

**Participatory Budgeting and Local Governance:
An Evidence-Based Evaluation of Participatory Budgeting Experiences in
Brazil***

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Abstract

This paper intends to contribute to the governance literature, relating experiences of Participatory Budgeting (PB) in Brazil to the incidence of infractions to public sector management regulations at the local level. The basic idea is to compare similar counties with and without PB experiences in order to check whether some widely accepted statements about the potential effects of PB find support in the data. In particular, these claims associate the implementation of PB with improvements in governance indicators, such as lower levels of corruption and better public management and public service delivery. The results suggest that, on average, counties where PB polices have been implemented are better managed and have recorded fewer irregularities than similar counties without PB, when considering the overall number of irregularities and their seriousness.

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1. Introduction

In recent years, governance and decentralization have raised to the top of the development agenda of multilateral institutions and national governments around the world. Decentralization is believed to be one of the ways of improving governance, understood as a reduction of corruption and other arbitrary government interventions and promotion of efficient public service delivery. An improvement in governance in turn is deemed important for tackling poverty and underdevelopment (Chetwynd, Chetwynd, and Spector, 2003; Kaufmann, Kraay, and Mastruzzi, 2003; Wescott, 2000).

However, whilst there are few (if any) doubts about the importance of good governance for development, the effects of decentralization on governance remain controversial (IPD, 2003). This view seems valid also for Brazil, where the decentralization process has achieved an unprecedented level in recent years (Souza, 2001).

In this paper I argue that Participatory Budgeting (PB) is a stage of further decentralization. While decentralization is usually referred to as the transfer (or devolution) of responsibilities and resources from central to local governments, PB can be seen as a transfer of decision-making powers from public administrators to the public. Under PB, citizens are empowered to deliberate part of the resource allocation in their communities while the role of politicians is reduced to executing the resulting budget.

In contrast to the literature on within-state decentralization, however, the PB literature is predominantly enthusiastic about its performance and its relation with better governance. According to scholars, politicians and members of organized civil society such as NGOs, PB is a powerful instrument to improve governance. Some of the acclaimed results of PB experiences are as follows¹:

- Better accountability
- Lower levels of corruption
- Improvement of public service delivery
- Reversion of priorities/ pro-poor policies
- More social justice/redistribution in allocating resources
- Efficiency gains and more rational administration

This assessment of PB's success is based on several methods. Some authors focus on the high levels of attendance to assemblies and the effective implementation of projects suggested by its participants, among other related factors. Others mention the

¹ See for example Souza (2001); Azevedo (2003); Navarro, (2001); Ackerman (2003); Cabannes (2004); World Bank (2004).

“greater general administrative rationality and efficiency (...) but also more social justice when allocating public resources” (Souza, 2001; p.177).

While the reversion of priorities towards greater provision of public services in poorer areas is visible in many towns with PB (Baiocchi et al., 2004; Navarro, 2001), it remains unclear whether other claimed administrative improvements, such as efficiency gains and lower levels of corruption were achieved through PB because these types of improvements are hard to measure. For instance, the most known corruption measure, the Transparency International Index, is not available at the local level. In addition, the efficiency of local governments has not been appropriately explored in the literature about Brazilian counties and is worth studying in its own right.

Similarly, the literature has provided reasonable arguments to support the claim that PB improves accountability, but it has failed to provide accurate evidence of its success in such areas, at least in concrete terms. One way to address the question of whether PB affects local governance in Brazil is to develop a reliable measure of governance that is comparable at the local level.

This paper contributes to the discussion on PB effectiveness by constructing such a measure based on government audit reports produced by the Brazilian General Comptrollers’ Office, the CGU. It is argued here that violations of public management regulations revealed by auditors in the course of their investigations offer a measure of governance quality in Brazilian counties that can be used for comparative performance assessment.

Participatory Budgeting can be analysed using a range of quantitative and qualitative methods. As in Baiocchi et al. (2004), I decided to use a combination of quantitative information about some financial indicators of local public administration with more detailed information about the nature of the offences found. The quantitative information is used as a *proxy* for the effectiveness of the implementation of PB, while the information about the offences should indicate in what measure the existence of PB means improvements on governance. These points will be detailed on next sections.

In agreement with the literature, I assume that when PB mechanisms work effectively. If so, problems such as poor service delivery, waste of resources and problems in public works should not be found because the PB assembly enable citizens to complain about problems and also to suggest and vote for changes.

Essentially this paper assesses whether PB policies effectively work by comparing counties that are similar in terms of some socio-economic indicators, but for the existence of PB experiences. The crucial hypothesis is that the differences found concerning the governance indicators should be due to the existence of PB.

The next section offers a brief discussion about general concepts of citizen participation. Section 3 presents the rudiments of PB process and a literature review about PB in Brazil. Section 4 describes the evaluation strategy and the data organization. Section 5 presents the core of the empirical analysis and its results. The final section presents the conclusion and some policy implications.

2. Citizen Participation: The General Idea

The idea of direct public participation in local government decisions is far from new. In countries such as the UK (Feltey, King and Susel, 1998; Gyford, 1991; Lowndes et al. 2001a and 2001b), Germany (Dienel et al. 1993) and the USA (Burns et al. 1998), there are countless examples of consultation and other ways of public involvement in decisions concerning transport, urban planning or the environment, for example.

There is a wide range of consultation/participation methods and the applicability of each method depends, among other factors, on the policy to be discussed and the target population². The costs of each method may also vary and this is a relevant variable to take in account (Martin and Sanderson, 1999; UN-Habitat, 2004; Aragonés and Sánchez-Pagés, 2005).

For consultation only purposes, surveys and referenda may be appropriate methods. The cost is relatively low and it is appropriate for specific queries. Internet consultation is a very cheap method and allows to explore a wider range of topics than referenda, for example. However it might be extremely biased since it excludes non computer-users (Leach and Petts, 2000; Chadwick and May, 2003).

Public assemblies are an effective method for discussing neighbourhood issues. The interaction between residents through face to face debates can lead to an effective agreement on common demands. When there is also direct contact with the local government staff, the gap between demands and possibilities can be bridged. Most of PB experiences rely on assemblies as the consultation method.

The increased interest in participatory experiences in recent years is reflected in many ways (Jones, 2002). Besides popular demand for participation and academic papers about it, there is also the institutional and financial support for the development of participatory mechanisms. Institutions such as the World Bank, UNESCO, the United Nations, and the UK Department for International Development (DFID) have been deeply involved in several phases of the participatory processes.

The assessment of whether participatory policies are spreading and increasing in importance at local level due to top-down initiatives or bottom-up demands is a tough task, especially because there are many reasons behind both movements. On the one hand, local governments may adopt consultation, for instance, as a way to improve service delivery or to fill the democratic deficit and the discontinuity of democracy (Schugurensky, 2004; Barnes et al., 2003). On the other hand, the local population may demand participation because it would be a tool to overcome the distrust in public officials and decision-makers (Frewer and Rowe, 2004; Leach and Petts, 2000).³

² It also depends on the extent to which policy makers are willing to share their power with the population.

³ Although it is an important question, the detailed discussion of the reasons for the increasing importance of participatory policies at local level is beyond the scope of this work. See Souza (2001), Navarro (2001), UN-HABITAT (2004) and World Bank (2004) for a further discussion. The distrust in public officials may also be a reason for *not* participating (Lowndes et al, 2001b).

