* (2018) indicate that fiscal austerity measures compromise the goals of controlling non-communicable chronic diseases (NCDs) in Brazil. This group of diseases represents 72% of all deaths in the country 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 (i.e., of individuals aged 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 a behavioral change of the risk factors and living conditions and access to services, affected by the economic and social crisis" (MALTA *et al.*, 2018, p. 3117). Comparing the 2010-2014 and 2015-2017 periods regarding risk factors, Malta *et al.* (2018) point to a reversal in the trend toward less healthy habits (such as alcohol abuse and smoking) and reduced vegetable consumption and physical activity.

Therefore, the economic crisis — in addition to fiscal austerity — increases the demand for public health services as it harms its supply. An additional aggravating factor plays an important role in this: due to a prolonged crisis, the coverage rate of private health plans tends to decrease as families and firms face financial constraints, further increasing the demand for public health and overburdening the SUS. In Brazil,

coverage rates have grown continuously since 2003 but decreased 1.8 pp from 2014 to 2019. This inflection is due to a trend in the labor market that diminishes adherence through companies and impoverishes the population, which starts to face budget restrictions. Therefore, SUS is once again the preferred system by which people seek to guarantee their right to health. Thus, the resilience of public spending during economic crises not only preserves rights but can also prevent future economic damage and improve people's quality of life and the productivity of the system.

2. A HISTORICAL PERSPECTIVE OF SUS FINANCING

The need to think about the future of public health financing in Brazil after the most recent economic and sanitary crisis requires historical evaluation. This overview makes it is clear the chronic underfunding to which SUS has been subjected since its origin and which has been getting worse recently.

Before SUS, integral attention for formal workers — in contrast to residual care for the poor and needy — configured a segmented and excluding system that operated either under the logic of social insurance or that of "welfarism" (JORGE *et al*., 2007). Both are problematic from the point of view of ensuring the right to health: social insurance establishes a contractual relation in which the benefits depend on prior contribution, whereas "welfarism" materializes itself as insufficient stigmatizing compensatory measures (FLEURY, 2009).

The proclamation of the Federal Constitution of Brazil in 1988 gave rise to a social model that aims to universalize the right to health by the SUS. Its supportive and redistributive regulatory mechanism implies that its benefits are granted based on social justice requirements (FLEURY, 2009), rather than on previous contributions to formal social security systems, charity, or mercy as before.

SUS emerged during a neoliberal rise in Brazil and in the 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, hindering the actual fulfillment of the requirements provided for in the Federal Constitution of 1988. Despite the legal statement that social and economic policies must assure a Unified Health System (SUS), the Constitution failed to precisely define the modus operandi of its health financing policy.

Articles 194 and 195 (BRASIL, 1988) set health as an integral part of social security, alongside a pension system and social assistance. However, the vague establishment in art. 198 (BRASIL, 1988) that the SUS would be financed "with funds from the social

welfare budget of the Union, the states, the Federal District and the municipalities, as well as from other sources" is insufficient to guarantee the execution of its intended ambitious healthcare system. Art. 55 of the Transitional Constitutional Provisions Act (BRASIL, 1988) provisionally defined that a minimum of 30% of the social welfare budget (excluding unemployment insurance expenditure) would be allocated to the health sector. However, the 30% rule remained unfulfilled in that year and disappeared in the following Law of Budgetary Directives after 1993 (SOARES, 2014).

The advance of neoliberal measures soon challenged the Social Security Budget (OSS) assured in the Constitution. In 1994, according to Jorge *et al.* (2007, p. 6; our translation) "non-compliance with the OSS began to be institutionalized with the creation of the Social Emergency Fund." This mechanism changed its name in 1997 to Fiscal Stabilization Fund, becoming the current Untying of Federal Revenue in 2000. Part of the funds the federation raised could now be used freely but, in practice, the resources allocated to social security in general and health in particular decreased.

