

## Efficiency of municipal legislative chambers

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### Abstract

A novel study of Brazilian city council efficiency using the non-parametric estimator *FDH* (free disposal hull) with bias correction is presented. In regional terms, study results show a concentration of efficient councils in the southern region. In turn, those in the northeastern and southeastern regions are among the most ineffective councils. In these latter two regions, most councils could at least double their outputs while maintaining the same volume of inputs. Regarding population size, for cities with up to 500,000 inhabitants, more than 60% of city councils could at least quadruple their output. Regarding inefficiencies revealed through non-discretionary variables (environmental variables), the study results show a correlation between councilor education levels and city council efficiency. © 2015 National Association of Postgraduate Centers in Economics, ANPEC. Production and hosting by Elsevier B.V. All rights reserved.

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### Resumo

Neste artigo, analisa-se pioneiramente a eficiência das câmaras legislativas municipais brasileiras, a partir do estimador não paramétrico *FDH* (Free Disposal Hull), com a respectiva correção de seu viés. Em termos regionais, os resultados obtidos mostram grande concentração de câmaras eficientes na região Sul. Por sua vez, dentre as câmaras ineficientes, destacam-se as das regiões Nordeste e Sudeste. De fato, nestas duas regiões, a maioria das câmaras poderia ao menos duplicar a produção mantendo o mesmo nível de insumos. Do ponto de vista populacional, nas cidades com até 500.000 habitantes o percentual de câmaras municipais que podem pelo menos quadruplicar seu produto é maior do que 60%. Em relação à explicação das ineficiências por meio de variáveis não discricionárias (variáveis ambientais), indica-se que quanto maior for o grau de escolaridade média dos vereadores, maior é a eficiência da câmara legislativa onde atuam.

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## 1. Introduction

In the period prior to Real Plan implementation in Brazil, which was marked by high inflation rates, applied economics literature was heavily focused on issues of inflation. With the advent of price stability and consequent revenue losses due to seigniorage, concerns over public spending expansion grew significantly.

With the start of the floating exchange regime, which increased Brazilian public debt by approximately 18% points of the GDP, the Brazilian Government reluctantly initiated fiscal adjustments. Annual primary surplus targets were 3.75% of GDP from 1999 to 2002, 4.25% of GDP from 2003 to 2007, and 3.8% of GDP for 2008. Throughout this period of fiscal adjustment, debates between Brazilian experts on increased public financing of public spending intensified.

Tax burdens were increased to fulfil primary surplus goals and initiate public spending expansion. As tax collection levels rose, it became evident that economic growth would soon be compromised. In turn, public spending cuts were proposed as a means of alleviating tax burdens.

As it is difficult to change the allocation of public expenditures in Brazil, i.e., public spending for free allocation is limited,<sup>1</sup> public spending improvements were suggested. In microeconomic terms, this can be translated as follows: offering more public services (products) with the same inputs (labor, equipment, etc.).

Consequently, numerous Brazilian applied economics studies have empirically measured issues of public spending efficiency to promote effective public spending. Evaluations of several segments of the Brazilian public sector have been conducted in various empirical studies.<sup>2</sup>

Most, or perhaps all, of these studies<sup>3</sup> conduct efficiency analyses of public organizations related to executive branches. However, it is critical to not only assess executive branch performance, but also legislative and judiciary<sup>4</sup> performance.

While numerous studies have evaluated local executive power at the municipal scale,<sup>5</sup> none have examined the efficiency of local legislative production, despite the fact that city councils implement local public policies and thus enact effective (or ineffective) internal policies and incentives.

To address this gap, we examine local legislative production efficiency through a study of the 2005 city council census using the Interlegis platform. From census data, product and input vectors are built to determine production plans for city councils based on microeconomic theory.

After city council production plans are established, council efficiency scores are determined using econometric methods. We then show whether alleged council inefficiencies are attributable to non-discretionary variables, which are identified based on the Interlegis census, FINBRA (a report produced by the National Treasury Secretariat concerning Brazilian municipality expenditures and revenues) and IPEADATA.

Therefore, this article has two specific goals. We first determine which councils more efficiently allocate public resources by region and population size. From proposed production plans, we thus produce city council efficiency rankings by region and population size.

Using city council efficiency scores obtained, we perform a regression analysis to determine specific areas of city council inefficiency. For this regression, explanatory variables used are non-discretionary, environmental variables,<sup>6</sup> and the explained variable is a vector that includes only inefficient council scores.

We also investigate whether city council inefficiency is attributable to councilor education levels. Ferraz and Finan (2008) noted that more highly educated politicians exhibit superior legislative performance. Thus, it is hypothesized

<sup>1</sup> For example, in 2003, according to a technical study conducted by the Ministry of Planning, Budget and Management/Federal Budget Secretariat (Ministério do Planejamento, Orçamento e Gestão/Secretaria de Orçamento Federal; Brasil, 2003), only roughly 11% of Union expenditures were freely allocated (discretionary).

<sup>2</sup> See Marinho (2003), Gasparini and Melo (2004), Souza Júnior and Gasparini (2006), Santos et al. (2007), Ribeiro (2008) and Arvate et al. (2008).

<sup>3</sup> Throughout our review of existing literature, we found no articles that estimate the efficiency of public organizations of Brazilian legislative authority.

<sup>4</sup> Throughout our review of existing literature, we found only three studies that evaluate Brazilian judiciary organization member efficiency: Sousa and Schwengber (2005,2007) and Yeung and Azevedo (2009).

<sup>5</sup> It is understood that, when assessing Municipality Participation Fund (Fundo de Participação do Município – FPM) expenditure efficiency, this concerns municipal executive branch efficiency in FPM resource spending.

<sup>6</sup> Environmental variables include those not presented to production process participants during the study period.

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