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Fiscal equalisation in Brazil, Canada and Australia: The case of states or provinces[1]

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1 Introduction

The main goal of an equalisation system is to provide fiscal and financial capacity for governments to supply satisfactory public services in line with the needs of citizens. Fiscal capacity is generally a consequence of several factors such as population size, income and the concentration of economic activities. In federated countries, the issue of fiscal equalisation involves two dimensions: from the supply side, providing adequate fiscal capacity across the various government levels; from the demand side, answering to the specific demands of local society within budget constraints.

Brazil's primary mechanism to transfer financial resources to individual states is the State Participation Fund (*Fundo de Participação dos Estados*—FPE), created in the 1960s as part of the 1967/1968 tax reform. The national equalisation system consists in the transfer (in part, restitution) of resources from personal income taxes (*Imposto de Renda de Pessoa Física*—IRPF), corporate taxes (*Imposto de Renda de Pessoa Jurídica*—IRPJ), and the Tax on Industrial Products (*Imposto sobre Produtos Industrializados*—IPI), collected and transferred by the federal government to individual states. As stated in the 1988 Federal Constitution, the main goal is to "promote the socioeconomic balance between the Federative Units" (Art. 161, paragraph II).

The Constitution regulates the current system of unconditional transfers to states through the FPE, whose criterion for distributing resources is the application of (demand-side) population indicators and per capita household income indicators. Since 2016, the criteria of Complementary Law No. 143/2013 came into effect, whereby the values transferred during the previous year are adjusted according to the variation of the Broad National Consumer Price Index (*Índice Nacional de Preços ao Consumidor Amplo*—IPCA) and 75 per cent of the variation in the gross domestic product (GDP) of the two previous years. This ruling does not interfere directly in other models of compensatory transfers, such as the Unified Health System (*Sistema Único de Saúde*—SUS), the Unified Social Assistance System (*Sistema Único de Assistência Social*—SUAS) and the Fund for the Maintenance and Development of Basic Education and for the Promotion of Education Practitioners (*Fundo de Manutenção e Desenvolvimento da Educação Básica e da Valorização dos Profissionais da Educação*—Fundeb), which affect state finances in specific sectors that are not discussed in this brief.

The Brazilian fiscal equalisation system does not consider the fiscal capacities of states themselves (i.e., supply-side), unlike countries such as Australia (Coppel 2018) and Canada (Feehan 2020), for example. The national model adopts absolute (static) population and household income indicators and does not provide for periodic reviews or relative (proportional) and dynamic (growth) aspects of states' socioeconomic context. In other words, it does not consider structural factors in the context of inequality and social and regional disparities between states. Structural aspects of supply and demand are crucial for the adequate provision of public services associated with specific social groups, such as the population age structure; level of schooling; access to private goods; mortality and longevity rates; productive structure; employment; income; and types and costs of public services.

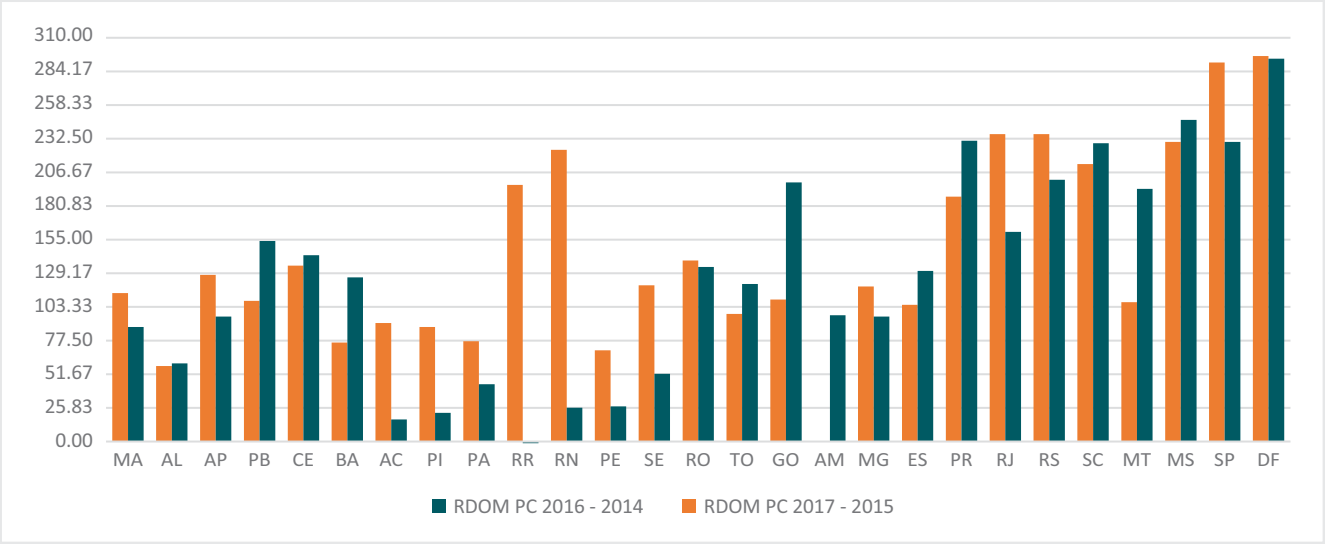
2 Theoretical and methodological considerations