Fernando Henrique Cardoso government's (1995-2002) response to the lack of definition of health financing created a new tax in 1996: the Provisional Contribution on Financial Transactions (CPMF), whose collection would be used to finance health actions and services (PIOLA *et al.*, 2013). According to Piola *et al.* (2013, p. 10; our translation) "[…] the immediate contribution of CPMF 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 (EC) no. 29/2000. This law established a new category for SUS funding called Public Health Actions and Services (PHAS), which defines the core expenses of public healthcare that must be considered to check if the current minimum expenditure level is being respected. Although the establishment of PHAS was an advance to SUS funding, it received critics due to its lack of definition, opening fiscal space to frauds. Despite the attempt to better define it with Resolution no. 322/2003 of the National Health Council, some public officials failed to recognize it by including, to comply with EC no. 29/2000, expenses as "PHAS" that should not be considered, such as basic sanitation, school meals, payment of inactive personnel, among others (CISLAGHI; TEIXEIRA; SOUZA, 2011).

Tying resources to be applied in PHAS occurred in different ways for the Union, states, and municipalities. A minimum application was defined as a percentage of revenues, which could be gradually achieved according to a determined progression —, 12% for states and the Federal District and 15% for municipalities — calculated after tax collection and which should be reached by 2004, with an initial 7% for states and municipalities. Those percentages were important to define a minimum level of mandatory

spending on health for states and municipalities. However, the definition for the Union would come by a Complementary Law (CL) for later regulation (BRASIL, 2000). EC no. 29/2000 defined minimum levels up to 2004, delegating the establishment from 2005 to a CL. In the case of no CL, the previously promulgated levels would remain in force (BRASIL, 2000).

The expected CL was enacted only 12 years later (no. 141/2012). Its regulation included many expectations: it was an opportunity to expand resources for SUS due to the correction of deviations from the definition of PHAS, 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, CL no. 141/2012 defined which budget categories would be considered as PHAS to calculate the minimum level established for each federative entity and determined that if this level was not reached, the responsible entity should compensate the difference in the following year, without the amount entered at the current year's accounts as PHAS. However, the expectation of expanding the level of health spending frustrated itself.

CL no. 141/2012 successfully defined which PHAS the SUS should finance, the minimum investment of resources in PHAS (which again treated the Union differently), the criteria for apportioning resources to other spheres, and health expense inspection, evaluation, and control rules (BRASIL, 2012). The 12% and 15% on tax collections were maintained for states and municipalities, respectively, whereas it was defined that the amount for the Union would be equivalent to the amount committed in the previous financial year plus at least the percentage of nominal GDP variation in year prior to the Annual Budget Law (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 theme for discussion.

For the federal minimum calculation, CL no. 141/2012 defined that the considered expenses 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; our translation).[1] In other words, the statement of CL no. 141/2012 determines, according to Vieira, Piola, and Benevides

[1] The stages of the expenditure cycle consist of the following phases: commitment, certification, and payment. The commitment stage represents the allocation of a value to serve a specific purpose, whether contracting services or acquiring materials. The certification stage involves checking the delivery of materials or service execution. Finally, the payment stage consists of settling accounts with creditors, finalizing the expenditure cycle. However, when the expense has been committed but not paid until the end of the current financial year on December 31, that expense becomes an entry in unpaid commitments of the following financial year.

(2018), that the commitment stage should determine the minimum level of federal expenditure in public health system as PHAS, confirming what had been provisionally instituted in EC no. 29/2000. Moreover, the inscription of an expense as unpaid commitment is limited to available cash so that the item is considered an expense in PHAS. Article 24 of CL no. 141/2012 determined 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, no consensus occurred on the replacement of unpaid commitments from 2012 onward regardless of the commitment year — according to Vieira, Piola, and Benevides (2018) — thus enforcing 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 regarding the budgetary setback for health, embodied in EC no. 86/2015, known as mandatory budget. As Piola, Benevides, and Vieira (2018) explain, it referred to the mandatory execution of the budget programming included by parliamentary amendments, half of which should be allocated to PHAS. The problem lies in the fact that this resource would be counted as part of the minimum level to be invested by the Union, neither going through policy planning nor counting on social participation in the allocative choice (DAVID, 2015). The measure defined the value that would constitute the minimum allocated to health by the Union as 13.2% of the current net revenue (CNR), which would be progressively expanded until it reached 15% of the CNR in 2020.