But, whatever the reason, it is clear that multilateral institutions, governments and especially academics are enthusiastic about PB. Some of the attributes usually associated with it are the possibility of improving (Martin and Sanderson, 1999; Audit Commission, 1999; Lerner and Wagner, 2006; Donnelly-Roark, Shah, Tikare and Youssef, 2001):

- (i) the legitimacy of decision-making process;
- (ii) the population feedback about public policies and services;
- (iii) services monitoring;
- (iv) the communication channels between public officials and the “clients”;
- (v) the quality and the reliability of the information about the public needs and wishes.

However, critics argue that public participation in decisions at local level represents a threat to the decision power of elected representatives (Aragones and Sánchez-Pagés, 2005). The manipulation of assemblies by the mayor is another possible problem. Politically able mayors may be able to organize the assemblies in a way that the decisions, apparently taken by the population, meet the mayor’s political objectives. The experience shows that PB can be an instrument to circumvent non-aligned councillors. In other words, projects that would not be approved by opposition local councillors could be approved by PB assemblies if the mayor is able enough. In this case, PB would work as an instrument at the hands of the mayor to disempowering local councillors (Souza, 2001; Wagle and Shah, 2003; Azevedo, 2003).

To some extent, such concerns may be related to other problems of a similar nature recorded in Brazil. Many federal programs run by local government require the existence of local community councils (Souza, 2001). These councils must be composed of local citizens and civil servants. Their main tasks are to account for the federal money spent by the local government and monitor service delivery. However, there is an imbalance between (social and individual) rewards and responsibilities⁴. The participants in these councils are nominated, must meet regularly to deliberate about several issues, and assume responsibilities for these decisions⁵. Papers must be signed and reports must be written. Not surprisingly then, just a small number of volunteers are found for these community councils⁶. As a result the mayor very often manages to dominate the choice of the members of the council and, in practice, the councils are turned into an extension of the city hall (Litschig and Zamboni, 2006).

In contrast, the specific responsibilities for the decisions in PB assemblies are shared by a higher number of participants than in local community councils and only in further stages of the process⁷. Besides, people tend to be more interested in policies such as public works that affect directly their neighbourhoods than in continued

⁴ As it is a non-paid job, social and individual rewards come as indirect benefits. For the individual, her job may improve her life quality as the services which she is working to improve may be available for her and her family. Even when the individual is not benefited, the social prestige associated to the work performed should work as a form of reward.

⁵ The names of appointed citizens are published in the local government Official Press.

⁶ Barnes et. al (2003) develop an interesting investigation about the reasons that make people take part in participatory forums in the UK.

⁷ In the first two or three rounds of general assemblies, the participants are, in practice, anonymous. There are no documents to sign, the individual is not required to attend the assembly and active participation in the deliberative process is optional.

policies, such as education and health provision⁸. In this respect PB assemblies are clearly more attractive than the community councils and any sort of manipulation by the mayor is considerably less likely. Furthermore, in most experiences of public participation its scope is limited to specific questions or areas, leaving the core of the decision making process to the local parliament (Azevedo, 2003; UN – HABITAT, 2004)⁹.

However, consultation or participatory mechanisms aren't perfect. Several implementation problems may arise during the process and may undermine the benefits if not properly tackled (Jones, 2003). Depending on the mechanism characteristics some selection bias of the participants is nearly unavoidable and minority and/or underpowered groups can be excluded from the process (Barnes et. al, 2003). The costs of participating in assemblies or other methods of participation may vary for different individuals and for this reason it may exclude other citizens as well. Besides, skilled speakers and politically able members of the public may dominate meetings resulting in biased outcomes (Leach and Petts, 2000; Baiocchi, 1999). At the same time, the use of bureaucratic language might exclude some people from the decision process. However, in many cases such as in Porto Alegre, the city hall provides explanations about the budget process to the population before the deliberation stages of PB process (Souza, 2001).

In order to overcome such difficulties, a proper choice of the participation method is essential to reconcile public demands with government possibilities (Frewer and Rowe, 2004; Leach and Petts, 2000; Heimans, 2002)

⁸ This argument follows the idea of Souza (2001). She argues that “communities tend to stop participating once their demands are met” (page 21).

⁹ It doesn't mean, however, that politicians lack enthusiasm about PB. The scope of PB is usually limited because the original concept of PB is to let the population decide about issues concerning their neighbourhoods.

3. Participatory Budgeting in Brazil: origins and basic concepts

Origins of PB in Brazil

In Brazil, participation in local government decisions is a recent phenomenon. Some of the first attempts at local participation were made during the military dictatorship government in the 1970's as a way to pressure the central government for democracy. These experiences had, however, short duration and didn't have any identifiable common pattern. Souza (2001) is a useful reference to better understand the historical context and the evolution of PB in Brazil. She develops a comprehensive analysis of the antecedents to, and the first experiences of, Participatory Democracy in Brazil, during the 1970s and 1980s. She also discusses the antecedents of the decentralization process, especially after the 1988 Constitution, its consolidation and relationship with PB experiences.

The PB experiences as we know them today took place during the early years of the democratization process, after 1985. In this year, several politicians related to the civil society movements demanding democracy were elected mayors. They faced centralized decision-making budgeting structures, and strong ties with central and state governments. In some measure, this is still observable today (Souza, 2001).

In Brazil the budgeting process, in any level of government, is initiated by the executive branch. As in state and central government levels, the local budget or the budget bill is elaborated by technicians, following the instructions of the chief of the executive branch. Then it is sent to the local parliament (council), which will transform it into law, usually after amendments.

In this process the population has limited opportunities to express themselves about the way public money is used. Essentially, only a limited number of pressure groups such as NGOs, workers' unions and other members of organized civil society effectively manage to influence (always indirectly) the budgeting process. For the majority of the population, in practice there is only one opportunity every four years (in the elections) and only one message to send: approval or disapproval. This is particularly true at state and federal levels. But even at the local level the communication channels between citizens and their representatives are weak (Wampler, 2000; Heimans, 2002, World Bank, 2004).

In many Brazilian towns, introducing PB meant dismantling an over 20 years old structure of interrelations between politicians, civil servants and local elites and breaking their mutual reward schemes. The basic idea of the first PB experiences (and today's experiences as well) were to close the policy delivery or implementation gap from its very beginning, avoiding spurious intermediate channels. (Baiocchi et.al., 2004; Ackerman, 2004)

The general *modus operandi*

As with the previously mentioned experiences of public participation in local government decisions, the first PB experiences didn't have a well conceived and structured model based on a solid theoretical background (Navarro, 2001). In fact it

was more likely a learning-by-doing process than the implementation of a solid strategy (Etapas, 2003).

Since the beginning of the first PB experiences, three phases in the general structure of PB processes can be clearly distinguished: information, projects discussions/voting and implementation (Sanchez-Pages, 2005)¹⁰. This structure is still found in most of the more recent experiences.

In the first stage, the population is called to participate in policy planning, choosing how to apply part of local government budget directly, through open assemblies. In this stage the participants are informed about the budget process, resource availability, the limits and possibilities of the city hall in financial, operational and institutional terms (Wampler, 2000; Souza, 2001; Navarro, 2001).

In the projects discussions/voting stage, with this information on hand, the assembly's participants discuss, based on the community's demands, what projects and programs and public works should be implemented. Later, also in this stage, the technicians from the city hall play an important role. It is their duty to debate the projects with the population then advise the assembly's participants how to spend the money wisely (Avritzer, 1999). The technicians have the relevant knowledge about the several aspects of each specific project approved by the assembly, and are able to assess their viability.

In the third and final stage, the projects approved by the assemblies are implemented. Then a group of delegates, elected in the assemblies, are responsible for following the steps of projects' implementation. The delegates control project implementation and report progress of public works to the assembly¹¹. Delegates check the entire process, from procurement procedures to the quality of the public work or service delivered. This public accountability system is thought to be a key factor for effective and efficient policy delivery (Sanchez-Pages, 2005; Souza, 2001; Heimans, 2002).