A fiscal equalisation mechanism contributes to the solution of two types of distortion: vertical and horizontal. The first type results from an imbalance between own or available revenues between the same levels of government. The adoption of a legal symmetry reflects a *homogenous* view of public supply and demand—of 'similar' fiscal capacities among the same levels of government in the provision of (homogenous) public services to meet citizens' (homogenous) needs.

This ideal equalisation model does not consider the heterogeneities and inequalities in public supply and demand structures. Moreover, government provision of public services does not depend exclusively on their available fiscal capacities but also on other attributes relative to their institutional capacities. In turn, society's various needs affect social choices regarding the demand for government-provided goods and services in light of budget constraints.

FIGURE 1

Effective per capita household income (in BRL), 2016/2014 and 2017/2015



Source: Federal Revenue Secretariat (*Secretaria da Receita Federal*—SRF), National Treasury Secretariat (*Secretaria do Tesouro Nacional*—STN), Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística*—IBGE), and TCU.

Therefore, an equalisation system's primary goal is to create 'similar' fiscal capacity standards available to governments, allowing them to provide public services adapted to specific and unique social needs. The solution involves the adoption of an average fiscal standard across all levels of government. In more complex terms, it requires average or median parameters to adjust various state capacities (supply side) according to specific social needs or choices (demand side).

An equalising factor ostensibly represents, on the supply side, an increase in each state's revenues or, on the demand side, an increase in each citizen's income. In the first case, the mechanism 'equalises' available state revenues, while in the second, the instrument seeks to 'equalise' available individual incomes. A population equalising effect between states is not expected. The populational indicator ensures that every citizen, regardless of their location, 'receives' an additional (average) value of fiscal resources, allowing them greater access to (additional) public services. It is also non-trivial that migration flows are considered a possible control variable between states.

The two criteria interact directly (population) and inversely (per capita income) to reach a certain degree of vertical and horizontal equalisation of available resources between states or their citizens. Therefore, an average national standard is determined, allowing for a 'similar' supply of public goods and services to meet average social demand. That standard is interpreted as required expenditures to reach a minimum or average standard of public services for various target audiences, considering fixed and variable provision costs, as suggested in structural models (Langørgen 2012). The average national 'standard' is different from the homogenous provision of public services in individual states but rather an adjustment of state provisions relative to local needs.

The convergence criteria are only valid for available per capita income, which might not be satisfactory given states' demographic and personal income structures related to their small productive base and, therefore, low local revenue capacity. In this sense, the following analysis distinguishes between the effects of the two factors of demand (population and income) to propose using state revenues as a relevant supply factor in states' available fiscal capacity, given their different social demand standards.

3 Current model: distortions and limitations

To understand the distortions and limitations of the current transfer system, we assess some implicit methodological issues in the calculation of the indexes adopted by Brazil's Federal Court of Auditors (*Tribunal de Contas da União*—TCU). The basis for transferring resources to states considers per capita household income data (Figure 1).