Compared to Complementary Bill no. 321/2013 — proposed by the Sanitary Reform Movement — which suggested the setting of 10% of current gross revenue, despite the higher percentage, the reduction in the basis for the calculation when considering the CNR instead of current gross revenue would imply less resources. According to Piola, Benevides, and Vieira (2018), the percentage of 10% of the current gross revenue was equivalent to 18.7% of the CNR At the time, much higher than the 13.2% of CNR that would be implemented immediately after EC no. 86/2015. The budgetary setback is shown by the data pointed out by the National Health Council, in which PHAS were financed, in 2014, with 14.38% of the CNR in that year; i.e., the establishment of 13.2% of the CNR for 2016 would represent a contraction in the health budget, further worsened by the drop in tax collection given the economic crisis (CNS, 2015) in addition to tax relief policies. EC no. 86/2015 also defined 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.

The year of 2015 marks the beginning of macroeconomic policies guided by austerity, still under the government of Dilma Roussef against her own electoral program. But this course was fully accomplished after her impeachment as Michel Temer's government approved EC no. 95/2016, instituting the New Tax Regime (NTR), valid for 20 years until 2036, whose correction index would be liable for revision 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 interests on public debt — is limited in real values, i.e., the expenditure of the previous year is readjusted only by the accumulated inflation measured by the Extended National Consumer Price Index (IPCA) in the last 12 months up to June of the previous year. In practice, the "Expenditure Ceiling," as it is known, would reduce public spending regarding the GDP and the number of inhabitants. Furthermore, unlike the international experience, the NTR has no escape clause with a certain margin of maneuver in the face of economic crises.

At the time of the enacting of EC no. 95/2016, 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 PHAS in an amount equivalent to 15% of the 2017 CNR for the period from 2018 to 2036 and (II) the possible change in the stage of the expenditure cycle considered at the calculation of the PHAS.

As indicated in Vieira, Piola, and Benevides (2018), the NTR started to apply a regime based on a payment stage of the expenditure cycle to limit total expenses, which means considering the items "Paid" and "Paid Unpaid Commitments" in a current year. For the minimum level of federal expenditure with PHAS, this view would change its form of calculation considering that, since EC no. 29/2000 (reaffirmed by LC no. 141/2012), the stage was considered "committed." However, the Statement of Expenses with PHAS of the Summary Report on Budget Execution of the Union (RREO) noted that the understanding of the government economic team prevailed: although the total expenditure is based on payment stage, the minimum level of federal expenditure with PHAS remains based on its 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 PHAS (calculated with committed values) despite the non-achievement of the expense, implying the non-offer of goods and public services due to the postponement of their execution. This number of unpaid commitments can be postponed indefinitely without being adjusted for inflation and even canceled, resulting in an effective expenditure lower than the minimum level in the years in which they were committed (PIOLA; BENEVIDES; VIEIRA, 2018). Nevertheless, the unpaid

amount in unpaid commitments is interpreted from a fiscal point of view as a saving effort that widens the primary surplus of the government.

The political narrative in defense of EC no. 95/2016 has two fallacies related to SUS funding that must be highlighted: (I) it increased SUS funding given the advance of 15% of the CNR up 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 PHAS. Therefore, the apparent increase given the "advance" percentage of 15% of the CNR failed to represent an advance in health financing. It is also worth remembering that the PHAS budget tends to decrease as revenue expands since the percentage no longer has a mobile base (CNR year by year) but rather a fixed base (2017 CNR). In turn, the second statement assumes that other expenditures could be reduced by expanding health financing. As shown in a projection by Rossi and Dweck (2016), although the Pension Reform stabilizes pension spending at 8.5% of the GDP (which is considered unlikely) and the economy grows, on average, 2.5% per year "simple arithmetics show that it is impossible — mathematically impossible — for Brazil to reach 2036 with a higher level of health and education spending, as a proportion of GDP, even under the anarcho-capitalist hypothesis of eliminating all other public expenditures" (ROSSI; DWECK, 2016, p. 4).

