

Fiscal Incentives and Public Goods Provision: An Analysis of the Competition among Brazilian States for Investments

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Abstract

Interjurisdictional competition for investments usually involves fiscal incentives allowances. However, it is frequently argued that these allowances reduce the government capacity of providing public goods, as they jeopardize the state financial situation. The aim of this paper is to verify whether the allowance of fiscal incentives by the Brazilian states from the mid 1990s onwards in fact jeopardized their financial situation and reduced their capacity of providing public goods. The paper uses data on state expenditures in health and education to evaluate their capacity of providing public goods. Data on industrial growth rates and industrial employment (because of the higher mobility of this sector and of its higher probability to respond to fiscal incentives allowances) are also used in order to verify whether the states were successful in their strategy of investments attraction. It is argued that (i) the states that aggressively engaged in the fiscal competition in fact had higher growth rates of their industrial sector, as well as of their total industrial employment; (ii) no conclusive evidences have been found to support the proposition of lower rates of growth of social expenditures in these states. This behavior might be credited to legal restrictions that establish floor limits to expenditures in education and health.

Key-words: fiscal incentives / fiscal competition / public goods / public finance / economic growth

Resumo

A competição entre jurisdições por investimentos usualmente envolve a concessão de incentivos fiscais. Contudo, argumenta-se frequentemente que a concessão destes incentivos reduz a capacidade do governo de prover bens públicos, na medida em que compromete sua situação financeira. O objetivo deste trabalho é verificar se a concessão de incentivos fiscais por estados brasileiros a partir de meados da década de 1990 efetivamente comprometeu sua capacidade de prover bens públicos. Empregam-se dados referentes aos gastos estaduais em saúde e educação para avaliar a capacidade dos estados de prover bens públicos. As taxas de crescimento do valor agregado e do número de empregos do setor industrial (considerado aquele de maior mobilidade e, portanto, mais sensível à concessão de incentivos fiscais) são também empregados para verificar o nível de sucesso dos estados na atração de investimentos. Conclui-se que (i) os estados que se engajaram agressivamente na competição fiscal efetivamente apresentaram maiores taxas de crescimento do setor industrial e do emprego industrial; e (ii) não há evidências conclusivas que dêem suporte à proposição de que estes estados tenham apresentado menores taxas de crescimento de seus gastos sociais. Este comportamento pode ser creditado às restrições legais que estabelecem limites mínimos para os gastos em educação e saúde.

Palavras-Chave: incentivos fiscais / competição fiscal / bens públicos / finanças públicas / crescimento econômico

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1. Introduction

Interjurisdictional competition for investments usually involves fiscal incentives allowances. It is frequently argued that these allowances reduce the government capacity of providing public goods, as they jeopardize the state financial situation. On the other hand, the allowance of fiscal incentives can attract new investments and promote economic development. From the early 1990s onwards, several Brazilian states were engaged in the competition for investments based upon fiscal incentives allowances. The debate on the effects of the fiscal competition remains intense and controversial at the theoretical level, as well as at the empirical level. There are few empirical studies available.

The aim of the work is to verify whether the allowance of fiscal incentives by the Brazilian states from the mid 1990s onwards (i) brought about higher levels of growth of the industrial sector and (ii) reduced the states expenditures in health and education.

The scope of this paper is limited, as it focuses (i) on Brazil in the period from 1995 onwards, and (ii) on selected data. It is not intended to give any general rule about fiscal competition, but to test some usual assumptions about it.

The quantitative data used in this paper may be considered only a vehicle to improve the understanding about the fiscal competition in Brazil from the mid 1990s onwards in a more qualitative approach.

The work is structured in the following sections: (i) introduction; (ii) literature review on the impacts of fiscal competition; (iii) brief review of fiscal competition in Brazil; (iv) data analysis; and (v) conclusions.

2. Literature Review: The Impacts of Fiscal Competition

In spite of the large bibliographical production about fiscal competition, the subject remains controversial at the theoretical level, as well as at the empirical level.

There seems to be no consensus about the main impacts of fiscal competition, even when it is studied at a purely theoretical level.

Basically, the analyses address the following question: “are the benefits of attracting investments (i.e., their likely externalities) higher than the costs (i.e., the likely under provision of public goods)?”

There is no simple answer to this question.

The answer is affected by the assumptions (e.g., about the role of the government) as well as by specific context analyzed.

The point of view about fiscal competition is strongly affected by one’s view about the government itself - whether benevolent or not (EDWARDS; KEEN, 1996; OATES, 2001, p. 134).