The income indicator adopted for the transfer of resources in a given year (*t*) is defined in the previous year (*t*-1), based on data from two years prior (*t*-3). Therefore, state per capita household income in 2015 is the parameter to calculate in 2017, the indexes adopted for resource transfers in 2018.

The negative results in the evolution of income are related to:

- the growth in the annual variation of average income, which was BRL47 in 2014/2015 and BRL79 in 2015/2016, dropping to BRL64 in 2016/2017;
- the revenue of the poorest state increased from 50.1 per cent in 2014 to 54.1 per cent compared to the average, dropping 53.8 per cent in the last year. Conversely, the income share of the wealthiest state relative to the average, which decreased slightly in 2016 to 221.2 per cent, reached 229.5 per cent in the last year; and
- the gap between the earnings of the richest and poorest states increased by 2.1 percentage points from 2014 to 2016, dropping to 23.4 per cent in 2017.

Results show extreme inequality in per capita household income among states and a low correlation or causal nexus between transfers in the current model and local fiscal and socioeconomic conditions. Moreover, the wealthiest states have above-average available resources—far above the poorest states—which negatively affect the states' socioeconomic behaviours and their capacity to provide public services.

The difference between real per capita household income in the reference year (*t*-3) and the base year (*t*-1) reveals significant variations among states, whose differentials lead to similar effects in the allocation of resources via transfers to states. Taking Rio Grande do Norte as an example: the determination of its indicator for due transfers in 2017, set in 2016 (with 2014 as a reference), exhibited a difference of over BRL223, while the indicator for 2018, determined in 2017 based on 2015, presented a difference of only BRL26. This discrepancy directly affects the calculation of the index, fostering high volatility in the transferred resources, depending on the observed dynamics of per capita household income, which is affected by various factors, such as level of employment.

The annual variation of per capita household income (Figure 2) shows worsening inequality in household income among states, given the more remarkable growth of most prosperous states, regardless of the behaviour of transfers.

Maranhão exhibited an increase in household income of BRL48 in 2014/2015, BRL66 in 2016 and BRL22 in 2016/2017. On the other hand, the per capita household income in the Federal District varied, in the same periods, by BRL199, BRL97, and BRL197, respectively. One way to dampen these distortions in the current system would be to periodically adjust the indexes calculated by the TCU based on past behaviour but corrected by the actual values. This adjustment would be possible with periodic criteria reviews every four or five years.

However, this brief argues in favour of the necessity to shift to an equalisation system that allows for a convergence in the fiscal capacities of states according to local socioeconomic needs. The behaviour of states' available revenue is crucial, comprising—in addition to their revenue—other types of transfers and compulsory and unconditional transfers (voluntary or discretionary transfers and healthcare and education funds, for example).