As is typical of economic cycles, the Brazilian economy will resume growing at a certain moment. When this occurs (while EC no. 95/2016 is in force), it will give rise to primary surpluses. 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 the public debts and the increase in monetary reserves, in addition to complying with the fiscal target. By not using economic growth as a parameter for the minimum level in PHAS, but rather only inflationary correction, it ignores (I) the need for expansion of public health spending given the current demographic and epidemiological trends and (II) the costs of inputs, materials, medications, and health technologies. The first factor concerns aging and population growth: according to the population projection made by the Brazilian Institute of Geography and Statistics (IBGE), the percentage of older adults (individuals aged over 65 years) will go from 8.5%, in 2016, to 16%, in 2036, in addition to the population growth of approximately 17.7 million people. Regarding the second factor, it must be considered that "in general, health services have a continuous growth in their relative prices, that is, inflation above the average of the economy" (BRASIL, 2018, p. 7; our translation). As long as the spending ceiling in place promotes

the institutionalization of fiscal austerity, the SUS budget will be reduced in per capita terms and in relation to revenue.

3. FEDERAL HEALTH SPENDING FLOOR

Based on this historical analysis, this section evaluates the interaction between these rules that define the minimum level of SUS financing and indicators of economic activity such as revenue and GDP. The establishment of minimum levels of spending by budgetary linkage has been seen in these three decades as an achievement that could guarantee resources for social areas considered as priorities, including health. As Vieira *et al.* (2019, p. 51) pointed out: "One cannot allocate an amount in one year and drastically reduce this amount in a subsequent year. The supply of health goods and services demands stability in financing; therefore, the importance of defining minimum levels of application in health." However, the link to GDP and furthermore to revenues tends to generate a pro-cyclical trend in the minimum spending level linked to these variables. Although the link refers to the minimum floor (rather than to the actually spent amount), budget execution shows that the amount paid in PHAS follows the level and trend of fluctuation of the committed amount, serving as a reference to calculate the minimum level in health.

This section approach is based on Rossi and David (2021), who showed the evolution of health funding and a contrafactual exercise of the federal health spending floor based on different rules, describing a proposal of constant growth. The database used in Rossi and David (2021) mixes the old budget methodology (health function), until 2012, with the new Public Health Actions and Services (PHAS) methodology from 2013 onward. Moving the analysis forward, this study made compatibilized the new methodology in the years before 2012 — as per Vieira and Piola (2016) — so the entire database can be compared in terms of PHAS.

The period from 2003 to 2019 saw a drop in the level of average growth of the amount the Union committed to PHAS. Explanatory factors include variations in economic growth and public revenues, definitions of budget priority, and political decisions of tax relief and spending cuts. As discussed by Rossi and David (2021), from 2003 to 2012, the public spending of the Union on health grew by an average of 5.8% per year, a rate higher than the average annual economic growth of the period (3.9%). From 2013 to 2019, spending growth decreased on average by 0.5% per year, whereas the average annual economic growth was 0.1% per year, showing the procyclical character of health funding.

Based on Rossi and David (2021) and adding the database methodological update, Graphic 1 shows a contrafactual exercise with retroactive simulations of what the

