

# Intensidade e incidência de governança: avaliando a governança financeira em nível estadual no Brasil

*Intensidad e incidencia de gobernanza: evaluación de la gobernanza financiera estatal en Brasil*

*Governance intensity and incidence: assessing state-level financial governance in Brazil*

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**Abstract:** The recent growth of the new governance indicators requires a discussion about misconceptions when transposing means and goals of business administration to the public sphere. For this purpose, the public value theory can provide a neutral perspective for current studies on public governance, which implies the need for reassessing some of the former indicators. In this paper, we demonstrate the feasibility of this theoretical construction and propose a quantitative multidimensional indicator for the state-level public finance in Brazil. Based exclusively on the fulfillment of legal requirements, a 15-year sample of all Brazilian states brought results different from the previous findings. They revealed that the quality of governance is uncorrelated with wealth, breaking the inequality assumption that rich states perform better than the poor ones.

**Keywords:** Public Governance; Public Finance; Governance Indices; Public Value.

**Resumen:** La reciente proliferación de nuevos indicadores de gobernanza hace necesaria una discusión sobre conceptos erróneos al transponer los medios y objetivos de la administración de empresas a la esfera pública. En este escenario, la teoría del valor público puede proporcionar una perspectiva neutral para los estudios actuales sobre la gobernanza pública, lo que implica la necesidad de reevaluar algunos de los indicadores anteriores. En este trabajo, demostramos la viabilidad de esta construcción teórica y proponemos un indicador cuantitativo y multidimensional para las finanzas públicas a nivel estatal en Brasil. Basado exclusivamente en el cumplimiento de los requisitos legales, una muestra de 15 años de todos los estados brasileños arrojó resultados diferentes a los hallazgos anteriores. Revelaron que la calidad de la gobernanza no está correlacionada con el nivel de riqueza, rompiendo el supuesto de desigualdad de que los estados ricos funcionan mejor que los estados pobres.

**Palabras clave:** Gobernanza pública; Finanzas públicas; Índices de Gobernanza; Valor Público.

**Resumo:** A recente proliferação de indicadores de governança reconduz à discussão acerca da transposição de meios e fins da administração de empresas para a esfera pública. Neste cenário, a teoria do valor público pode fornecer uma perspectiva neutra para os estudos atuais sobre governança pública, implicando na necessidade de reavaliação de alguns indicadores previamente elaborados. Neste artigo, demonstramos a viabilidade dessa construção teórica e propomos um indicador quantitativo e multidimensional para as finanças públicas estaduais no Brasil. Com base exclusivamente no cumprimento de requisitos legais, uma amostra de 15 anos de todos os estados brasileiros trouxe resultados diferentes dos achados anteriores. Eles revelaram que a qualidade da governança não é correlacionada com a riqueza, quebrando a suposição de desigualdade de que os estados ricos têm um desempenho melhor do que os estados pobres.

**Palavras-Chave:** Governança Pública; Finanzas Públicas; Índices de Governança; Valor Público.

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## Introduction

During the second half of the 20th century, Latin American countries and governments faced several social and economic difficulties. After the democratic transition, the recently established democratic governments were pushed by their citizens to play more active roles in economy, taking into account social aspects and the redistributive functions in their activities. On the other hand, they were not able to increase their public spending, given their inability to raise taxation levels (Tanzi, 2008).

Due to evident exposure to European influences, these countries have developed policies that protect individuals “from the

cradle to the grave”. Although the extension of this assistance may vary within each region, these programs usually include public pensions, public health programs, free public schools, subsidies to large families, unemployment compensation, support for disabled people, and public housing (Tanzi, 2008, p.9).

The recent pursuit of better private managerial methods, roughly applied to public services, increased the perception that the public sector staff does not have the *ethos* they once had. This idea might be associated with the narrow focus on performance indicators, the lack of responsiveness to public value concepts, and the failure to



assess the impact of the service deliverance on the communities (Blaug, Horner and Lekhi, 2006, p.26).

In a context of significant social and economic inequalities, Brazil is currently exposed to a widespread discourse of good governance, and policies and managerial models, whose results do not seem to be positive though – at least for the population. In order to tackle this issue, it is fundamental to revisit the origins of a genuine governance for the public resources, and then draw the bases for indicators and subsequent indexes, to measure what they propose: governance in public administration (Hood, 2012).

In addition to that, the welfare of the citizens of a country is linked to values of socio-economic indicators. Governments try to influence them through their spending policies, indicating the pursuit of a public value notion.

This paper estimates a governance indicator by using budgetary and financial variables to evaluate the governmental performance, according to the public value perceived by citizens. It provides a new tool for state-level governments to assess their financial performance. On that account, it works as “a measurement framework (...) [that] enables politicians, managers and the public to recognise when and the extent to which such value is being created.” Furthermore, it contributes to the advance of knowledge by expanding the theoretical comprehension of public value, quantitatively applied to subnational governments in Brazil. (Blaug *et al.*, 2006, p.60).

This article is divided into five parts. The first one is the introduction, which is followed by a theoretical framework. The third part comprises the methodology for the indicator assessment, and the fourth presents the results and main achievements. Finally, in the fifth section, we conclude and offer some final remarks.

### Theoretical Background:

Public management is a topic often approached in papers on organizational theory and economics, but little mentioned in finance studies. As this paper establishes a cutoff point between private managerial methods and commonly discussed public service theories, it seems proper to review the most traditional theories, and if and when they are applied to public finances. The following sections examine central aspects of some of the recently adopted theories and conclude that they are useful for Brazilian studies on the public sector. We expect the reader to assume that we do not endorse any particular point of view as right or wrong. On the contrary, they can complement each other to develop the public administration.

### From the Hobbesian government to the rule of law in a fiscal state: the reason for public finance rules

The Hobbesian writings assert that a government, or any authority, is the only alternative to anarchist chaos, or *natural state*, via monopolization of the use of coercive power, avoiding the *war of all against all*. For that reason, a State should have the freedom of a coercive power in the hands of a sovereign, and the complete

freedom would be named *order* (Hobbes, 1651/1998; Brennan, Buchanan, 1980).