Besides, there seems to remain ideological influences in the analyses, especially in the less academic views (but not only).

General definition: any form of noncooperative tax setting by independent governments (WILSON; WILDASIN, 2004, p. 1066)

Fiscal competition occurs in a situation in which each jurisdictional unit independently decides a tax or expenditure policy (FERREIRA; VARSANO; AFONSO, 2005, p. 296, p. 309).

Bidding wars: jurisdictions compete for discrete projects (“lumpy investments”) through auctions. Large firms are information monopolists and choose location based upon the bids offered.

Some sort of fiscal competition (or, at least, interjurisdictional competition) seems to be unavoidable in federative systems (DULCI, 2002, p.105; FERREIRA; VARSANO; AFONSO, 2005).

The focus in this paper is the competition for business investments (aimed to increase industrial production, and the level of employment and income within the jurisdiction).

2.1 Theoretical Approach

Recent reviews (e.g. WILSON; WILDASIN, 2004; FERREIRA; VARSANO; AFONSO, 2005) place the beginning of the formal debates about fiscal competition in the original works by Tiebout (1956) and Oates (1972).

Tiebout (1956): Competition among jurisdictions for households leads to an efficient provision of local public goods. Households “vote with their feet” by efficiently sorting themselves across jurisdictions, and local governments respond by tailoring their taxes and expenditures to the preferences of their residents (WILSON; WILDASIN, 2004, p.1067-8). The argument can be extrapolated to firms and their relationship with local governments. In short: positive view about fiscal competition.

Oates (1972): Fiscal competition leads to inefficiently low levels of taxation. As a result, public goods would be underprovided. Obviously, Oates (1972) assumes that governments are benevolent. According to his point of view, only in a few cases fiscal competition would increase welfare.

Zodrow and Mieszkowski (1986), and Wilson (1986): relatively simple, but formal models where fiscal competition is associated with (i) reductions in the public sector and (ii) transfers of public resources to private agents. Both models conclude that fiscal competition leads to: (i) distortions in the resources allocation; and (ii) underprovision of public goods.

Edwards and Keen (1996): The absence of fiscal competition leads to super-sized and inefficient governments (as there are no restrictions to its appetite for extracting resources from the private sector). Fiscal competition, then, could “tame the Leviathan”. Tax harmonization would be analogous to cartel formation.

The race to the bottom argument: Rodríguez-Pose and Arbix (2001): as a result of the asymmetric distribution of information among private and public agents, fiscal competition is a “strategy of waste”.

Ferreira, Varsano and Afonso (2005): from the standpoint of any particular state, granting fiscal incentives to attract investment seems worthwhile. Unless the beneficiary would choose to locate his business in the state even in the absence of the incentive, the amount of tax revenue forgone would not exist anyway. Plus, aside from their direct impact on production and employment, newly attracted firms induce additional economic activity, creating still more jobs, and income, and, of course, some tax revenue.

However, it has been already shown that attracting firms does generate fiscal costs (CAVALCANTE; UDERMAN, 2004). When other states replicate the experience, a destructive tax competition takes place – the fiscal benefit ultimately loses its power to induce relocation of production and the revenue vanishes in all states.

Ferreira, Varsano and Afonso (2005, p. 311): financially weaker states, which are less developed, become unable to provide services and public goods necessary to attract new business and the more developed states win all battles.

However, it is not necessarily true: more developed states would have to allow fiscal incentives to a much larger industrial basis; as a result, many times they cannot engage in the competition. Prado and Cavalcanti (2000, p. 93): as São Paulo concentrates more than 40% of the national industrial

production (hegemonic state), it faces more restrictions to compete for new investments through the fiscal incentives allowance. In brief, states are differently endowed to allow fiscal incentives

Zodrow (2001, apud FERREIRA; VARSANO; AFONSO, 2005, p. 302) identified mixed results (potential gains and potential losses from tax competition). Prado and Cavalcanti (2000): point out positive and negative effects.

In short: Fiscal competition (i) can restrict, on one hand, the capacity of regional governments to provide public goods; and/or (ii) can tame inefficiently big governments.

Besides, fiscal competition may have asymmetric effects for the country and individual jurisdictions: it can be harmful to the country, but can be useful for the states, especially in a situation of high inequality and low harmonization.

2.2 Empirical Approach

Data are not easily available and are kind of hermetic and confused.