4 Analysis and an alternative proposal for a fiscal equalisation mechanism

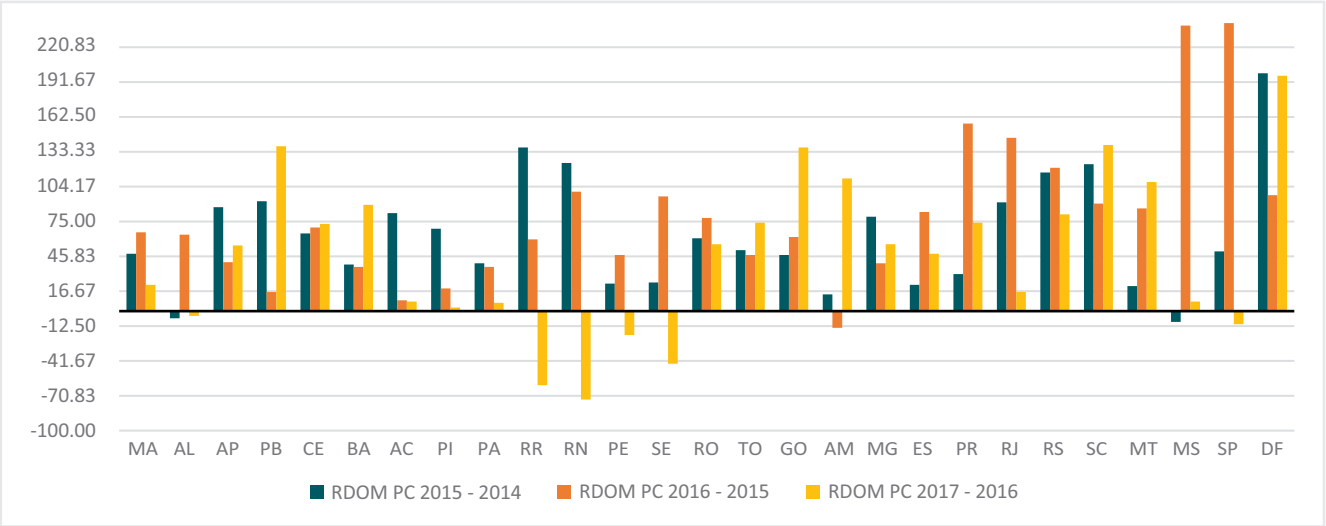
Taking the previous observations as hypotheses and considering the transition year (2015) from Supplementary Law No. 62/1989 to No. 143/2013, a preliminary finding confirms, with some considerations, that per capita transfers (Figure 3) follow a pattern that is consistent with the rule of population proportionality, but which is not necessarily immune to distortions. States with low populations (Amapá, Acre, Roraima, and Tocantins) receive much higher-than-average per capita transfers.

The per capita household income indicator should serve to balance these distortions, but this does not occur in practice. According to the law, the lower the revenue, the higher the transfer. The most extensive distortions occur precisely regarding the different per capita household income among states (Figure 4). Therefore, they cannot be associated with the (positive) effect of the population criterion.

In the North region, despite revenues being similar across states (except for Amazonas), Amapá, Acre, Roraima, and Tocantins receive far more transfers than Pará and Rondônia. In the Northeast, Maranhão, the state with the lowest per capita household income, receives less transfers than Alagoas, Paraíba, Piauí, Rio Grande do Norte, and Sergipe. In the Centre-west, the state of Goiás receives the lowest transfers, despite having a per capita income similar to Mato Grosso and Mato Grosso do Sul and much lower than the Federal District. Incidentally, the Federal District has the highest per capita income. As a result, it receives more transfers than any other state except Amapá, Acre, Piauí, Sergipe, Roraima, and Tocantins. In the Southeast, Minas Gerais, which has the lowest per capita income in the region, is only ahead of São Paulo in transfers. Finally, in the South region, Rio Grande do Sul receives the least transfers despite having the lowest per capita income in the region.

FIGURE 2

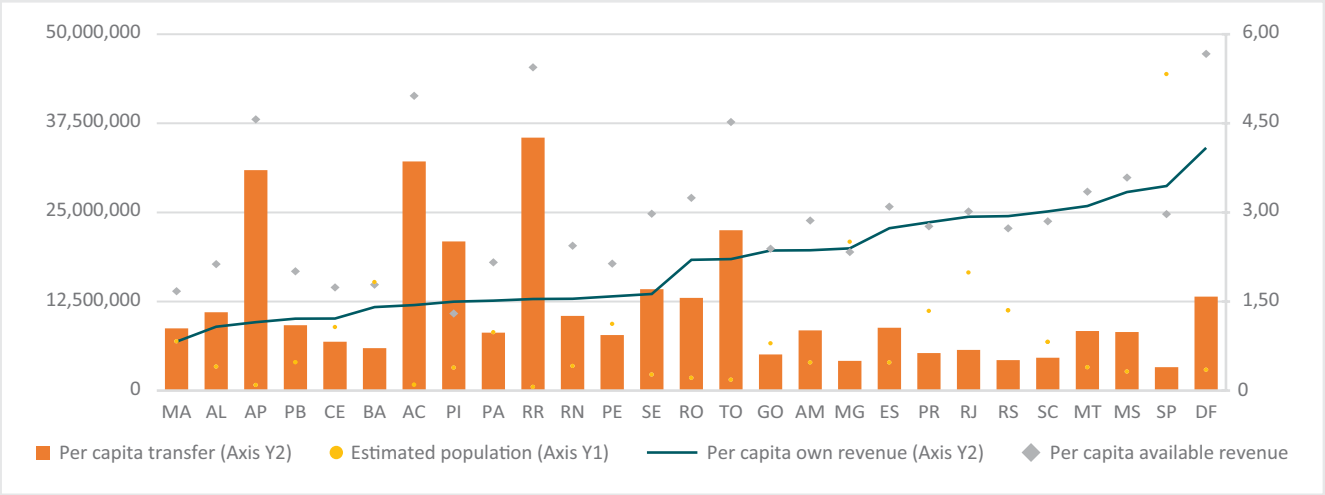
Per capita household income (in BRL)–annual variation, 2014/2017