The Hobbesian approach to coercive power can be divided into two different branches. The first one, from now on referred as the fiscal state, derives directly from the means necessary to fund this state, “concerning the treasure, as tributes, impositions, rents, fines, or whatsoever public revenue, to collect, receive, issue, or take the accounts thereof” (Hobbes, 1651/1998, p.341). Brennan and Buchanan (1980, p. 11) argue that, for an ordinary citizen, “the power to tax is the most familiar manifestation of the government’s power to coerce” and involves the imposition of charges that are only fulfilled by transferring economic resources to the government. In addition, Oliveira (2009) highlights that any attempt to measure the economic and social effects of the fiscal policy should consider the mechanisms that the state uses to obtain resources; the force of the government-governed relationship, as people provide the state with the power to tax; and the principles that guide the loss distribution among taxpayers, as well as the benefits for the whole society (Oliveira, 2009, p.81).

The second branch, which we nowadays call the rule of law, is the indistinct application of the rules to the ruled ones. Despite Hobbes’ arguments against the inclusion of the state (or the sovereign) in the rule of law, the later evolution of this idea, especially after Kant, led to the conclusion that the state has the moral obligation to obey it, at least.

The rule of law can be defined as a publicly available written law, promulgated by an authority before the events that it regulates, and fairly applied to relevant state institutions, including the judiciary. By *fairly*, it should be understood that the law must have similar effects for equivalent cases, regardless of the class, status, power, or any other attributes of each one of the parties involved. It should also allow each party to be equally voiced (O’Donnell, 2004, p.33). Any eventual deviance from this standard might indicate the absence of the rule of law, sometimes replaced by cases constructed as ruled *by law*. Two possibilities arise from this scenario. The first one is the violation of the international moral standards that countries are pushed to agree to and write in their constitutions. The second is the disrespect for a fundamental notion of fairness and equity, according to which, cases alike should not have different consequences; otherwise the responsible authorities would not feel obligated to make similar decisions in future occasions (O’Donnell, 2004, p.34).

Furthermore, Fuller broadens the definition of the rule of law to a moral issue, enforcing the congruence between the official action and the declared rules. In other words, “the respect of citizens and the state for the institutions that govern [...] social interactions among them” is referenced as one of the branches of governance. (Kaufmann, Kraay, Mastruzzi, 2011, p.222).

### About public governance

On the second half of the 20th century, governance emerged as a critical challenge for academics. The post-Second World War context and the transformation of the former western welfare conception required a new comprehension of the theory, practice,

and dilemma of the new societal construction and its “constantly shifting and contingent nature of practical political activity” (Zumbansen, 2012; Bevir, 2010, p.11).

When applied to public issues, governance can be defined as the formal and informal arrangements that shape public decision-making. It can also be understood as the way public actions are guided, in a perspective of keeping constitutional values, in the face of constantly changing problems, environments, and agents (OECD, 2005, p.16).

Policy-makers widely use the term governance in the attempt to improve the living conditions of people in poverty and oppression situations. Due to its ambiguity, the concept can be easily reshaped according to the preferences of each author. In this sense, one must be aware that, while the understanding of governance may be enhanced, the extent of uses can obfuscate its meaning (Peters, 2012). In its original form, governance refers to the “collective choices that cannot be addressed adequately by individual action”, and the search for proper means to make decisions. Thus, governance embeds some accountability concepts, once the agents involved in this decision-making are supposed to be held accountable for the actions. (Peters, 2012, p.20).

Chan and Xiao (2009) mention that financial management is a critical point for assessing a government’s ability and capacity to deliver services (and by extension, goods, according to Musgrave’s definition). So, a financial manager is responsible for keeping “a score of finance-related exchanges, advis[ing] management on the terms of those exchanges, and monitor[ing] financial performance of all the parties concerned”, and for watching the viability of the institutional network and its participants, including contractual performances (Chan and Xiao, 2009, p.115).

Feldman and Khademan (2002) propose an alternative view on the governance issue. In contrast to the principal agent relations, they discuss the structure of the interactions between the parts, which are determined by constitution, statutes, custom, and practice. These principal-agent relations determine what actions are enabled or constrained. In other words, they regulate who can participate in the decision-making. From this point of view

“the public manager’s responsibility rests not only with the policy outcomes, but making visible and continuously evaluating the appropriateness of the nature and quality of the relationship structures they create and recreate through their actions” (Feldman and Khademan, 2002, p.545)

As a financial extension of the governance model, Stoker (2006) defines the public value management paradigm as a thesis-antithesis-synthesis result from the previous new public financial management, but with the comprehension of its narrow utilitarianism.

In order to put the public management principles back to action, Stoker (2006, p.47) reminds us that public affairs are considerably different from the commercial sector activities. As “governing is not the same as [...] buying and selling goods in a market economy”, some of the prescriptions of the new public management are not appropriate to a public experience.

To challenge the traditional public administration and new public management, public value is defined by Constable, Passmore, and

Coats (2008) as a broad approach to thinking about public administration and continuous improvement in public services. For this study, we chose to follow the original perspective of Moore (1995), which accepts a concept of value more extent than the economic sense, and which is appraised according to what citizens consider valuable.

This evaluation requires the public to participate in the decision-making processes, in a representative democracy enabled by the managers. They shall facilitate this procedure by developing powers and emphasizing the representative role of the elected members, thus gaining strength from the active involvement of the community (Blaug *et al.*, 2006, p.19). According to Moore (2003), “the ultimate value [...] can be measured by the satisfaction and benefits it delivers to its clients, or by the social results that it produces for the society at large”. As an additional note, these organizations should satisfy their customers, or citizens, in the case of public entities, and help them to change their lives and achieve the desired social outcomes.

As Blaug *et al.* (2006) remark, although goal-directed models have brought an image of rational management to government organizations, they often ignore the impacts on operational activities. This negligence requires the use of a multi-dimensional approach to measuring performance in the public sector (Blaug *et al.*, 2006, p.56; Modell, 2004).

In spite of all traditional methods of measuring government performance, Blaug *et al.* (2006) remind us of this:

“the goal of public management in a public value framework is to ensure that organisations are more responsive to what the public wants and needs. [...] In this respect, it moves away from narrow conceptions of performance management or economic evaluations that attempt to sum the social, economic or environmental impact of an institution, towards an analysis of the capacity of organisations to deliver public value”. (Blaug *et al.*, 2006, p.56).