Claimed results and strengths of PB

As mentioned earlier, participatory policies have a substantial number of supporters and critics. However, considering the existing literature, it is clear that the first group easily outnumbers the second. The majority of recent studies about PB in Brazil have focused on the Porto Alegre (POA) experience mostly because of its continuity and data availability. It is also considered the most successful one. This statement is usually based on the four consecutive terms of the Worker's Party (PT) in command of the local government following the implementation of PB¹².

In fact, several remarkable results achieved by PT's administration are observed. The reversion of priorities into pro-poor policies and increased social justice brought about

¹⁰ This division takes into consideration only the stages where the city hall effectively takes part in the PB process, and was employed here to simplify the analysis. Before these three stages there are some "preparatory meetings", without the participation of the city hall.

¹¹ For a more detailed description of the *modus operandi* of PB, please refer to the references mentioned in this section.

¹² This sequence electoral successes was interrupted in 2004.

by these changes in resource allocation are pointed out by Souza (2001), Baiocchi et al. (1999; 2004), Navarro (2001), Avritzer (1999), Blore, Devas and Slater (2004) and Cabannes (2004)¹³. Such claims are properly supported by available evidence.

Other important achievement recorded by some counties which implemented PB is the increase on the revenues from local taxes collection. Such situation is possible essentially in three non-excludable situations: rising taxes, reducing fiscal evasion or when external factors, such as an increase on the price of proprieties, holds¹⁴. As this last case was not verified, PB counties managed to raise taxes and/or tax residents which weren't charged or were under taxed so far. In other words, these counties had taken very unpopular decisions in order to improve their financial situation. In POA and Belo Horizonte this had happened for several years (Souza, 2001).

The improvement on accountability is another acknowledged strength of PB experiences. Ackerman (2003) claims that PB is "one of the most effective ways to improve accountability and governance" (p. 448). He also claims that PB structures reduce corrupt behaviour, reduce the political use of public funds and limit state capture. The World Bank (2004) considers the PB experience in POA as an example to be followed. More specifically, it is referred to as a successful experience of the "state-society synergy for accountability" (pp. 21). But, the role played by the society in improving accountability, claimed as one of the main strengths of PB, is a subjective conclusion not based on any sort of data or other reliable and comparable source of information.

Moreover, it is not advisable to make general statements about the benefits of PB based on a single successful case. Even if we take into account the papers about PB in Belo Horizonte, in Minas Gerais state and other counties in Sao Paulo state (Acioly, et al., 2002; Carvalho, et. al. 2002; Teixeira, 2002) the evidence base for the success of PB is still relatively limited. In order to check whether the enthusiastic views about PB find support in the data, a more comprehensive analysis involving a higher number of observations both with and without PB is required.

Related work

Of all the related papers about PB the work of Baiocchi et al. (2004) is the closest to the focus and approach of this paper. They develop a two-stage empirical analysis, aiming to evaluate the impact of PB in Brazil.

In the first stage, they consider the total 5,500 Brazilian counties to find the factors that are associated with the introduction of PB experiences. The Ordinary Least Squares technique is one of the statistical methods employed. For the first stage, PB is an outcome "explained" by a wide range of cross-section socio-economic data and indicators. These authors find that PB is more likely to be adopted in counties where the PT party had won the elections and in richer towns with greater income inequality. They argue that the presence of inequality "serves as a motivating factor rather than a constraint" to the adoption of PB. They also find associations between PB and higher

¹⁴ Propriety taxes are one of the most important locally collected taxes in Brazilian counties.

proportions of the budget spent on health, sanitation and housing. However there is no assessment of the effectiveness of such policies under PB.

In the second stage they analyse 10 matched pairs of towns using in-depth methods to isolate the effects of PB and to understand its mechanisms. In this case, PB is a treatment variable. The rule used to match towns was based on the 1996 election results and is essentially related to political variables. They compare counties where the PT party won with others where it lost, both by a tight margin of votes. They test for differences that both counties have similar economic, political and social characteristics that are related to the adoption of PB experiences. The difference in outcomes would then be attributed to the adoption of PB.

The actual “empowerment” or effective participation of the households on the budgetary process is one of the concrete outputs evaluated. They call it “participatory governance” and its assessment is based on questionnaires with key actors, or “informants” of local government and civil society. One of the main results is that the PB experiences make a remarkable difference on participatory governance, although the results vary within PB counties.

4. Evaluation Strategy

The main idea behind the evaluation strategy used here is to construct a counterfactual of PB experiences based on objective governance indicators. As in Baiocchi et. al (2004), the approach compares governance measures in counties where the treatment variable (in this case, PB) is present with other similar counties, that have not implemented PB and are used to impute counterfactual outcomes.

In formal terms, the procedure considers a variable of interest Y and a treatment status W_i . W_i can assume either 0 or 1, but never both. Zero denotes absence of treatment, in our case absence of PB, whilst one denotes the opposite. Therefore, $Y_i = Y_i(W_i)$, will be the outcome of the variable of interest (e.g. a governance index) when the treatment variable (e.g. PB) is present or not in county i . The question of interest concerns the difference between $Y_i(1)$ and $Y_i(0)$. However, for a county with PB, only $Y_i(1)$ is observed, while the counterfactual outcome, governance in the absence of PB for the same county, $Y_i(0)$ is not observable and needs to be estimated using the outcome in a similar county. Assuming that the only relevant difference between PB and non PB counties is their treatment status, any difference between the estimated outcome and the actual outcome could then be attributed to PB¹⁵.

To be comparable, counties must be similar in those dimensions that also influence governance, and the assessment of this similarity requires a matching rule based on observable variables. The choice of population, voter turnout and the presence of the seat of a judiciary district are based on the results by Litschig and Zamboni (2006). Using the same audit reports that I deploy in this study, they find that these variables were the most relevant in explaining variation in the number of offences found by auditors in the course of the Random Audits program. For instance, they found that counties with local judiciary presence had recorded on average 15% fewer irregularities than similar counties without such presence. If the matched non-PB

¹⁵ See Imbens (2004) for a survey on estimation approaches using the potential outcomes framework.

counties systematically differed from PB county in any of these respects, the estimated PB effect would be biased. Therefore, the matching requirements are that counties have approximately the same population and voter turnout in 2000 elections¹⁶. Additionally, when the PB county is the seat of a judiciary district, the matched-pair county must also be.

As governance indicator, the number of irregularities found is the more direct choice. It captures several dimensions of the performance of the local public administration, from the respect to administrative rules to the quality of service. However, in order to avoid bias in the analysis, one needs to scale the number of irregularities by relevant variables. The seriousness of irregularities adds crucial information because irregularities may be different in nature and in consequences for the service delivery. Weighting also by R\$ audited and by the number of civil servants adds reliability to the results¹⁷. As population is the main indicator for one of the matching rules, judiciary district seat, it should be included as well.

Additional outcome variables

Besides the scaling variables, other indicators concerning administrative and financial matters add relevant information to the analysis. The variables included are:

- Own revenue collection
- Spending on public capital

As mentioned, the level of own tax revenues is an acknowledged feature of PB administrations, and a decisive factor for their success in some counties. Since I lack information about the effectiveness of the implementation of PB on the selected counties, the level of own taxes revenues is used here as a *proxy* for this information. The hypothesis is that in counties where the revenue from those taxes rose after the implementation of PB is an indication of its effective implementation.