Since there are not many federal systems where subnational governments have great freedom to set tax rates, the existing evidence pertains to a few countries. Most of the literature does not test the existence of tax competition, but the sensitivity of a given tax base to the level of the tax rate (FERREIRA; VARSANO; AFONSO, 2005, p. 305). The results vary widely, depending on the variables used and the period analyzed (ibidem, p. 307).

That explains why formal models have not yet been tested econometrically.

Cobb (1993): shows how Southern states in the US industrialized by allowing fiscal incentives. However, the title of his book suggests a negative view of the fiscal incentives (“the selling of the south”).

Baer and Miles (1999) argue that the industrialization of the southern part of the United States was strongly based upon fiscal incentives. These incentives, however, were mostly allowed at the federal level.

Luger (1987) tries to examine the effectiveness of a variety of incentives in attracting capital to the American states.

Greenstone and Moretti (2003) use a large database of counties to examine whether attracting a “one-billion dollars plant increases welfare”. Their conclusion: counties that succeeded (to attract plants) (i) not only present higher levels of welfare, but also (ii) present no evidence of deterioration of financial capacity of their governments.

In Brazil: Empirical analyses on fiscal competition in Brazil are controversial. On one hand, Brito e Bonelli (1996, p. 189), based upon Piancasteli e Perobelli (1996), argue that, as there is no evaluation of their costs and benefits, fiscal incentives allowance may lead to negative net result on the financial situation of the states.

On the other hand, several authors believe that investments attraction policies based on fiscal incentives allowance may lead to economic development and (Prado e Cavalcanti, 2000, p. 58; RODRIGUES, 2000, p. 129; ROCHA, 2004). Besides, giving the lumpy nature of the investment, during a boom, states that do not allow fiscal incentives are not able to take profit of these opportunities (Prado and Cavalcanti, 2000, p. 38-39). As Cavalcante and Uderman (2004) point out, the discontinuous nature of the opportunities of attracting investments make it hard to the state governments to know how far they should go in the negotiation processes.

Medeiros Neto (2003, p. 7) argues that, in spite of the problems associated to the fiscal competition, the absences of fiscal incentives allowance would lead to a re-concentration of the investments in the more development region.

3. Fiscal Competition in Brazil at a Glance

3.1 Historical Perspective

Taxation model in Brazil has two features directly associated to fiscal competition: the VAT is collected by the state governments (oppositely to the world pattern), and applies to production (PRADO; CAVALCANTI, 2000, p. 14)

The subject of fiscal competition was first reported in the 1960s (PRADO; CAVALCANTI, 2000, p. 7; MAGALHÃES, 2005).

However, it is in the late 1980 and especially in the 1990s that fiscal competition became more widely used (TENDLER, 2000; ROCHA, 2004; PRADO; CAVALCANTI, 2000, p. 17). The reasons for that:

- Legal environment: 1988 constitution endowed states and municipalities with higher levels of autonomy (PRADO; CAVALCANTI, 2000, p. 12).
- The absence of a national policy for regional development from the 1980s onwards (DULCI, 2002, p. 96-97).
- Monetary Stabilization and FDI Influx: from the mid 1990s onwards, state competed for large investments. (PRADO; CAVALCANTI, 2000, p. 8, p. 18-19; VARSANO, 1997; ROCHA, 2004).

3.2 The Nature of the Incentives and their Impacts on the Financial Situation of the States

Although generically called “fiscal incentives”, they can be segmented in:

- Fiscal Incentives: associated with tax breaks or the financing of taxes due by the private companies;
- Financial Incentives: credit programs at lower interest rates, either directly financed or “equalized” by the state;
- Budget Incentives: infrastructure provision, land and building subsidies, job training sponsored by the state and any other incentives that directly affect the state budget. (CAVALCANTE; UDERMAN, 2004).

Fiscal Incentives were the most largely used by the Brazilian states in the 1990s.

As Brazilian states cannot simply reduce their VAT taxes (because it would require unanimity in the National Fiscal Policy Council, where all states are represented), these incentives assume the form of:

- Financial Credit: the company pays the VAT and the state returns the payments in the form of working capital credit, creating a sort of triangular transaction. Legally stable, but generates high costs for the state government.
- Presumed Credit: states assume that raw-materials generate artificially high fiscal credits to the companies, reducing their VAT. Legally fragile, but low cost (MEDEIROS NETO, 2003, p. 4)
- VAT Payments Postponed: long terms and usually associated to discounts if payments are anticipated. Legally stable, low cost. Used only in the late 1990s and early 2000s.