The capacity, however, should be defined within the framework proposed by Matthews (2012). According to the author, the governance approach, in its third wave, highlights “the prevailing influence of governing norms and traditions, and how they have affected the capacity of states to respond to the challenges associated with the governance narrative” (Matthews, 2012, p. 282).

More than a simple definition, the public value also provides a “guiding concept” for theorists and practitioners of public administration. Among the many definitions it has gained in the last ten years and given the complete absence of consensus among the authors, two independent schools use it as the core of their studies (Meynhardt, 2009; Rutgers, 2015).

The first school has its roots in Moore’s *Creating Public Value* (1995), and it is centered on Public Value Management. With an approach that ensures that public value is the next step after the new public management, this result-oriented school moves away from the state-versus-market perspective. On the other hand, Bozeman (2002, 2007) opposes the concept of public values to the dominant economic approaches for public policy analysis, focusing on and giving birth to the analysis of public value failure. According to the author, the public values of the society provide normative consensus about citizens’ rights and benefits, obligations to the

society and the state, and the principles on which governments and policies are based (Bozeman, 2007, p.13).

Alternatively, there are attempts to define public values by their differences to the public interest, although circularity has been typically observed in these cases. On that account, the concept of *public* benefit has also been discussed as a tendency of recent literature to concentrate on which benefits people can take from public actions (Alford and O'Flynn, 2008; Meynhardt, 2009; Rutgers, 2015).

Jørgensen and Bozeman (2007) address two main points in the attempt to define public value: what the values referred by the authors when they write about public values are; and then, what issues should be analyzed. After an extensive literature review, the authors have identified two central tendencies. The first one tackles the recent public sector reforms as new public management practices or government reinvention. The second – an emerging trend – focuses on former public values of public administration, launching new progressive models, such as new public governance or new public service.

After obtaining a sample of 72 registered values, Jørgensen and Bozeman (2007, p.359) grouped different concepts of public value, creating a structure in which citizens are in “the environment”, and do not belong to the “society at large”. In this sense, the understanding that citizens should be equal parts of a system is closely related to the core concept of *public value*, summarized by Jørgensen and Bozeman (2007, p.361), as the

“[...] idea that the public sector should create or contribute to the common good and to the public interest. Critics often call these concepts insubstantial and worthless. What exactly does the common good or the public interest mean? [...] The public sector must not serve special interests, it must serve society as a whole; the public sector is there for everybody, it is not the extended arm of a particular class or group”. (Jørgensen and Bozeman 2007, p.361).

Several different attempts were made to establish quantitative parameters for measuring the results of the public sector activities. However, there are two distinct and complementary criticisms to the performance measurement in the public sector. The first one states that governments do not measure the right variables, although they assess too many features. The second one points out a failure in identifying long-term issues of the strategic planning of public entities. According to this point of view, practices of performance measurement tend to be broad and unfocused, which leads to an enormous failure to provide public services (Atkinson, Waterhouse, and Wells, 1997; Chow, Ganulin, Haddad, and Williamson, 1998; Modell, 2004).

In order to avoid these mistakes, this analysis aims to measure the governance as the value perceived by each Brazilian citizen, without any distinctions, through the compliance with the existing laws for state-level public finance in Brazil, which have barely changed since 2000. Thus, our attempt overcomes previous issues by measuring the best variables available, as well as covering an extended time frame to identify long-term matters of the strategic planning. The procedures are detailed in the next section.

## Methodology

Decision-making on public expenditure and the necessary resources for governmental action are not a merely economic matter, but a political one as well. They reveal a conundrum of social forces developed by classes and shape the way a government will act. In other words, “The budget is a mirror of the political life of a society, since it registers and reveals which class [...] pays more taxes, and which ones obtain more benefits from the expenditure”, in a process that the society decides, via their representatives, the goals for public expenditure and their corresponding financial sources, and the methods for the effective control of actions (Oliveira, 2009, p.87).

According to Mikesell and Mullins (2011, p.4), the budgetary process lies in the heart of politics. Therefore, as the connections between technical and political aspects of budgeting systems are not well defined, it is convenient to establish, as a starting point, that the public sector did not change the function of the budget in the last decades.

Budgetary data were collected from the official websites of the legislative assemblies, government secretary offices (Civil Office, Civil House or equivalent), planning secretaries, finance departments (Treasury or equivalent), and from the official journals of the states. Financial data were collected from the National Treasury Secretary, from four national databases – SISTN (*Sistema de Coleta de Dados Contábeis dos Entes da Federação*), FINBRA (*Finanças do Brasil*), SICONFI (*Sistema de Informações Contábeis e Fiscais do Setor Público Brasileiro*), and from the Federal Treasury itself.

With 15 annual observations between 2000 and 2014 for each one of the 27 federative units, the variables collected and the corresponding sources are shown in Table 1, in order to build a compound or multidimensional indicator.

A multidimensional indicator gathers different units of analysis in one single measurement. It uses a standardized method and ideally should allow a self-assessment. First, we established how to set the weights for the indicator, which we called governance intensity. After that, the scores were weighted up by the Brazilian population, resulting in the governance incidence. At last, we determined the testing conditions for reliability and internal consistency.

The concept of governance intensity we used emerges from two different sources. The first one, the Oxford Poverty and Human Development Initiative, uses the intensity concept directly applied to poverty to measure the degree to which people are poor in multiple dimensions, and not only to quantify the individuals that can be considered poor. Mostly based on the Alkire-Foster method, we call governance intensity the extent to which each state can be evaluated in five different dimensions. In addition to that, the governance incidence estimates the proportion that the intensity is observed across the country (Alkire, Foster, Seth, Santos, Roche, Ballon, 2015).