A similar idea holds for the spending on public capital. As investment in public works is one of the strongest demands observed on PB counties, raises on such spending may indicate effective implementation of PB policies (Souza, 2001). In order to partially avoid bias on this analysis, the level of spending on public capital is measured subtracting the central and state government transfers¹⁸. In doing so, the improvement on capital spending is likely to be result of the raise of own revenues and/or improvements on local government financial management, which is also associated to the implementation of PB policies.

While I acknowledge that the analysis of these variables may be insufficient to conclude about the effective implementation of PB, there is no doubt about their importance on the implementation of its policies. In the literature about PB, own revenues are, in many cases, the main (in not the only) source of resources available

¹⁶ By approximately, I mean that the population of one county is never higher or lower than 20% of the population of the other county. Therefore, just one county of the 20 analysed here is 20% more populous than its match, all others such difference is lower than 10%.

¹⁷ I develop this point in the section “hypothesis and concerns” below.

¹⁸ Most of those transfers are for public works such as building schools, bridges, hospitals and so on.

for implementing the demands from the population which attend to the assemblies (verificar citações).

4.1 The Random Audits Program and the choice of matches

The PB counties analysed here were picked from a set of 561 counties selected randomly during 2003 and 2004, in one the first 12 rounds of the Random Audits Program¹⁹. This program represents an important change of focus compared to previous auditing practice by the CGU. Instead of the traditional auditing eligibility criteria, such as risk profile evaluation or relevance of the governmental programs in monetary terms, the Random Audits program directs its attention to the smallest political division of the national territory, the counties. In practice it means that instead of auditing specific governmental programs, eligible according to traditional audit techniques, the auditors now target all programs running in a certain portion of the national territory, and the selection of these areas is random²⁰.

Counties are sampled with the same machinery used for the most popular and reliable public money lottery in Brazil. Currently 60 counties are selected each round. Once the sampling is completed, the CGU headquarters in Brasilia lists the programs running in each selected county and the federal resources transferred within the previous two years. All the programs running jointly by federal and local governments are eligible to be audited²¹. The direct transfers to citizens, usually conditional cash transfers, and other negotiated transfers (for building a bridge or buying new hospital equipments, for example) are also eligible for inspection by CGU auditors.

The fieldwork is performed *in loco* by auditors sent from the CGU branches in each state capital. They take on average two weeks to check all contracts, interview citizens, local managers and staff, and to assess selected aspects of the quality and effectiveness of public service delivery. As a result, a detailed report is written including the evidence collected in the course of their investigations.

For the purposes of this paper, these audit reports are the source of information regarding the level of compliance with public sector management guidelines and legal requirements at the local level. The reports were analysed in detail and reported irregularities were classified into different groups relating to different stages of public service delivery. This procedure is explained in detail on next section.

Considering the 2001-2004 term, 177 out of the 5,560 Brazilian counties adopted PB, and 16 of the 561 sampled by CGU during this period adopted PB²².

Another data restriction was that only 5 out of 26 states have had counties with PB experiences over the period studies here. Moreover, some audited counties couldn't

¹⁹ As of June 2006, 21 rounds have been performed, but due to a data processing lag, the database used here considers only the 12 first rounds.

²⁰ For a more detailed description of the Random Audits Program, see Litschig and Zamboni (2006). In Portuguese, refer to Resende (2004). Other information can also be assessed on CGU webpage (www.cgu.gov.br).

²¹ Usually the federal government is responsible for the policy design and financing. Local governments run the programs and in some cases must also finance a small part of the program (about 10%, depending on the program).

²² The list of the PB counties was supplied by Ana Claudia Teixeira, from the Instituto Polis.

be matched due to the lack of a county in the same state that would meet the matching criteria. For example, Betim (Minas Gerais state) had 335 thousand inhabitants in 2000. The closest match has less than half of this population.

Apart from these problematic examples, the remaining 10 matched pairs are reasonably similar, as shown in table 1 below:

Table 1 Matched counties²³

County	Voter Turnout (%)	Number of civil servants per capita	Civil Servants wages (R\$/Year)	Illiteracy rate (%)	Population with 11 or more school years (%)	Per capita income (R\$)
Caieiras (*)	91.02	12	18,883	10.05	6.82	287.79
Matao	89.70	21	12,847	13.19	7.41	273.71
Ilha Solteira (*)	82.08	46	13,240	7.11	16.18	339.69
Ilha Bela	85.04	30	13,312	16.61	7.99	246.26
Ribeirao Corrente (*)	97.12	44	11,282	17.35	2.61	158.43
Orindiuva	88.38	36	12,248	12.49	5.85	245.31
Sumare (*)	88.67	12	19,718	12.69	4.56	242.38
Sta. Barbara D'Oeste	89.42	16	15,652	9.84	5.82	264.92
Sao Caetano do Sul (*)	92.36	19	26,106	5.62	26.51	568.72
Ferraz de Vasconcelos	87.48	5	12,206	12.27	4.11	206.69
Avare (*)	86.23	20	10,661	11.49	12.08	277.23
Itapira	91.19	30	11,989	14.02	8.03	288.48
Nilopolis (*)	87.74	23	7,010	5.83	8.76	215.98
Teresopolis	88.23	25	11,682	16.42	11.33	233.98
Armacao dos Buzios (*)	88.27	57	13,220	17.50	9.97	222.17
Pinheiral	88.42	34	10,161	12.18	8.79	172.50
Barbacena (*)	88.45	16	17,011	11.75	11.10	193.40
Itabira	90.19	20	20,101	14.10	6.42	206.20
Alvorada do Oeste (*)	77.03	31	4,468	25.52	1.61	77.96
Cerejeiras	80.30	27	7,596	20.26	2.88	156.28

4.2 The analysis of the reports, hypothesis and concerns

Analysis of audit reports

The qualitative analysis requires a classification of irregularities. There is no doubt that small and almost harmless offences, such as failure to comply with some formal procedures cannot be compared to waste of resources and public money embezzlement due to shirking and corrupt practices, respectively. The irregularities were classified into four groups or levels of seriousness, as a way to distinguish such situations:

²³ (*) represents the PB counties.

MF – Minor Faults: to this group belong the formal and other irregularities that don't represent immediate threats to the quality or quantity of public services delivered.

Example: The federal government had financed the purchase of a new ambulance to a local hospital and a contract was signed. According to the contract, the local government is supposed to print on the external body of the ambulance a phrase acknowledging the sponsoring. The local manager had failed in doing that.

M – Mismanagement: here are listed the cases of shrinking, bad administration and non-compliance with those rules deemed essential to good service delivery. The waste of resources and/or the poor service delivery is clearly characterized in the report, but the violation does not appear to be related to an attempt to misuse public office for private gain.

Examples:

1) The local government received a certain amount of money to provide students' meals. The auditors found some schools where students have not been fed for an entire week, despite the fact that money was available in a current account.

2) In some health care units there are more doctors and nurses than necessary, while at the same time other units in the same county are under-staffed.

G – Gray Zone: in this group are the occurrences of mismanagement that cannot be clearly classified as corruption. As in the previous category, the waste of public funds is clear, and some important regulation was violated, but it is not clear whether there was misappropriation of public resources. However, the rules violated represent an "open door" to corruption, in a sense that (the violation) is a necessary condition or step for corrupt procedures, but there isn't enough evidence of that.

Example: In a procurement process at any government level, the manager is supposed to announce the essential information about the tender in at least one mayor daily newspaper at the state level. The manager only announces in a small local newspaper or doesn't announce at all. In such cases, although there is no clear evidence that it was an intentional action to benefit someone, it clearly undermines the competition of the procurement process, since some competitors may not be informed about it, and someone can improperly profit from the situation.