In short:

- Oppositely of the naive argument that fiscal incentives are costless for the state (as it would be sacrificing taxes that would not otherwise exist), states incurred in fiscal costs to attract companies.

- The losses are not associated to the revenues, but to the expenditures (as the taxes are usually collected and than part of them returns to the firm in the form of financial credits).

3.3 States more Aggressively Engaged in Fiscal Competition

States presumably more aggressively engaged in fiscal competition:

- Brito and Boneli (1997, p. 190-207): RS, SC, PR, SP, RJ, MG, ES, BA, PE, CE, DF, GO: Southern, Southeastern regions, the three major states of the Northeastern Region plus two DF and GO.
- Rodrigues (1998): BA, CE, MG. According to Rodrigues (2000), SP, RJ, RS and PR also succeeded in attracting investments; however, Rodrigues (2000) does not necessarily associated their results to fiscal incentives allowances).
- Rocha (2004): BA, PE, CE. His focus, however, is only in the Northeastern region.
- Dulci (2002): in the automobile sector, PR, MG, BA, RS.
- Alves (2001): PR, MG, RS (estimates the costs associated to the attraction of automobile plants to these states).
- Cavalcante and Uderman (2004; 2005): BA, PR, MG, RS
- Magalhães and Siqueira (2005): PE had a relatively small and low cost incentives program.
- Holanda and Petterini (2005): CE aggressively engaged in fiscal competition.

This paper assumes that BA, CE, PR, MG, RS can be considered states very aggressively engaged in the fiscal competition that took place in Brazil in the 1990s because:

- These states attracted important investments through fiscal incentives allowance. Four out of these five states manage to attract large automobile plants, and Ceará is widely recognized for having attracted shoes, textiles and “linha branca”, not very large, but probably representative when compared to the local GDP and the state finances. Those projects also generate employments.
- Some of the most important cases were subject to legal queries.
- The attraction of these investments was clearly affected by the fiscal incentives allowance.

On the other hand, São Paulo has been considered a reference of a large state with low levels of fiscal incentives allowance because:

- It is the most attractive state of the country, because of its economies of agglomeration.
- Due to its large preexisting basis, São Paulo could not allow incentives to new investments without extending them to their competitors already installed in the state. This fact contributes to reduce its propensity to allow incentives.

Of course it does not imply that São Paulo did not engage in fiscal competition (usually quarreling against the states that allowed large incentives) and did not allow, in some cases, fiscal incentives. Even though, São Paulo might be considered a reference.

4. Data Analysis

To evaluate the costs and benefits associated to the fiscal competition, the performance of the states considered more aggressive were compared to the national average, to the regional average and to the state of São Paulo.

The expected benefits analyzed were higher rates of growth of industrial gross value added and industrial employment.

The likely costs would be associated with under-provision of public goods. Rates of growth of state expenditures in education, health and investments were used to compare the performances.

4.1 Expected Benefits of the Fiscal Incentives Allowed

Higher Rates of growth of Industrial Gross Value Added (1995-2003, IBGE data) and Industrial Employment (1996-2003, PIA/IBGE).

The industrial sector has been considered because of its higher mobility and to its higher sensitivity to reductions in VAT.

Our preliminary hypothesis: states more aggressively involved in fiscal competition grew at higher rates when compared with the national average, with the regional average and with São Paulo.

Calculations use extreme values, in order to benefit the more recent effects.

Industry (transformation) Rate of Growth 1995-2003

Estado / Região	Nominal Gross Value Added of the Transf. Industry (1995-2004)	VTI (Note 1)	Total Industrial Employment (1996-2003) (Note 1)
Brasil	15,52%	16,61%	2,47%
Brasil exceto BA, CE, MG, PR, RS	14,82%	15,51%	1,50%
BA, CE, MG, PR, RS	17,13%	19,52%	4,55%
SP	13,49%	13,04%	0,03%
Nordeste	20,38%	20,08%	4,33%
Nordeste exceto BA, CE	17,96%	16,69%	3,35%
BA, CE	22,44%	23,01%	5,74%
BA	24,19%	25,22%	5,67%
CE	16,57%	16,93%	5,81%
Sudeste	14,29%	15,09%	0,35%
Sudeste exceto MG	13,95%	14,62%	-0,13%
MG	16,27%	17,97%	2,63%
Sul	15,88%	18,86%	5,18%
Sul exceto PR, RS	16,03%	17,00%	4,72%
PR, RS	15,82%	19,47%	5,37%
PR	17,05%	21,94%	5,98%
RS	15,13%	17,62%	4,97%

Note 1: Data include mining.