**Table 1 - Variables, sources, dimensions, divisions, and scoring equations**

| Variable                  | Source                         | Dimension  |        | Division                                    |        | Scoring equations   |
|---------------------------|--------------------------------|--|--------|---|--------|---|
|                           |                                | Description  | Weight | Description                                 | Weight |   |
| Budget law enactment date | State budget laws <sup>1</sup> | 1 – Budget cycle regularity                            | 0.2    | -   | 0.2    | $Score_1 = 1 - \frac{\text{Days between the enactment of the budget law and the 1st d}}{365}$                 |
| Current revenue           | Balance sheets                 | 2 – Current budget balance                             | 0.2    | -   | 0.2    | $Score_2 = 1 - \frac{\text{Current expenditures} - \text{Current revenues}}{\text{Current revenues}}$         |
| Current expenditure       |                                |  |        |   |        |   |
| Interest on debt          | National Treasury Secretary    | 3 – Debt management                                    | 0.2    | 3.1 – Interest-to-expenditure rate          | 0.1    | $Score_{3.1} = 1 - \frac{\text{Paid interests}}{\text{Total expenditure}}$                                    |
| Consolidated net debt     |                                |  |        | 3.2 - Consolidated net debt to Real Revenue | 0.1    | $Score_{3.2}^2 = 1 - \frac{\frac{\text{Current net debt}}{\text{Current net revenues}}}{2}$                   |
| Real expenditure          |                                |  |        | 4.1 – Revenue accuracy                      | 0.067  | $Score_{4.1} = 1 - \frac{ \text{Estimated revenues} - \text{Real revenues} }{\text{Real revenues}}$           |
| Real revenue              | State budget laws              | 4 – Planning accuracy                                  | 0.2    | 4.2 – Expenditure accuracy                  | 0.067  | $Score_{4.2} = 1 - \frac{ \text{Planned expenditures} - \text{Real expenditures} }{\text{Real expenditures}}$ |
| Planned expenditure       |                                |  |        | 4.3 – Surplus or deficit                    | 0.067  | $Score_{4.3} = 1 - \frac{ \text{Real revenues} - \text{Real expenditure} }{\text{Real expenditures}}$         |
| Estimated revenue         |                                |  |        |   |        |   |
| Education expenditure     | National Treasury Secretary    | 5 – Attendance to legal minimum percentage allocations | 0.2    | 5.1 – Education                             | 0.1    | $Score_{5.1} = \frac{\text{Education expenditure}}{\text{Current net revenues}} / 0.25$                       |
| Health expenditure        |                                |  |        | 5.2 – Health                                | 0.1    | $Score_{5.2} = \frac{\text{Health Expenditure}}{\text{Net Current Revenues}} / 0.12$                          |

Using a method provided by Decanq and Lugo (2008), this indicator had its dimensions equally weighted at 20% each, making up the total weighting of 1, and not allowing negative weights. Some of these dimensions were split again, keeping the criterion of equal weights within each dimension. The equations in Table 1 equalize all scores in order to generate values ranging from 0 to 1 in each dimension.

$$Intensity_{State/Year} = \frac{1}{5} \times (A + B + C + D + E) \quad (1)$$

Taken from the annual budgetary allocation and financial spending, the financial variables can reveal a pattern of governmental response to the collective demand. Available data will be analyzed under the perspective tested by Rubin and Willoughby (2009). The methods proposed by them evaluate the practical use of the North American Financial Government Performance Project (GPP), which consider four different evaluation criteria to produce a grade for financial management.

The first dimension (A) is the regularity of the budget cycle, as required by the article 34 of the Federal Law 4.320/64 (Brasil, 1964). To obtain the ratings, every annual budget law was awarded the maximum score, if the budget was enacted before the first day of the fiscal year, January 1<sup>st</sup>. In case of delay, a reduction of 1/365 per day was imputed.

The second dimension (B), the balance of current budget, comprises the capacity of the states to sustain current expenditures with current revenues of the same year, as specified by the article

11 of the Federal Law 4.320/64. States that have fulfilled this requirement received grade 1; those who have not were given decreasing rates, according to the percentage of the revenue deficit.

The third dimension (C) refers to the debt and comprises two divisions. The first one relates to the payment of interest debts that were deducted from the maximum score, proportionally to their impact on the total expenditure of the states. The second division of the debt comprehends the ratio of current net debt to current net revenue of the states. According to the Resolution 40/2001 of the Senate (Brasil, 2001), this ratio should not exceed 2. Therefore, as the ratio approaches the maximum limit, the scores tend to 0.

The fourth dimension (D) is the accuracy of planning, subdivided into three equally weighted values, according to the Annex 12 of the Federal Law 4.320/64. The first one (D<sub>1</sub>) concerns the precision obtained when planning the expenditure. In this case, the percentage of discrepancy between the planned and realized values is deducted from the maximum score of 1. Similarly, the second condition (D<sub>2</sub>) is applied to the accuracy of revenue. Finally, the accuracy between revenue and expenditure (D<sub>3</sub>) makes up the third dismemberment of the accuracy planning.

The fifth dimension (E) is defined as the constitutional minimum percentage of expenditure in education (25%) and health (12%), represented by the divisions E<sub>1</sub> and E<sub>2</sub>, respectively. Compliance with the minimum value determines the maximum grade, while non-compliance follows the highest score, proportional to the expenditure not made in their functions (Brasil, 2000).

<sup>1</sup> The full list of the budget laws with the numbers and enactment dates is available upon request.

<sup>2</sup> The absolute value is used because of the state of Roraima, which had negative values for the net consolidated debt in 2007. After double-checking, the National Treasury Secretary confirmed the value and gave no further explanation, as it should have been provided by each state.

After using the collected data in the corresponding equations, as described in Table 1, the states obtained an annual score for each dimension, which scales the intensity of the governance practiced.

Thus, the governance intensity in each state can be determined annually by the Equation 1, wherein each one of the values in the brackets represents the corresponding dimension (or partition, in due cases) in Equation 2. They are detailed in Table 1.

$$Intensity_{State/Year} = \frac{1}{5} \times \left[ A + B + \frac{(C_1)}{2} + \frac{(C_2)}{2} + \frac{(D_1)}{3} + \frac{(D_2)}{3} + \frac{(D_3)}{3} + \frac{(E_1)}{2} + \frac{(E_2)}{2} \right] \quad (2)$$

After measuring the governance intensity for each Brazilian state, the next step was to investigate how citizens perceive this governance. The governance incidence is the result of the weighted sum of the intensity. As weights, we determined the proportion of the population living in each State, by year, as presented in Equation 3:

$$Incidence_{Year} = \sum_{n=1}^{27} Intensity \times \frac{Population_{State}}{Population_{Total}} \quad (3)$$

The underlying concept of this intensity is the neutrality of the law, which refers to every citizen as an equal part of the country. Thus, it is convenient to define the same weight to each citizen, instead of ranking the states and verifying relative advantages among them.