Source: SRF, STN, IBGE, and TCU.

FIGURE 3

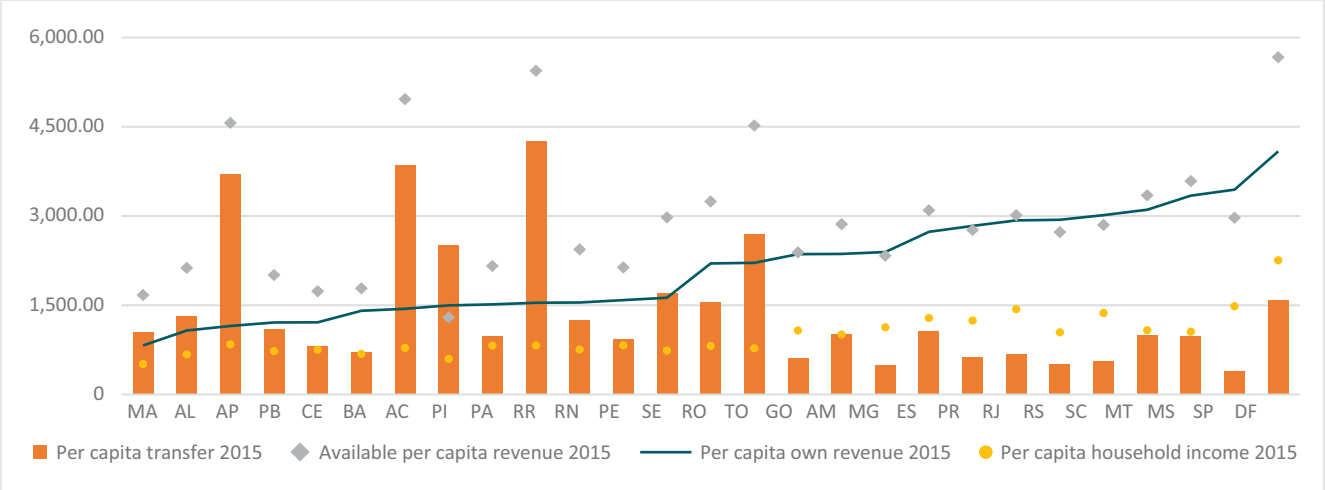
Population (inhabitants), own revenue, FPE and Available revenue, in per capita terms (in BRL), 2015



Source: SRF, STN, IBGE, and TCU.

FIGURE 4

Own revenue, FPE, available revenue, and household income (per capita, in BRL), 2015



Source: SRF, STN, IBGE and TCU.

These distortions can partly explain how difficult it is for the transfer instrument (FPE) to reach its goal of reducing socioeconomic inequalities at the state level, especially regarding per capita household income. In truth, the current criteria for transferring resources to states suffer from distortions resulting from not correcting for different fiscal capacities (own revenue vs available revenue), especially in the poorest states, which would allow for an adequate provision of public goods and services.

Given the growing trend of own revenue (as of per capita household income), it is possible to explain the distortion in Brazil's current equalisation system. The extreme cases of Maranhão and the Federal District represent the lowest and highest per capita household income, own revenue, and available revenue. The FPE's per capita transfer to the Federal District is much higher than to Maranhão, despite its smaller population and higher revenue. As a rule, own revenues and mainly available revenues in the wealthiest states of the Centre-west, Southeast and South regions are higher than in the poorest states. Due to higher (disproportional) per capita transfer values, exceptions include Amapá, Acre, Roraima, and Tocantins.