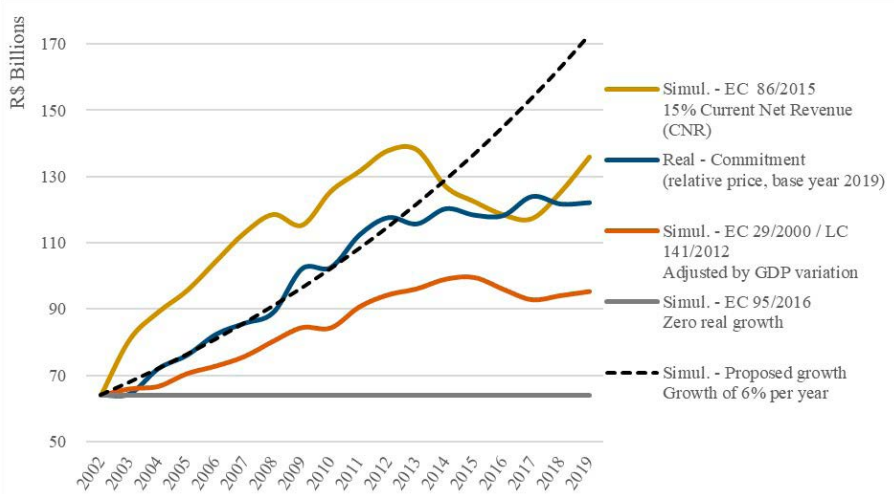
minimum level for public spending on health in Brazil would be according to the different rules in force in the period (Chart 1), comparing them with the evolution of the committed amount in PHAS and with a proposal of real annual growth. The first simulation is a simple rule of real growth in total expenditure paid at 6% per year, a level close to that achieved from 2003 to 2012 (5.8%); the second is the linking of 15% of the current net revenue (CNR), as in EC no. 86/2015; the third is linked to the variation in GDP, as in EC no. 29/2000 and CL no. 141/2012; and, finally, zero real growth in public spending, as in EC 95/2016.

Chart 1 – Federal healthcare financing rules, 2002-2019

Year	Law in force	Federal healthcare financing rule
2002 - 2015	EC no. 29/2000	Amount committed in the previous year plus, at least, the percentage of nominal GDP variation
2016	EC no. 86/2015	13.2% of the current net revenue (CNR) that would be progressively expanded up to 15% of the CNR in 2020
2017 - 2019	EC no. 95/2016	A fixed 15% of the 2017 current net revenue (CNR) for the period from 2018 to 2036

Source: Own elaboration based on Brasil (2000, 2015, 2016).

Graphic 1 – Retroactive simulation of the federal health spending floor based on different rules, base year 2019, Brazil, 2002-2019



Source: Own elaboration based on SIGA Brasil (2022), Tesouro Transparente (BRASIL, 2022), and IBGE (2022a, 2022b).

The simulation shows that if the zero-growth rule had been in force since 2003, there would be R$ 58 billion less for health financing in 2019, less than half of the spending committed by the Union in the same year, R$ 122 billion.

A rule similar to EC No. 86/2015, if applied in 2003, would immediately increase the allocation for health since that year's budget represented around 12.6% of the CNR. As per Graphic 1, this rule greatly expands health spending in periods of economic growth. However, falls are more pronounced in times of deceleration. This occurs because the revenue elasticity in relation to GDP is greater than 1, as shown in Orair, Siqueira and Gobbeti (2016). Moreover, health spending is subject to tax policies on the revenue side, as occurred in Dilma Roussef's government, which implemented a significant tax relief program in 2013 and 2014. A rule linked to revenue has the advantage of enabling the health budget to appropriate the tax revenue that comes not only from economic growth, but also from labor formalization processes that increase the tax base (or even from processes to increase the tax burden). On the other hand, this rule gives the health budget an extremely pro-cyclical character and can severely reduce it during crises, tax reforms, and tax exemption policies that reduce Union collection.

Furthermore, the link to the variation in GDP is also pro-cyclical, although to a lesser extent since it uses the change in GDP in the previous year as reference; and the fluctuation in GDP has a lesser magnitude than that of revenues. The simulation rule that links health spending to the economic growth of the previous year, as in EC no. 29/2000 and CL no. 141/2012, shows that the budget would be below the effectively committed one. In 2019, the difference would be R$ 26 billion. In fact, this rule fails to assign the necessary priority to health spending as it keeps it in a fixed proportion in relation to GDP. This rule is extremely perverse throughout economic crises since it reduces in real terms the amount allocated to health at a time associated with greater social vulnerability and demand for public health, as already discussed.

Finally, a hypothetical rule of a steady growth of 6% per year shows a growth similar to the expenditure actually committed up to 2012 but points to what it would be like if this trend continued. In 2019, the public budget would be R$ 176 billion, R$ 51 billion higher than the amount committed to health in the Union in the same year. This real growth is necessary for a long period given the budget gap to which SUS was subjected in decades of underfunding. However, the establishment of a long-term goal requires the adoption of a minimum level that considers not only economic activity (GDP) but also epidemiologic and demographic population trends. A rule of fixed annual real

growth provides a greater capacity for SUS planning to expand the provision of quality services and invest in science and technology.