The reliability of the indicator proposed was assessed via two measurements. In the first one, we checked the internal consistency of the values obtained, by using a correlation matrix for the indicator and its dimensions. The absence of correlation among the dimensions revealed that they are independent of one another; while correlations between the dimensions and the total governance intensity meant that the components were significant. After checking the internal consistency, the external validity was assessed by comparing the results to those provided by the two previous attempts to measure subnational governance in Brazil, also using correlation matrices. In the next section, the results of these procedures are better detailed.

## Results

Measuring the governance intensity brought a deeper comprehension of public issues. The first dimension, regularity of the budget cycle, revealed decreasing grades. Although the scores might seem high – as the mean is still close to 1 – only six states rigorously followed the legal schedule every year, and approximately 63% of the budget laws were approved on time.

The results in Table 2 reveal that the budget enactments in the last year of the sample were one week later in comparison with the first year. This decrease has two complementary reasons. First, between 2000 and 2014, the budget enactment delay became, on average, two days longer, when considering all states (scores of 0.987 and 0.981, respectively). Second, the number of states that started the fiscal year with an enacted budget law dropped from 21 to 14, which represents 1 out of 3 states. In other words, more states were behind schedule, and the traditionally late ones were even more delayed.

Several consequences arise from the belated enactment of the budget law. Following a pattern established at the federal level, most states use the previous year as the main reference for cases in which the budget is not enacted on schedule. In these conditions, states are allowed to spend only one-twelfth of the previous year's amount for non-compulsory expenses. As most representative functions are exempt from this rule (including education and health), most investments and long-term oriented policies face serious risk in this budget limbo.

The second dimension, the balance of the current budget, comprises the capacity of the states to sustain current expenditures with current revenues for the same year, as referred in article 11 of Federal Law 4.320/64.

The superiority of the current revenues over current expenditures showed the best scores of the entire sample. Only seven states operated in deficit between 2000 and 2014. *Paraná*, *Goías*, and *Piauí* ran only one year in deficit (2000, 2001, and 2003, respectively), while *Minas Gerais* (2001 and 2002) and *Rio de Janeiro* (2012 and 2014) faced two years in deficit each. Furthermore, the recent evolution of *Rio Grande do Sul* and *São Paulo* urges a more in-depth analysis, since they hold the worst performances for this dimension (3 years in deficit each).

The dangerous fiscal condition of these two states could be easily verified through empirical means. Among massive salary retains, civil servant strikes, and repression of student movements against school closings, the executive actions taken by these states revealed how critical their condition was in 2015.

Table 2 - Highlighted results of governance intensity in Brazilian states, by dimension and divisions, in 2000-2014

| Intensity, dimensions, and divisions                             | Variables   |                               |                                 |                                      |                                       |  |                      |
|--|-------------|-------------------------------|---------------------------------|--------------------------------------|---------------------------------------|--|----------------------|
|  | Mean Value  | Higher averages (state)       | Lower averages (state)          | Best annual performance (state:year) | Worst annual performance (state:year) |  |                      |
| Governance intensity [(A+B+C+D+E)/5]                             | 0.91        | 0.96 (AP)                     | 0.85 (AL)                       | 0.99 (AP: 2009)                      | 0.72 (MA: 2000)                       |  |                      |
| Dimension A – Budget cycle regularity                            | 0.98        | 1.00 (AC, AM, MS, PE, PR, RS) | 0.92 (ES), 0.94 (AL), 0.95 (RN) | 1.00 (255 observations)              | 0.44 (ES:2003)                        |  |                      |
| Dimension B – Current budget balance                             | 0.99        | 1.00 (20 states)              | 0.98 (RS)                       | 1.00 (392 observations)              | 0.88 (PR:2000)                        |  |                      |
| Dimension C – Debt management                                    | Dimension C | 0.75                          | 0.95 (AP)                       | 0.49 (RS)                            | 0.99 (AP:2008)                        | 0.46 (AL:2002)                           |                      |
|  | Branches    | C <sub>1</sub>                | 0.97                            | 0.99 (AP)                            | 0.94 (RJ)                             | 1.00 (RR:2012)                           | 0.91 (SC:2012)       |
|  |             | C <sub>2</sub>                | 0.54                            | 0.92 (AP)                            | 0.00 (RS)                             | 0.95 (RN:2012)                           | 0.00 (RS: 2000-2014) |
| Dimension D – Planning accuracy                                  | Dimension D | 0.91                          | 0.96 (RS)                       | 0.79 (RR)                            | 1.00 (RS:2009)                        | 0.52 (RR:2011)                           |                      |
|  | Branches    | D <sub>1</sub>                | 0.89                            | 0.96 (RS)                            | 0.73 (RR)                             | 1.00 (BA:2007)                           | 0.35 (RR: 2011)      |
|  |             | D <sub>2</sub>                | 0.9                             | 0.96 (RS)                            | 0.79 (RR)                             | 1.00 (RS:2012)                           | 0.37 (DF:2003)       |
|  |             | D <sub>3</sub>                | 0.95                            | 1.00 (SP)                            | 0.86 (RR)                             | 1.00 (SE:2004)                           | 0.46 (RR:2011)       |
| Dimension E – Attendance to legal minimum percentage allocations | Dimension E | 0.89                          | 0.98 (SP)                       | 0.76 (ES)                            | 1.00 (CE:2001-2011)                   | 0.38 (PE:2000)                           |                      |
|  | Branches    | E <sub>1</sub>                | 0.81                            | 0.88 (SP)                            | 0.42 (ES)                             | 1.00 (CE: 2001-2011)                     | 0.30 (PI:2008)       |
|  |             | E <sub>2</sub>                | 0.96                            | 1.00 (AC, AL, BA, DF, PR, RN)        | 0.83 (RJ)                             | 1.00 (AC, AL, BA, DF, PR, RN: 2000-2014) | 0.12 (MA:2000)       |

Note: The complete tables and results are fully available upon request.