C – Corruption: clear evidence of misuse of public office for private gain. Analysing data, documents, checking facilities and interviewing staff, the auditors conclude that there was money embezzlement, diversion of funds (what's the difference?) or fraud in procurement procedures, among other equally problematic situations.

Examples:

1) The auditors found that the local government have paid for a road surface dressing that was never done.

2) *The auditors found evidence of simulated procurement procedures. The same firm has won several bids, competing against non-existent firms (ghost firms). These fake firms were created just to simulate the required competitiveness of the procurement processes.*

In many cases there is overlap between these categories, that is, the irregularity recorded belongs to somewhere between two of the categories. The most frequent overlap is between the Gray Zone and Corruption categories. This happens because in some cases the auditors found a complete set of indications/clues of corrupt practices, but the conclusive proofs would require further investigations. Other overlap is between the Mismanagement and Gray Zone categories.

To be comparable within counties, the seriousness of the irregularities measured according to the classification above must be weighed. For each category, it will be attributed a number, from 1 to 6, with 1 for the less serious irregularity to 6, the more serious. Therefore each minor fault is weighted by 1, while the occurrences of mismanagement by two. The subsequent classifications are weighted by 3,4,5 and 6 points respectively. This weighting criteria has comparative/illustrative propose only. It doesn't mean that an occurrence of corruption is 6 times more serious than one minor fault. The idea is to do not count one occurrence of corruption in a same way as counting cases of mismanagement, for the reasons explained above.

Hypothesis and Concerns

At this point there are some important assumptions behind this classification worth mentioning. First, I am assuming that the rules against which compliance is checked by auditors make sense. That is, these rules are assumed to serve a legitimate purpose in a reasonable way, rather than representing mere inefficient red tape. Second, I assume that a higher reported offence rate reflects a higher propensity of county officials to commit irregularities rather than more intensive reporting. As a proxy measure for depth and extent of the audit I scale irregularities by the R\$ amount audited, by population and by the number of civil servants (Litschig and Zamboni, 2006)²⁴.

Some of the problems reported by auditors may be related to lack of capacity, in terms of financial and/or human resources rather than shrinking, incompetence, or deliberate malfeasance, as in cases of corruption. One could argue that in such situations the local manager should not be blamed for not complying. However, it is important to stress that the auditors check for programs and public works run by local managers using money sent by the central government. When the lack of resources is due to the failure of the central government in sending resources to the local government, it is not considered a violation for the present analysis. In other words all the reported problems here are faults which responsibility is due to the local government.

It also important to acknowledge that there is an unavoidable level of subjectivity in the coding and classification of irregularities. The definition of the categories is arbitrary and the inclusion of one irregularity in say, the Gray Zone rather than in

²⁴ Scaling by the number of potential offenders is standard practice in the crime literature. See Rubin, Shepherd and Dezhbakhsh (2003) for a discussion on this point.

Corruption category could certainly be contested. However these problems are likely to be of marginal importance since the classification of irregularities is the same for similar problems in different counties. Furthermore, the assessment of governance is may also be performed considering other aspects of public management, using for instance the number of irregularities weighted by number of civil servants or number of residents. Therefore the reader will be able to make her own judgement weighting these variables according to her preferences.

Ideally, the counties should also be similar in other socio-economic indicators, such as the per capita income, local government revenue and even distance to the state capital. Maybe most importantly, counties should be similar in terms of governance indicators in the pre-PB period. Since I lack such measures there is a concern that past unobserved governance affects the likelihood of adopting PB, in which case comparing governance across PB and non-PB counties in the current period is unlikely to be informative about the effect of PB. For example, PB may have been systematically introduced in response to particularly bad governance conditions in the past. If governance is relatively constant over time, PB counties would be associated with worse governance today compared to non-PB counties *even if PB in fact improved governance*.

While I acknowledge the endogeneity of PB as a serious challenge for the interpretation of differences in governance across PB and non-PB counties, I think that matching counties on voter turnout in the pre-PB period somewhat mitigates the potential bias. The reason is that voter turnout in 2000 is likely to at least partly reflect voters' satisfaction with governance in the preceding administrative term. This means that voter turnout can serve as a reasonable proxy for past governance and matching counties on voter turnout should thus control for past governance at least to some extent. It worth mentioning that voting is mandatory in Brazil, although the sanctions for not voting are relatively mild.

In addition to the variables considered here it is worth mentioning that there are other aspects that may influence the performance of PB policies in different regions of the country or even within a state. Some of these aspects are captured by in-depth analysis such as in Baiocchi et. al. (2004)²⁵. They investigated the relationship between a set of political indicators and the occurrence of PB. The existence of organized civil society is, for instance, one aspect that may be relevant for the success of PB (Souza, 2001; Navarro, 2001). Similarly, other variables concerning the assessment of the quality of public services would also be desirable. Output oriented performance indicators, for example, would provide relevant, complementary and comparable information about public services delivery. However there are no readily available data on policy outputs. These considerations are left for future work on the topic.

In the next section, all the variables discussed above are analysed for each of 10 matched pairs of counties. The tables present the core governance indicators, that is, the irregularities and their scaling variables.

²⁵ To perform such in-depth analysis, one would require human and financial resources not available for this work.

5. Matched-Pair Analysis

For each pair of counties analysed, the PB county will always be the first in each table presented. The first table in each case shows the matching rules and control variables, while the second, the governance indicators and scaling variables. Information on county population is taken from the Instituto Brasileiro de Geografia e Estatística (IBGE). Data on local income and schooling are from the Instituto de Pesquisa Economica Aplicada (IPEA). Financial information about counties is taken from Secretaria do Tesouro Nacional (STN) and voter turnout from the Tribunal Superior Eleitoral (TSE). All the counties were analysed on the 2000-2004 period.

5.1 Caieiras and Matão

The matching requirements for this first pair of counties analysed could be reasonably met. Both are seat of judiciary districts and had similar voter turnout and population in 2000.

Table 2
Matching Rules and control variables: Caieiras and Matão

County	Caieiras	Matão
Population	77986	73466
Seat of Judiciary District	Yes	Yes
Voter Turnout	91%	89%
Per capita revenues (R\$)	489	682
Average Civil Servants wages (R\$/Year)	18883	12847
Illiteracy rate (%)	10.05	13.19
Population with 11 or more school years (%)	6.82	7.41
Per capita income	287.79	273.71

Considering the number of irregularities, the auditors found 9 fewer problems in Matao, when comparing with the PB county.

Table 3
Governance indicators and scaling variables: Caieiras and Matão

County	Caieiras	Matão
Minor Faults	1	4
Mismanagement	17	7
Mismanagement/Gray zone	3	2
Gray zone	2	1
Gray zone/Corruption	0	0
Corruption	0	0
Total	23	14
Civil Servants	911	1510
Irregularities per 10000 habitants	2.95	1.91
Irregularities per civil servants	2.52	0.93
Irregularities/R\$ audited (millions)	6.88	2.32

The most frequent problems in Caieiras are related to bad management and potential waste of resources in public health services. Seventeen out of 23 irregularities in this county are related to that area. Key problems are related to the under-provision of health care, badly stored medicines and flawed inventory control. Also, some matching grants requirements were not met by the local government.

The nature of the problems found suggests that an effective social accountability was not achieved in Caieiras. At least 8 of the occurrences of bad management/poor service delivery could have been avoided by almost costless administrative procedures. These are the sort of problems that an accurate social control system, usually present when participatory policies are operating, could help to avoid. The irregularities are at a level of detail that the PB process would scrutinise, since they are related to essential public service delivery and are easy to detect without specialized expertise.