It is worth highlighting the low correlation between transfers and states' own and available per capita revenues. When supplementing states' revenues (growing trend, Figures 3—right axis—and 4), transfers should promote an equalisation in available state revenues to compensate for their revenues. Fiscal resources are lower in states of the North and Northeast due to the lower concentration of economic activity in those regions and, for the North specifically, lower population.

Consider, as a hypothesis, per capita transfers as an additional income on top of per capita household income (Figure 5). Instead of transfers targeting the states themselves, they are 'given' directly to each person in their respective states. The demand for public and private goods and services would increase proportionally with higher available personal income (gross and not net of taxes). A person in Maranhão,

the state with the country's lowest per capita household income, would receive a supplementary income through transfers, which would still result in them having the lowest income in the country. Only a little higher than that of a person in Bahia and practically the same as another in Rio Grande do Sul, Ceará or Minas Gerais.

There is a significant improvement in individual incomes in less-developed states compared to the national average, before and after transfers, especially in Sergipe, Piauí, Tocantins, Amapá, Acre, and Roraima. All exceed the average individual income (except for the Federal District). Conversely, there are losses for individuals in the most developed states relative to the average before and after transfers. All states that reported above-average individual incomes before transfers (São Paulo, Minas Gerais, Rio Grande do Sul, Santa Catarina, Goiás, Paraná, Rio de Janeiro, Mato Grosso do Sul, Mato Grosso, and Espírito Santo) have lower than average incomes after transfers (except for the Federal District). Some of the remaining states have improved their participation (Maranhão, Paraíba, Rio Grande do Norte, Alagoas, and Rondônia), while others suffered participatory losses (Ceará, Pernambuco, Bahia, and Pará). This process of convergence reduces extreme income inequality between states.

Consider per capita transfers as additional revenue on top of per capita revenues accrued in states (Figure 6). In per capita terms, available revenues can be considered a counterpart to personal income on the supply side. In other words, the states' revenue capacities increase the supply of goods and services.

The gains of less-developed states would increase based on their revenues, reducing the disproportionate gains of some states according to the last criterion, allowing for reduced losses in more developed states. Comparing the two previous results (through household income and own revenue), except for the Federal District in the first case, 11 states had a positive result, and 6 had above-average results, against 15 states having negative results.

In the second case, 18 states showed gains, with 12 having above-average results, while 8 had participatory losses.

The states with the most significant losses included Goiás, Amazonas, Minas Gerais, Rio Grande do Sul, and Paraná (above average before transfers and below-average after transfers), and Bahia, Pernambuco, and Pará (below average even before transfers). Ceará saw the best result, going from a negative result in per capita income to a (not very significant) participatory gain in per capita own revenue.