The government of *São Paulo* issued the Decree n. 61.131 in February 2015 to cut 5% to 10% of the then current expenditure, which provided some temporary relief. However, the first project for the 2017 budget law brought an estimated revenue significantly smaller than the expected.

Similarly, *Rio Grande do Sul* reduced around 21% of its current use expenditure (São Paulo, 2015; Rio Grande do Sul, 2015), but without achieving the same temporary relief as São Paulo. Street protests and civil servant strikes anticipated the Decree 53.303, which made official the financial calamity state, in November 2016.

The third dimension, the debt, comprises two divisions. The first one relates to the payment of interest debts, which were deducted from the maximum score, proportionally to their impact on the total expenditure of the states. The second one is the ratio of current net debt to current net revenues.

The allocation of expenses for the payment of debt interest shows that, on average, states used 3.3% of their resources for this purpose. The annual evolution of the joint performance of the states revealed significant improvement. From the initial average of 4.4% of the expenditure in 2000, 2.3% of expenditure was used for paying the interest in 2014. This decline can be explained by the lower interest rates nationwide, better loan contracts, and extended payment deadlines, which together had a positive impact on the debt issues. It is also worth highlighting the case of *Roraima*, the only state to achieve a score of 1 (2002). This grade might be interpreted

as a data error or even as a refusal to paying interests, given the fiscal condition of the state. However, *Roraima* had the second-best average score on this criterion analysis, with an average of 0.9878 and standard deviation of 0.0078, which makes the score reasonable.

The ratio of current net debt to current net revenue of the states revealed great dispersion and high incidence of minimum scores. These results indicate that the state debts should receive immediate attention and action by the government planners. In the sample, 9 out of the 27 states exceeded the upper limit, including *Mato Grosso*, which surpassed the limit only in 2000, and *Rio Grande do Sul*, which did not reach the limit even once within the considered period.

However, results revealed that, in general, the states have managed to reduce the ratio of debt to current net revenue. All considered, the mean scores showed consistent improvement from 0.36 in 2000 to 0.65 in 2014. This fact raises the question whether the increase in the debt-income ratio was more influenced by the growth in revenues rather than by the decrease in debt. A brief analysis of the data shows that the revenues increased faster than debt. This evidence is also consistent with findings that states are now reducing the payment of interests, and that more recent contracts have new deadlines, postponing the payments, but generating an increasing future debt.

Equally weighted, the two axes of the debt revealed no significant changes in the results observed in each of its divisions. With regards to the joint analysis, it is worth highlighting that the

state of *Rio de Janeiro* has got the second -and third- worst scores (0.4635 in 2002, and 0.4637 in 2003) of the sample, but it was not among the states with the lowest average of indebtedness. This fact occurred due to recurring scores higher than 0.5234 as of 2007 (including a maximum of 0.6132 in 2011), which considerably raised the average value and resulted in a striking development in the recent years.

Regarding the planning accuracy, the fourth dimension, Brazilian states got an average of 89.15% in predicting the revenues. This value is slightly lower than the 90.13% accuracy in planning the spendings, showing a balance inherent in the planning stages.

However, the revenues and expenses observed got an average accuracy of 94.87%, revealing a higher assertiveness in the execution steps, when compared to the planning stages. This verification therefore reaffirms, at the subnational level, the hypothesis of greater managerial freedom of the executive power to carrying out budgetary expenditures for both cases of inaccuracy. Whether or not the revenues exceed the planned values, the executive is allowed to increase the budget for existing expenses. If the government faces insufficient income, discretionary cuts in expenditure can also be made without prior legislative approval.

As for the last dimension, the constitutional requirements for allocation were evaluated. For this procedure, we used two sub-scores: one for education and another for health funds. The minimum percentage allocated for education, in general, got an average score in the order of 0.8120 for the states, with a deviation of 0.1483. Therefore, although the states usually do not meet the legal provision, the high deviation denotes a wide variation within the sample. This result is corroborated by the difference between the lowest and the highest averages of the states. The states that showed the lowest average scores were *Espírito Santo* (0.4171), *Pernambuco* (0.4786), and *Mato Grosso* (0.6142). *Espírito Santo* was also responsible for two of the three smallest annual allocations, getting a score of 0.4626 in 2011, and 0.44 in 2012. The highest score of 1 was obtained by 22 federative units at least once, and the states of *Ceará*, *São Paulo*, *Paraná*, *Amapá*, and *Distrito Federal* achieved the maximum annual grade at least five times during the period assessed (11, 10, 8, 7, and 5 times, respectively).

The minimum application in health resources showed superior results compared to those recorded in education. All federal units obtained the maximum score at least once, and six of them (*Acre*, *Alagoas*, *Bahia*, *Distrito Federal*, *Paraná*, and *Rio Grande do Norte*) fulfilled the requirement throughout the entire period assessed.

Two factors may explain the difference between the minimum percentages. First, the mutual responsibility of the different levels of contribution with the basic education, as determined by the Brazilian law. The state-level government is not the only formally responsible for providing and assuring quality in public schools. Therefore, the

low quality of the services offered due to the lack of resources might be obscured by the responsibility shared with municipalities and the Federal Government. Second, the obligatory expenditure percentage set for education is much higher than that established for health (25% against 12%), which creates a severe restriction, especially for states that have high costs with salaries and debt interests.

With the results of the minimum constitutional investments in education and health equally weighted, the federative units of *São Paulo*, *Acre*, and *Amapá* showed the highest average scores (0.9800, 0.9784, and 0.9707, respectively). Notwithstanding, *Ceará* was the state that obtained the maximum score more times because it met these minimum resources health and education for in 11 out of the 15 years possible. The states with the worst average scores were *Espírito Santo* (0.7651), *Pernambuco* (0.7856), and *Mato Grosso* (0.7926). In addition, nine other states did not obtain the maximum score even once during the evaluation period.