Although none of the irregularities found in Caieiras would be considered grave, two of the 23 belong to the gray zone. One of them is related to mandatory procedures related to the collection of federal taxes. According to law, counties are responsible for collecting mandatory contributions for the federal social security system. The city hall had failed to collect this contribution from a firm which was contracted to build public works. This case is classified as a gray zone because it is not clear whether the fault is due to shirking, incompetence or if there is corruption involved, since the firm was able to avoid the tax.

Qualitatively speaking, irregularities found in Matao are similar to those in its matching county. Most of irregularities, 12 out of 14, were found in the public health system. In most cases, problems were related to under-provision of services and mismanagement of public property. The only Gray Zone problem found in Matao is related to non-compliance with formal regulations on financial control. The local administration failed to properly record the destination of resources, leaving no track of how and when the money was spent. Although no evidence or indication of corruption was found, financial control procedures are essential for effective prevention of corrupt practices.

In financial matters the Caieiras city hall raised own revenues in 87% between 2000 and 2003. As consequence, the budgetary deficits recorded until 1999, before the implementation of PB, were turned into surplus. The spending on public capital during the PB period was in average almost 3 times higher than in the pre-PB period. As the transfers from state and central government have not risen in a same proportion, it is fair to conclude that such increases on investment were mainly made using own taxes revenues.

This first paired comparison between PB and non-PB counties reveals the non-observance of some of the claimed results of PB experiences in the literature. The overall number of irregularities found in Caieiras is higher than in Matão, and more serious irregularities were found in the PB county. Even when scaling by the amount audited and by population, the qualitative result remains unchanged.

On the other hand the investment on public works was significantly increased during the 2000-2004 period. If the hypothesis employed here holds, the introduction of PB

indicates an increase on the delivery of physical public goods, however without relevant improvement in accountability.

5.2 Ilha Solteira and Ilha Bela

For Ilha Solteira and Ilha Bela matching requirements were closely met. Voter turnout and population are different by a less than 10% margin. The counties also pay similar salaries to civil servants, but the PB county revenues are 36% higher.

Table 4
Matching rules and control variables: Ilha Solteira and Ilha Bela

County	Ilha Solteira	Ilha Bela
Population	24477	22372
Seat of Judiciary District	No	No
Voter Turnout	82%	85%
Per capita revenues (R\$)	1793	1314
Average Civil Servants wages (R\$/Year)	13240	13312
Illiteracy rate (%)	7.11	16.61
Population with 11 or more school years (%)	16.18	7.99
Per capita income	339.69	246.26

The analysis of violations found by auditors shows fewer violations in the PB county. Results are invariant to scaling by population, civil servants or amount audited. The violations on PB county are concentrated on education (4 out of 5), whilst the matching county violations on health service delivery are the most frequent.

Table 5
Governance indicators and scaling variables: Ilha Solteira and Ilha Bela

County	Ilha Solteira	Ilha Bela
Minor Faults	0	0
Mismanagement	1	7
Mismanagement/Gray zone	2	2
Gray zone	2	2
Gray zone/Corruption	0	0
Corruption	0	0
Total	5	11
Civil Servants	1136	665
Irregularities per 10000 habitants	2.04	4.92
Irregularities per 100 civil servants	0.44	1.65
Irregularities/R\$ audited (millions)	3.54	9.34

Non-compliance with regulations and other formal faults represent 80% of the problems found in the PB county. Evidence of poor administration was found in health service delivery. In a health care unit, brand new dental equipment was found idle and improperly stored. The two Gray Zone irregularities were related to procurement. In one of them there was lack of competitiveness in the procedure, but

with no evidence or indication of corrupt practices, and in the other procedure the contract between the local government and the winner firm had potentially harmful formal flaws.

In the non-PB county 9 out of 11 problems were related to poor service delivery. Under-qualified staff, under-provision of health service and inappropriate facilities are some examples. Other situations of bad management and two cases of inobservance of formal procedures were also found. One of the two Gray Zone irregularities recorded was related to the collection of federal taxes. In the other case improperly stored computer equipment was stolen. The other two management problems overlap the Gray Zone area. In these cases, accountability procedures were ignored.

Considering the locally collected taxes, the changes in the figures for the PB county were not as expressive as in previous match. From 1999 to 2001 the raise in own revenues was only 6%. In 2002 the own revenue was 35% higher, but fell again in the next year. In average it means the own revenues were 19% higher during the PB period when compared with the previous period. On the other hand, the level of investment was in average 8% lower during the years with PB.

5.3 Ribeirão Corrente and Orindiuva

Apart from voter turnout, matching requirements for this pair of counties were met. Although in absolute terms Ribeirão Corrente and Orindiuva recorded a low number of irregularities, scaled irregularities are among the highest in the sample.

Table 6
Matching rules and control variables: Ribeirão Corrente and Orindiuva

County	Ribeirão Corrente	Orindiuva
Population	4018	4396
Seat of Judiciary District	No	No
Voter Turnout	97%	88%
Per capita revenues (R\$)	951	1419
Average civil servants wages (R\$/Year)	11282	12248
Illiteracy rate (%)	17.35	12.49
Population with 11 or more school years (%)	2.61	5.85
Per capita income	158.43	245.31

In fact, these two counties have almost the highest number of irregularities per capita and the highest when scaling per million of Reais (R\$) audited. However the balance between the counties is unchanged. Scaling by the control variables doesn't change the initial proportion of problems found for this pair.

Table 7
Governance indicators and scaling variables: Ribeirão Corrente and Orindiuva

County	Ribeirão Corrente	Orindiuva
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Minor Faults	0	1
Mismanagement	6	4
Mismanagement/Gray zone	1	1
Gray zone	0	2
Gray zone/Corruption	0	4
Corruption	0	1
Total	7	13
Civil Servants	175	157
Irregularities per 10000 habitants	17.42	29.57
Irregularities per 100 civil servants	4.00	8.28
Irregularities/R\$ audited (millions)	16.88	24.82

In Ribeirao Corrente 5 out of 7 problems are related to poor management, 4 of them were associated with failure in the compliance with formal procedures. Education and health areas respond for the majority of the problems. No evidence or indication of corrupt practices was found.

In the non-PB county of this match the problems were more serious. The auditors found clear evidence of corruption and other four strong indications of corrupt behaviour, all related to procurement procedures.

The revenues from locally collected taxes were raised, in average, more than twice the average of the pre-PB levels. At same time, the investment was, in average, 94% higher than the pre-PB period.

5.4 Sumaré and Santa Barbara do Oeste

For the larger counties of the sample (those with population over 100,000 inhabitants) the strict respect to the matching rules is more difficult. The majority of Brazilian counties have less than 50,000 people and when working with a small sample it means that a “perfect match” is unlikely.

Such issues can be clearly verified in these two counties, where the population gap was one of the highest of the sample. The PB county have 19% more inhabitants than Santa Barbara do Oeste, but the voter turnout is the same.

Table 8
Matching rules and control variables: Sumaré and Sta. Barbara do Oeste

County	Sumaré	Sta. Barbara D'Oeste
Population	208445	175299
Seat of Judiciary District	Yes	Yes
Voter Turnout	89%	89%
Per capita revenues (R\$)	574	461
Average civil servants wages (R\$/Year)	19718	15652
Illiteracy rate (%)	12.69	9.84
Population with 11 or more school years (%)	4.56	5.82
Per capita income	242.38	264.92

The PB county in this pair was the only one in the whole sample where no irregularities was found. This is a remarkable fact, since on average 24.2 irregularities were found in PB counties and 26.1 in non-PB counterparts.