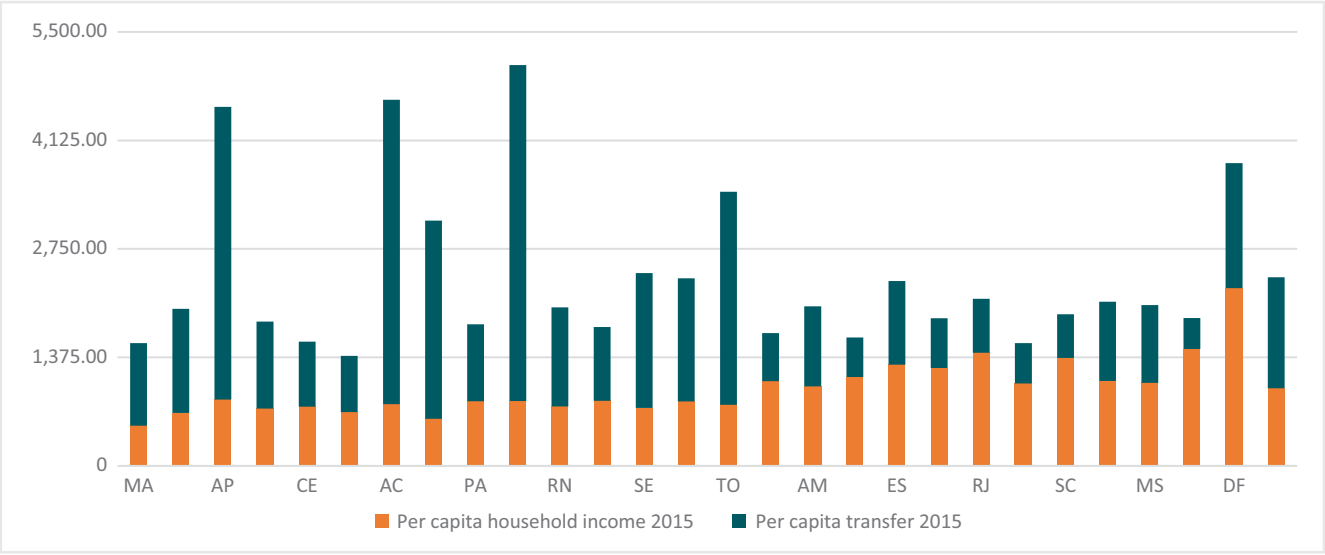
Comparing the two previous results, we observe that per capita own revenue allows for greater convergence in relative participation between states. This is clearly demonstrated when contrasting the distance between states with the highest and lowest participation in average national revenues before and after transfers. Before transfers, the Federal District had a participation of 92 per cent above average compared to Maranhão, which participated with only 39 per cent of the average. After transfers, Roraima has the highest share, 64 per cent of the average, while Maranhão has a share of 53 per cent. The Federal District participates with 60 per cent above average.

In the per capita household income criterion, the Federal District participated with 112 per cent above average and Maranhão with 52 per cent before transfers. After transfers, Roraima participates with 112 per cent above average. In contrast, Maranhão (together with Rio Grande do Sul, which had a share of 6 per cent above average) goes up to 65 per cent of the national average. The Federal District reaches 60 per cent above the national average after transfers.

Therefore, an equalisation system based on states' revenues could be more effective than simply using the population and per capita income criteria. What is being equalised is not personal income, but rather states' revenues. In this sense, less-developed states stand to gain more, allowing for a more significant fiscal (supply) capacity to meet the (increased) social needs and demands for public services.

FIGURE 5

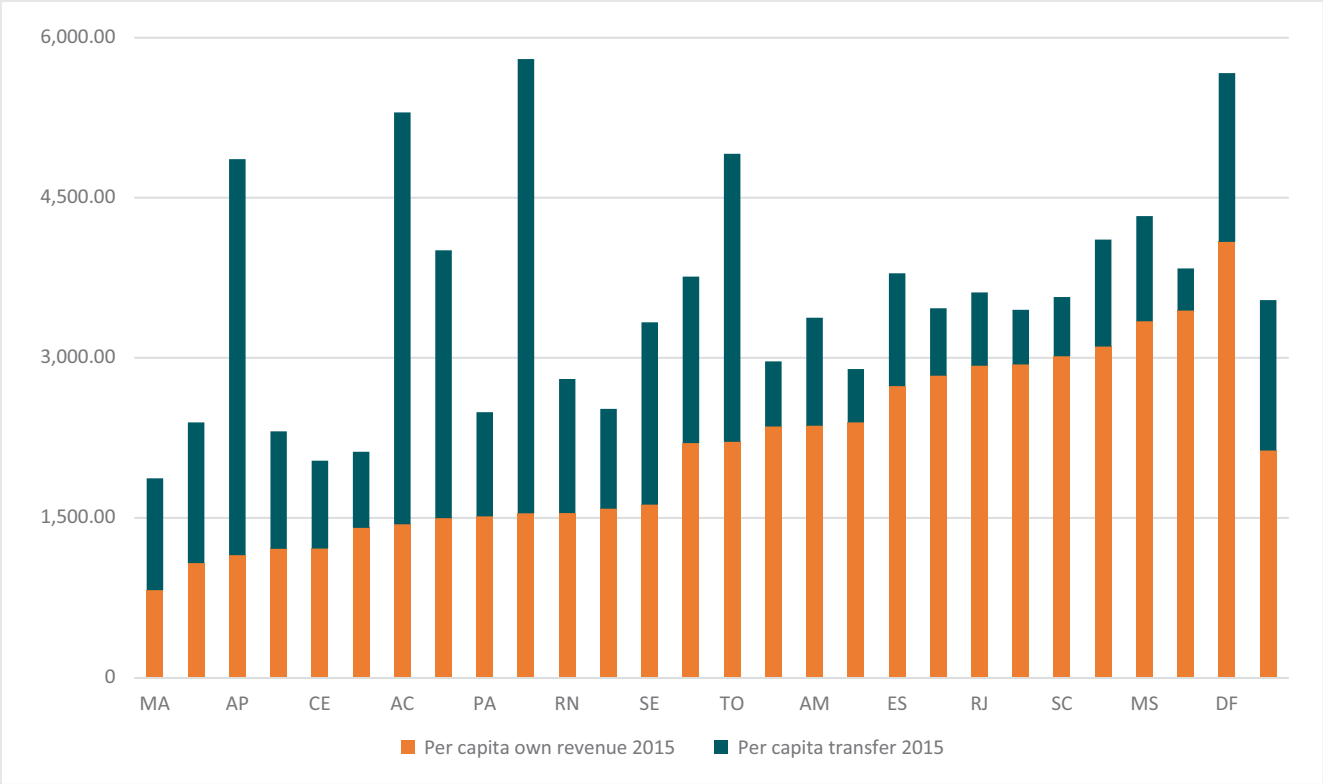
Per capita household income and FPE (in BRL), 2015