In 2017, according to a World Bank database, public spending on health represented 4% of GDP in Brazil, whereas other countries that guarantee a universal health system — such as the United Kingdom, Sweden, and France — spent 7.6, 9.2, and 8.7% in relation to their GDP, respectively. However, countries in the Americas, including Brazil, have reached a consensus of adopting a minimum of 6% of their GDP to their health sectors, according to a report by the Pan American Health Organization (PAHO):

> Public expenditure on health equivalent to 6% of GDP is a useful benchmark in most cases and is a necessary — though not sufficient — condition to reduce inequities and increase financial protection within the framework of universal access to health and universal health coverage. (PAHO, 2014, p. 12)

Evidently, in times of crisis and falling revenues, growths in health spending would increase fiscal deficits. However, a social and a macroeconomic fact justifies the maintenance of growth in health spending even if financed by deficits. The social sphere evinces that moments of economic crisis worsen the population's health conditions (especially its most vulnerable portions) by greater exposure to diseases, less likelihood of treatment adherence, mental health deterioration, and greater exposure to health risk factors with the adoption of unhealthy habits. This situation is further worsened by the decrease in people's ability to pay for private plans, redirecting their demands for health services to SUS. In the macroeconomic context, the continuity of spending on health would act as an anti-cyclical element of aggregate demand, reducing the economic slowdown. Abrahão, Mostafa, and Herculano (2011) point to a significant impact due to the 1% increase of GDP in health spending in terms of GDP growth (1.70%), household income (1.44%), and GINI reduction (-1.50%). This positive impact of health spending is enhanced by the SUS purchasing power, representing an important source of productive chains and job creation by the Economic-Industrial Complex of Health, which has a great capacity to generate structural changes, growth, and technological development (GADELHA, 2003).

CONCLUSIONS

Analyzing the evolution of SUS financing is essential to understand its advances and limits when dealing with the new Coronavirus pandemic. We must consider that the pandemic arrived in Brazil at a time when the public health system was weakened by

historical underfunding and with a more socially vulnerable population due to the economic crisis that has dragged on since 2015. In this context, fiscal austerity policies worked to further deteriorate the response capacity of SUS and worsen social indicators in the labor market and those relative to the impoverishment of the population.

The COVID-19 pandemic and such cyclical urgency should stimulate debates and the formulation of proposals that seek to position health as a priority in budget execution. Instead, the federal government chose the budget artifice of "extraordinary credits" to maintain EC no. 95/2016 and give some extra resources to deal with the pandemic. The Brazilian Health Ministry spent R$ 39 billion in 2020 with extraordinary credits to deal with the pandemic, which amounted to 62% of the predicted. This strategy was used in 2020 — when no one expected the economic and sanitary crises that occurred — but, surprisingly, repeated in 2021 as if the pandemic were a "predicted emergency."

Among all analyzed tax rules — EC no. 29/2000 and CL no. 141/2012, EC no. 86/2015 and EC no. 95/2016 — the last one traces the worst possible horizon as it is incompatible with the short- and long-term needs of Brazilian society. However, the other fiscal rules that linked SUS financing at times to GDP growth at times to a percentage of current revenue contributed to its pro-cyclical character. Thus, the right to health was subjugated to economic variables taken for granted, hiding the autonomous character that the State has in defining its budget, the multiplier effects that social spending generates on the economy as a whole, and, finally, the prohibition against regression widely guaranteed in international human rights agreements.

The achievement of the right to health requires adequate and resilient financing throughout the economic cycle. It is time to discuss a financing rule of real growth and responsible for financing the public health system so the economic cycle interferes as little as possible in the health of the population and the SUS budget reaches a level compatible with its proposal to provide a universal public health system. Furthermore, it is highly likely that the COVID-19 pandemic will have long-lasting effects on the health of the population, increasing even more the demand for a public healthcare.

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