Table 9
Governance indicators and scaling variables: Sumaré and Sta. Barbara do Oeste

County	Sumaré	Sta. Barbara D'Oeste
Minor Faults	0	1
Mismanagement	0	12
Mismanagement/Gray zone	0	6
Gray zone	0	5
Gray zone/Corruption	0	2
Corruption	0	3
Total	0	29
Civil Servants	2510	2757
Irregularities per 10000 habitants	0.00	1.65
Irregularities per 100 civil servants	0.00	1.05
Irregularities/R\$ audited (millions)	0.00	2.12

Nineteen of the 26 irregularities found in the non-PB county are related to bad management, whilst the other 7 are formal/documental problems. The three clear cases where there was evidence of corrupt practices were found in health care programs, as were the majority of other problems. In total 20 out of 26 irregularities are in the health sector, and the other six were found in management of retirement benefits and public works related to the Ministry of Sport.

Considering the mismanagement/corruption indicators, the non-PB county is exactly like the average of the sample, but when scaling by population, number of civil servants and amount audited, it is one of the less problematic counties.

In the financial realm, the PB county rose the own revenues continuously from 2000 to 2002, achieving 37% more revenues in this year when compared with 1999. The investments also rose, achieving the highest levels in 2002 and 2003, which represented more than twice the pre-PB levels.

5.5 São Caetano do Sul and Ferraz de Vasconcelos

Sao Caetano do Sul is one of the richest counties in Sao Paulo state. Ferraz de Vasconcelos' per capita income is less than half that of the PB county and the figures are even more distant for local government revenues and civil servants wages, but are relatively close in population.

Table 10
Matching rules and control variables: São Caetano do Sul and Ferraz de Vasconcelos

Sao Caetano do Sul	Ferraz de Vasconcelos
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Population	138190	152100
Seat of Judiciary District	Yes	Yes
Voter Turnout	92%	87%
Per capita revenues (R\$)	1948	269
Average civil servants wages (R\$/Year)	26106	12206
Illiteracy rate (%)	5.62	12.27
Population with 11 or more school years (%)	26.51	4.11
Per capita income	568.72	206.69

Some of the problems found by auditors in the PB county contrast with the financial condition of the local administration. The lack of medicines and the poor infrastructure in local health care units are unacceptable for a county with no financial problems.

Table 11
Governance indicators and scaling variables: São Caetano do Sul and Ferraz de Vasconcelos

County	Sao Caetano do Sul	Ferraz de Vasconcelos
Minor Faults	0	0
Mismanagement	9	15
Mismanagement/Gray zone	0	6
Gray zone	8	1
Gray zone/Corruption	2	5
Corruption	0	1
Total	19	28
Civil Servants	2619	792
Irregularities per 10000 habitants	1.37	1.84
Irregularities per 100 civil servants	0.73	3.54
Irregularities/R\$ audited (millions)	3.73	2.79

At same time auditors have learned that the health care staff is sometimes unavailable during official opening hours. Such situations suggest that social accountability mechanisms usually attributed to PB were not effective in this case. Although it could be the case that the population was more worried about public works, it is desirable that PB policies also reach these problems. Such situations are easily identifiable and affect the daily life of the whole population, and therefore the families of PB delegates. The literature about PB acknowledges that the assemblies offer the opportunity to report these problems and demand a solution. However, if it was the case, it seems that either the opportunity was not taken or there wasn't appropriate response from the local government.

In Ferraz de Vasconcelos, auditors found a higher number of irregularities than in the PB county, including one case with evidence of corruption. Most of the problems (25 of the 28 in total) were related to health services, revealing serious problems in this area.

One quarter of irregularities were related to procurement procedures, including one instance of overpricing of medical equipment purchases. In contrast to the case found in Sao Caetano do Sul, there was clear evidence of corruption.

The other problems found were with public service delivery (in what) and ranged from non-compliance with formal procedures to inappropriate material used in public works.

The locally collected taxes in Sao Caetano do Sul were significantly raised along the term initiated in 2000. From 1999 to 2003, these revenues raised 140%. However, the level of investment has not followed a same trend. In 2000 it was slightly lower than in 1999, and it fell by 1/3 in 2001, recovering to the 2000 level in 2002.

5.6 Avaré and Itapira

Once again matching requirements were not met for population and voter turnout, for reasons already explained. However, per capita income and average remuneration of civil servants are similar in Avaré and Itapira.

Table 12
Matching rules and control variables: Avaré and Itapira

County	Avaré	Itapira
Population	79706	64806
Seat of Judiciary District	Yes	Yes
Voter Turnout	86%	91%
Per capita revenues (R\$)	615	1036
Average civil servants wages (R\$/Year)	10661	11989
Illiteracy rate (%)	11.49	14.02
Population with 11 or more school years (%)	12.08	8.03
Per capita income	277.23	288.48

In absolute terms, both counties recorded above average number of irregularities for their respective group. However, controlling for county size, both counties' figures fall slightly below average.

Almost one third of the violations recorded in Avaré are related to procurement procedures, but no indication of corruption was found. The other most frequent irregularities are lack of compliance with formal requirements and bad management of funds was also recorded.

Table 13
Governance indicators and scaling variables: Avaré and Itapira

County	Avaré	Itapira
Minor Faults	0	0
Mismanagement	19	12
Mismanagement/Gray zone	6	12
Gray zone	4	15
Gray zone/Corruption	0	6
Corruption	0	1
Total	29	46
Civil Servants	1604	1946

Irregularities per 10000 habitants	3.64	7.56
Irregularities per 100 civil servants	1.81	2.52
Irregularities/R\$ audited (millions)	5.61	3.74

In Itapira the number of irregularities as well as their seriousness was remarkably higher than in Avaré, although irregularities per R\$ were actually lower. The auditors found some clear indications of corrupt procedures, including material evidence. In one of the procurement procedures the six firms that presented bids were owed by a same person, five of them fake firms that were created to simulate competition on public procurement. According to the auditors, such situation could only stand with the complicity of someone from the city hall and clearly characterizes corruption.

Fractioning of procurement to circumvent more complex procedures and overpricing were also found, however due to absence of clear evidence of corruption they were classified as Gray Zone/Corruption. At same time, several occurrences of mismanagement and under provision of public services were found by auditors.

The financial indicators of these two counties were relatively similar. In both counties the legal limits were respected.

As in other cases already discussed the PB county had shown fewer administrative improprieties on public services delivery and better compliance with regulations. Most of the problems found in Avare were formal/documental suggesting that the existence of PB had contributed to better service delivery than in the non-PB county.

Considering the financial figures of the PB county are in disagreement with the ones found in other PB counties. In average, the own revenues are lower than the pre-PB period, as it is the investment rate. In 2001 this figure felt dramatically to less than 1% of the own revenues, despite the higher state and central government transfers in the period.

5.7 Nilópolis and Teresópolis

The matching rules could be very closely respected for this pair, despite the fact that both are among the most populous of the sample. The population of Nilópolis is just 8% higher than in Teresópolis and the voter turnout is almost the same.

The PB county considered here was where the most irregularities were found in absolute terms. These irregularities were mostly of a serious nature as some proofs and other clear indications of corruption were reported by the auditors. Scaling is key in this case, since the scaled number of irregularities falls to nearly the sample average.