Apparently, the states more aggressively engaged in fiscal competition had higher growth rates of their industrial sector. They grew at higher rates than the national average and than SP.

When the total industrial employment is considered, the evidences of a better performance of the selected states is even stronger. In fact, all of them presented, in the period between 1996-2003, higher growth rates of industrial employment when compared with the national average, their regional averages and SP.

4.2 Public Goods Provision

Two kinds: social expenditures (education and health) and “productivity expenditures” (likely to increase the competitiveness of firms installed in the state, as investments in infra-structure). Note: this paper focuses on expenditures and does not discuss the nature or effectiveness of the expenditures.

There are legal restrictions that directly bound social expenditures to tax incomes (receita tributária) and federal transfers (Fundo de Participação dos Estados – FPE).

Hypothesis: As most incentives do not affect VAT collection by the states (see section 3.2), the allowance of these incentives is not likely to affect the social expenditures (health and education). However, after the tax collection, there is a cash flow from the government to the firms. As a result, the incentives are likely to negatively affect other state expenditures (not bounded to tax income and federal transfers), as the investments, for instance.

In short: no trend is expected in social expenditures, but a negative association between allowing fiscal incentives and expenditures in investments is expected.

Social Expenditures

Rate of Growth of State Expenditures in Education and Health 1995 -2004

Estado / Região	Nominal Education (1995-2004)	Nominal Health (1995-2004)
Brasil	13,08%	18,20%
Brasil exceto BA, CE, MG, PR, RS	14,00%	18,12%
BA, CE, MG, PR, RS	10,97%	18,57%
SP	16,14%	15,70%
Nordeste	13,54%	19,44%
Nordeste exceto BA, CE	13,14%	20,81%
BA, CE	14,09%	18,12%
BA	10,54%	16,43%
CE	20,54%	23,65%
Sudeste	13,96%	17,29%
Sudeste exceto MG	15,40%	17,70%
MG	8,29%	17,72%
Sul	12,24%	22,65%
Sul exceto PR, RS	16,15%	21,09%
PR, RS	11,29%	23,28%
PR	7,53%	22,31%
RS	15,24%	24,13%

Education: five states (when aggregated) below national average and SP. Two out of five (CE, RS) above national average and 1 out of five above SP. In general, below the regional average. This behavior suggests that the states more aggressively engaged in fiscal competition presented lower rates of growth of their expenditures in education.

Health: oppositely to education, five states presented better indicators than the national average. Three out of five above national average. All of them above SP. In general, above regional averages. These results suggest that the states more aggressively engaged in fiscal competition presented higher rates of growth of their expenditures in health.

All in all, the performance is inclusive. No definite evidence of under-provision of public goods.

Productivity Expenditures

Investments

Estado / Região	Investments 2000-2004	Investments + Inversão
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Brasil	5,41%	7,42%
Brasil exceto BA, CE, MG, PR, RS	4,24%	8,34%
BA, CE, MG, PR, RS	8,55%	6,54%
SP	13,92%	1,10%
Nordeste	-1,86%	12,19%
Nordeste exceto BA, CE	-6,28%	13,88%
BA, CE	2,96%	10,89%
BA	0,80%	4,92%
CE	6,19%	25,93%
Sudeste	5,61%	5,43%
Sudeste exceto MG	2,61%	4,10%
MG	22,91%	23,13%
Sul	11,60%	1,74%
Sul exceto PR, RS	26,45%	20,57%
PR, RS	7,65%	-2,45%
PR	9,35%	-1,69%
RS	5,55%	-2,60%

Unfortunately, the data on investments (disaggregated) are available just from 2000 on. These data suggest an unexpected behavior, as most states aggressively engaged on fiscal competition actually presented higher rates of growth in their expenditures in investments when compared to the national average.

Probably, the volume of the incentives is not big because it is diluted in time. These is an interesting theme for further investigation. An interesting hypotheses is that, in spite of the large incentives, their annual value is not representative when compared to the total revenues (ex: incentives given to Ford in Bahia (\$2000) – 2,4 bi (CAVALCANTE, UDERMAN, 2004; 2005) Divided by 15 years, o,17. Total revenue in Bahia 2000, R\$ 6 bi

5. Conclusions

The states that aggressively engaged in the fiscal competition in fact had, in general, higher levels of growth of their secondary sector.

No clear evidence has been found that the allowance of fiscal incentives jeopardized the local expenditures in health and education. This is likely to be associated with legal restrictions that establish floor limits to social expenditures.

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