Source: SRF, STN, IBGE, and TCU.

FIGURE 6

Own revenue and FPE, per capita (2015)



Source: SRF, STN, IBGE, and TCU.

5 Final considerations

Our preliminary finding is that the criteria for national equalisation through unconditional fiscal transfers (FPE) cannot equalise states' own fiscal or available capacity, much less reduce their socioeconomic inequality, according to their stated constitutional goals. Instead, by granting states resources through transfers compatible with public initiatives that can meet local fiscal and social needs, the provision of public goods and services should contribute to the convergence of states' socioeconomic conditions.

Results indicate that the two demand-side indicators adopted in Brazil are insufficient for the effective equalisation of states' fiscal capacities, especially their socioeconomic differences. The search for average 'standards' of provision of public services in the country requires an alignment between states' standards of supply and demand, which are heterogeneous and unequal. Structural criteria whose goal is to balance states' fiscal capacities and, ultimately, expenditure needs could be applied, considering (average) available per capita revenues as a 'ceiling' and (average) own per capita revenues as a 'floor' for adjusting the current equalisation system.

The application of this system, adopted in countries such as Canada (Feehan 2020) and especially Australia (Coppel 2018), requires political articulation and, possibly, the delegation of the definition of adequate criteria to a National Council, following the example of the Commonwealth Grand Commission. In light of the current political deadlock and the conviction that the mere introduction of new demand-side indicators alongside those already adopted would not solve the problem, considering states' own and available fiscal capacities could be additional criteria for the current system. This would aim towards a possible transition to a new equalisation system or compensatory adjustments through other resource transfers, such as discretionary transfers, funds, and sectoral programmes.

The most significant distortions are restricted to a few states in the North (Rondônia and Tocantins), Centre-west (Mato Grosso do Sul, Mato Grosso and the Federal District) and São Paulo. However, considering the increase in the 'ceiling' of per capita revenue, a political deal would not be so difficult for most states because the minimum value of per capita own revenue before the transfer cannot be less than its average—or, in other words, respecting it as a 'floor'.

Finally, other crucial issues must be analysed separately in new assessments, such as the legal symmetry in the national federative system's asymmetries, the tax reform, and the concept of unconditional transfers. As a result, all units of the Brazilian federation would reach fiscal targets and outcomes in the provision of adequate public services that are compatible with social needs.

1. This Policy Research Brief was originally published in Portuguese (Mendes 2021).

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Logotipo/slogan de governo removido em observancia ao disposto no art. 40 da Lei n 9.504/1997

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