The overall results reveal that considerable improvements were made outside the south and southeast regions of Brazil. In this sense, *Maranhão*, *Pernambuco*, *Goiás*, *Paraíba*, and *Amazonas* have accomplished the most in these fifteen years. It is also worth mentioning that the enhancements are numerically more significant than the decays. On one side, the states of *Maranhão* and *Pernambuco* had increased 0.22 and 0.13 respectively; whereas *Minas Gerais* and *Acre* got grades in 2014 worse than they did in 2000, with -0.048 and -0.046, respectively.

The year 2010 revealed itself as a turning point for most of the state governances, and it strongly affected the economic scenario as a whole. Two explanations are possible for this conundrum. The first one is the apex of the economic boom in Brazil, which made it possible for the states to take advantages and improve their performance. The second explanation is the end of the electoral cycle, with general elections taking place in October 2010, and the elected politicians assuming their position in January 2011. Unfortunately, the precise intensity of these factors will have to be determined in future studies, due to the lack of a longer series for analysis.

After assessing the governance intensity, the scores were weighted by the population of each state to provide the governance incidence. Table 3 shows that the first year of the series, 2000, holds the lowest value for governance incidence in the interval assessed. This fact occurred mostly because of the extremely low debt scores, and the low values of health and education allocations. In the following year, 2001, the worst criteria for the states changed. Planning accuracy was even worse than the constitutional requirements for financial allocation to education and health. Meanwhile, the debt still got the lowest grade considering the states altogether; it was even lower than in 2000.



**Table 3 – Governance incidence weighted by the population of the Brazilian states in 2000-2014**

| Year | Population-weighted scores |         |         |         |         |         |
|------|----------------------------|---------|---------|---------|---------|---------|
|      | Governance incidence       | Score A | Score B | Score C | Score D | Score E |
| 2000 | 0.8681                     | 0.9862  | 0.9934  | 0.5841  | 0.9077  | 0.8693  |
| 2001 | 0.8847                     | 0.9881  | 0.9963  | 0.5711  | 0.9174  | 0.9507  |
| 2002 | 0.8797                     | 0.9916  | 0.9958  | 0.5552  | 0.9332  | 0.9227  |
| 2003 | 0.8812                     | 0.9795  | 0.9995  | 0.5693  | 0.9385  | 0.9193  |
| 2004 | 0.8807                     | 0.9893  | 1.0000  | 0.5868  | 0.9384  | 0.8888  |
| 2005 | 0.8853                     | 0.9882  | 1.0000  | 0.6129  | 0.9441  | 0.8813  |
| 2006 | 0.8836                     | 0.9493  | 1.0000  | 0.6372  | 0.9438  | 0.8875  |
| 2007 | 0.8900                     | 0.9534  | 1.0000  | 0.6698  | 0.9387  | 0.8881  |
| 2008 | 0.8991                     | 0.9777  | 1.0000  | 0.6965  | 0.9261  | 0.8951  |
| 2009 | 0.9135                     | 0.9905  | 1.0000  | 0.7123  | 0.9455  | 0.9192  |
| 2010 | 0.9065                     | 0.9918  | 1.0000  | 0.7173  | 0.9321  | 0.8910  |
| 2011 | 0.9117                     | 0.9885  | 1.0000  | 0.7346  | 0.9325  | 0.9026  |
| 2012 | 0.9088                     | 0.9927  | 0.9900  | 0.7315  | 0.9359  | 0.8938  |
| 2013 | 0.8985                     | 0.9884  | 0.9899  | 0.7383  | 0.9004  | 0.8754  |
| 2014 | 0.8958                     | 0.9802  | 0.9838  | 0.7286  | 0.9158  | 0.8705  |

The subsequent years, 2001-2002, showed considerable improvement on the grades achieved, as shown in Table 3. As a

clear effect of the enactment of the Fiscal Responsibility Law, the states increased their average scores in four out of the five dimensions under analysis. The improvements, however, were not enough on the debt dimension, which was still critical for the states' performance during the entire evaluation.

**Testing of reliability and validity**

The indicator we now propose holds a strong internal consistency, as shown in Table 4. We verified positive correlations with all components individually, with a significance of 0.001. This result implies that all components were relevant for the indicator as a whole, as stated by the positive signal. Furthermore, two positive correlations were found within the indicator dimensions. First, a weak positive correlation was noticed between the current balance and the debt dimensions. In this case, further works should check the causality direction, but it is theoretically and empirically expected that a negative imbalance causes debt to increase.

Our results showed a second positive correlation between the debt and minimum allocation in education and health. In spite of this correlation being less significant (0.05), governments should not neglect the harmful effects of the potential trade-off between these two dimensions, since poor debt management can compromise the obligations with the social policy in these areas. An alternative to overcome this danger would be to enact mechanisms that ensure this minimum allocation, even in high debt scenarios.

**Table 4 - Correlation matrix: internal consistence**

|           | Intensity | A Scores | B Scores | C Scores | D Scores | E Scores |
|-----------|-----------|----------|----------|----------|----------|----------|
| Intensity | 1         |          |          |          |          |          |
| A Scores  | 0.24***   | 1        |          |          |          |          |
| B Scores  | 0.17***   | -0.05    | 1        |          |          |          |
| C Scores  | 0.83***   | 0.02     | 0.19***  | 1        |          |          |
| D Scores  | 0.23***   | 0.04     | -0.03    | -0.09    | 1        |          |
| E Scores  | 0.50***   | 0.05     | -0.01    | 0.11*    | -0.06    | 1        |

For the years 2004-2009, the IGEB, developed by Miranda (2012), was used to establish a comparison, while for 2010, we chose the IGovP, developed by Oliveira and Pisa (2015), was taken as a reference. According to the results displayed in Table 5, the GI showed a negative correlation with both of these indicators in Brazil,

for the entire duration of the assessment. The most extreme value of this correlation was found with IGovP, which is consistent with our findings due to the lack of quantitative reliability tests in the studies of Oliveira and Pisa (2015).

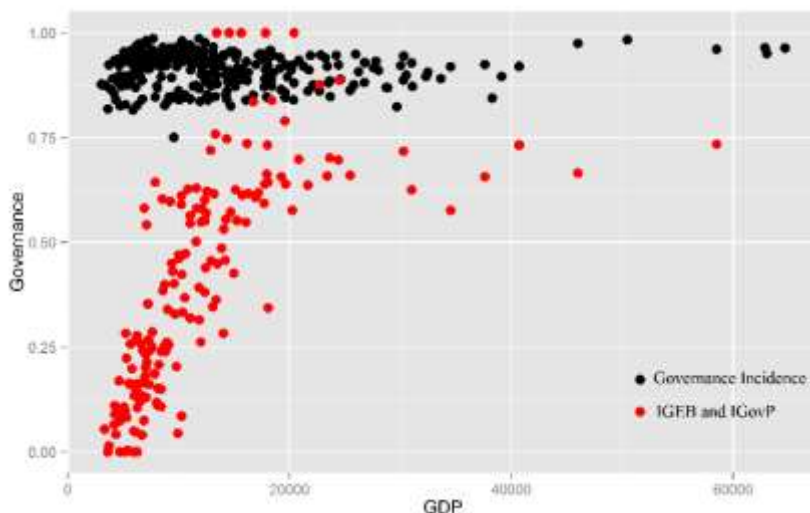
**Table 5 - Correlation between GI and the previous governance indices of the Brazilian states**

| Correlation GI – Other indicators | Year    |         |           |         |         |            |
|-----------------------------------|---------|---------|-----------|---------|---------|------------|
|                                   | 2004    | 2005    | IGEB 2006 | 2007    | 2008    | IGovP 2010 |
|                                   | -0.1557 | -0.3082 | -0.2981   | -0.2976 | -0.2579 | -0.4321    |

Thus, the plotted indicators and the GDP *per capita* revealed distinct patterns. Figure 1 presents the results for GI in black dots, which do not have a clear correlation with the GDP. However, the red dots representing the results of IGEB and IGovP exhibit a clear

upward trend as the GDP increases. If the values on the extreme right of the plot had been considered, this trend would have been even more evident.

Figure 1-Governance grades and GDP



The correlation values of both groups reaffirm this evidence, as our indicator does not have a relevant correlation with the GDP, showing a  $-0.07$  value for the whole sample. On the other hand, previous attempts have never found any annual correlating values below  $0.70$ , or a mean correlation of  $0.73$  with the state GDP in the entire sample. In other words, it should not be surprising that our results were so different from the preceding ones, since the previous concept of governance essentially measured just wealth.

Several considerations arise from this difference. First, there is vast empirical evidence that challenges IGovP and IGEB constructions as attempts to measure subnational governance. In this sense, the choice of secondary indicators that led to an income-based result could have widened the scope of governance to the point that the wealth inequality condition in Brazil became evident through the analysis. Thus, our choice to focus on public financial primary indicators became more independent from inequality, establishing a new cutoff point between wealth and governance.

Second, it is possible that a relation between wealth and governance, as wealthier governments are more likely to have available resources to tackle governance issues. However, the contrary is not valid, because poor governments do not have the same condition due to the lack of governance requirements. Even in the wide scope of governance assumed by IGEB and IGovP, the reality proves the opposite. Since none of the Brazilian states have completely fulfilled the legal requirements for public finance, we can speculate that some of them might be in worse condition than others, and that the states that performed better did not do so by increasing GDP.

## Conclusions

This work presents the formulation of a financial governance indicator for Brazilian states, by establishing the theoretical weighting criteria and the corresponding grades, from 2000 to 2014. Despite the wide range of governance indicators that proliferate every year, this one stands out for determining exclusively normative

criteria, based on an existing legal framework. Its potential application includes the immediate use by the public administration as an instrument of verification, providing citizens with an assertive mechanism for monitoring the government's performance, with nationally relevant specifications (Hood, 2012), and extensive theoretical utilization in federal states.

The use of nationwide stable updated criteria for measuring governance made possible its backward verification, from the then current year to the implementation of the Fiscal Responsibility Law in Brazil, thus building a consistent gap-free database of 15 years.

It would be possible to establish a ranking of the states according to the scores they got. However, we understand that such classification system does more harm than good, as the assignment of relative positions might promote erroneous readings of relative success in the face of a backdrop of poor general conditions. Thus, the scores were kept according to the original grades, positively varying between 0 and 1, and the possible ranking system was ignored.

The proposed indicator led to results different than those of previous researches, which sought an indicator for public governance, such as IGEB (Miranda, 2012) and the IGovP (Oliveira and Pisa, 2015). Two factors caused this discrepancy. First, the incorporation of variables not related to wealth. This choice was made due to criticism on the use of GDP for the public sector performance analysis, either absolute or weighted by population. The incorporation of GDP is not representative of the government performance and may distort or mask results in inequality scenarios (Tanzi, Schuknecht, 2000; Stiglitz, 2012; Atkinson, 2015). Thus, our evidence shows that the distribution of the best results is barely correlated to the availability of financial resources - typically in southeastern and southern states - as found by previous works.

As an extension of the evidence found, the adequacy of the proposed criteria for the conditions of the state finances is beyond the scope of this study. Aspects such as the redesign of the federal pact, the revision of the minimum constitutional percentages for social expenditure, or the analysis of state revenue sources, though

not yet addressed, are intrinsically associated with this topic, and have crucial contributions to further studies on subnational public finance in Brazil.

As restrictions of this research, two factors must be taken into account. First, the complete lack of reliable information concerning the real value of wages paid by the public sector made it impossible to evaluate the performance of the fiscal responsibility law regarding personnel expenditure. Second, the absence of a database on state budgets in Brazil, which may cause some information to be unavailable in the future, or dependent on the commitment of civil servants and politicians. So far, all the information was open to the public, immediately or upon request. Therefore, we hope that the Brazilian federal government will make the financial information accessible in a more systematic format, in order to avoid inconsistencies due to the need for searching through different databases throughout the years.

Another possible extension of this article is the investigation of whether other developing countries, with analogous administrative divisions, such as Mexico or Colombia, also have similar legal requirements for subnational governments.

As a final remark, it is relevant to mention that this research does not have tendencies towards any political party, association or governmental plan. We do not propose a chase for an optimal solution, but an *a posteriori* analytical tool to evaluate the public sector performance. Finally, we also affirm that there are no existing or potential conflicts of interest that would compromise the publication of this study or future researches.

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