Table 14
Matching rules and control variables: Nilópolis and Teresópolis

County	Nilópolis	Teresopolis
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Population	152790	141736
Seat of Judiciary District	Yes	Yes
Voter Turnout	87.7%	88.2%
Per capita revenues (R\$)	306	695
Average civil servants wages (R\$/Year)	7010	11682
Illiteracy rate (%)	5.83	16.42
Population with 11 or more school years (%)	8.76	11.33
Per capita income	215.98	233.98

The most serious violations found in the PB county were committed by the procurement commission. Some recurrent problems were found in all procedures analysed. Restrictions on the competitiveness of the tender, acceptance of irregular documents from bidders, unclear rules for procurement and absence of publication of the procurement procedure in newspapers are just some examples. The amount of resources involved also calls for attention. Most of the resources audited, R\$ 13,306,622.27 (approximately £ 3 million) were sent by the federal government to public works and for purchasing of medicines and equipments. Several irregularities were found in all stages of the purchasing procedures and in the execution of public works.

Table 15
Governance indicators and scaling variables: Nilópolis and Teresópolis

County	Nilopolis	Teresopolis
Minor Faults	4	0
Mismanagement	33	31
Mismanagement/Gray zone	16	2
Gray zone	10	3
Gray zone/Corruption	11	2
Corruption	2	0
Total	76	38
Civil Servants	3555	3539
Irregularities per 10000 habitants	4.97	2.68
Irregularities per 100 civil servants	2.14	1.07
Irregularities/R\$ audited (millions)	5.71	3.50

The health care system recorded the highest number of irregularities, 24 out of 76. The remaining problems were identified in programs of many other areas. In contrast to other counties where the irregularities were concentrated in the health and education sectors, in Nilopolis faults were found in all areas. This is partially explained by the fact that bigger counties receive more money and from several different governmental programs, some of them specifically targeted at urban areas and therefore not running in smaller and predominantly rural counties. However it also shows that the administrative disorganization is the general rule, rather than the exception.

Teresópolis, the non-PB county, also registered a significant number of problems in absolute terms, however less serious. When scaling by the controls for county size,

the number of irregularities falls to levels below the average. Most of irregularities (31 out of 38) were classified as mismanagement, and no corruption cases were found.

As in other PB counties, the own revenues were raised after the implantation of PB, mainly due to other taxes, rather than property taxes as usual in other counties²⁶. Between 2000 and 2004 those revenues almost doubled. The investment also rose dramatically in the period, although it was not entirely financed by own revenues, since the transfers from other levels of government also were increased in the period.

For this pair of counties, the analysis suggests that the alleged strengths of PB do not hold. The higher number of irregularities and cases of corruption in the PB county demonstrate that PB is not a sufficient condition for better public services delivery nor for lower levels of corruption.

5.8 Armação de Búzios and Pinheiral

The matching criteria for Armação de Búzios and Pinheiral were closely met and some of the socio-economic indicators are reasonably alike as well.

Table 16
Matching rules and control variables: Armação de Búzios and Pinheiral

County	Armação dos Búzios	Pinheiral
Population	19818	20487
Seat of Judiciary District	Yes	Yes
Voter Turnout	88%	88%
Per capita revenues (R\$)	2044	695
Average civil servants wages (R\$/Year)	13220	10161
Illiteracy rate (%)	17.50	12.18
Population with 11 or more school years (%)	9.97	8.79
Per capita income	222.17	172.50

When analysing the occurrence of violations, the two counties are similar in absolute numbers, the PB county recorded only two violations less than Pinheiral. As the population of the counties is quite similar, scaling by this control variable doesn't change the figures significantly. A similar conclusion holds when irregularities are scaled by both civil servants and R\$ audited, whereas scaling by these variables separately yields opposite results. When using both variables, the PB county records more irregularities than the non-PB county.

Table 17
Governance indicators and scaling variables: Armação de Búzios and Pinheiral

County	Armação dos Búzios	Pinheiral
Minor Faults	0	0
Mismanagement	15	8
Mismanagement/Gray zone	2	6
Gray zone	1	1

²⁶ These taxes include as parking counters, taxes on services and so on.

Gray zone/Corruption	0	5
Corruption	0	0
Total	18	20
Civil Servants	1135	690
Irregularities per 10000 habitants	9.08	9.76
Irregularities per 100 civil servants	1.59	2.90
Irregularities/R\$ audited (millions)	12.77	6.63

Most of problems in Búzios are classified as mismanagement, with no indication of corruption. There was only one formal fault in procurement procedures with no indication of a third party beneficiary. The other formal faults reflect administrative disorganization, which resulted in inefficient service delivery. Lack of medicines due to absence of stock control and unbalanced numbers of doctors working at the health care units are some examples inefficiencies uncovered by auditors. In both cases public resources are available but badly managed.

In Pinheiral the local administration committed five offences with indication of corruption in procurement procedures. Illegal fractioning of procurement amounts and inappropriate procurement modalities are examples. Auditors also recorded other suspicious cases of mismanagement. In these instances, it is very likely that rules were circumvented to benefit firms or other agents, although further investigation would be necessary to obtain proper proofs.

Mismanagement and bad service delivery were also found in Pinheiral. Some boxes with hospital equipment were found abandoned and inappropriately stocked. According to the city hall administration there is no trained staff to operate the equipments. The auditors did not find any plan or project that involves such training in the near future, revealing the inappropriateness of the equipment purchase.

The analysis of financial variables was undermined due to the lack of data to the pre-PB period. Considering the PB period, the investment was in average 70% higher than the figure in 2000. The own revenues in average almost doubled in the 2001-2003 period when comparing with the 2000 figure.

In sum, the PB county had recorded fewer and less serious irregularities than the non-PB county, but some of the claimed outcomes of participatory policies could not be verified. The nature of the problems found in Armacao de Buzios reveal that the PB representatives were unable to remedy certain instances of poor service delivery. As discussed previously, it could be the case that the population was more worried about public works rather than health services, for example.

5.9 Barbacena and Itabira

Apart from the 16% difference in population, other variables such as voter turnout and per capita income were relatively similar for this pair of counties.

Table 18
Matching rules and control variables: Barbacena and Itabira

County	Barbacena	Itabira
Population	117108	100998
Seat of Judiciary District	Yes	Yes
Voter Turnout	88%	90%
Per capita revenues (R\$)	766	1057
Average civil servants wages (R\$/Year)	17011	20101
Illiteracy rate (%)	11.75	14.10
Population with 11 or more school years (%)	11.10	6.42
Per capita income	193.40	206.20

Barbacena and Itabira recorded almost the same number of irregularities, 26 and 27, respectively. Scaling by population, this difference increases slightly in favour of the PB county since Barbacena is 16% more populous. But considering the amount audited, the figures change considerably. Irregularities per million R\$ were actually four times higher in the PB county.

Table 19
Governance indicators and scaling variables: Barbacena and Itabira

County	Barbacena	Itabira
Minor Faults	0	4
Mismanagement	17	7
Mismanagement/Gray zone	1	5
Gray zone	5	9
Gray zone/Corruption	3	1
Corruption	0	1
Total	26	27
Civil Servants	1889	1994
Irregularities per 10000 habitants	2.22	2.67
Irregularities per 100 civil servants	1.38	1.35
Irregularities/R\$ audited (millions)	4.10	1.00

In terms of seriousness of infractions, both counties were quite balanced. Both counties had several occurrences of bad management and poor service delivery, as well as more serious irregularities.

In Barbacena 8 out of 26 problems were classified as Gray Zone and Gray Zone/Corruption, 6 of them in procurement procedures. Some examples were irregular documentation, overpricing and inappropriate procurement modality. Several occurrences of bad management and poor service delivery were also found. Delayed public works, inexistent financial reports, irregular account management, and under-provision of health services are examples of irregularities found.

In Itabira 7 of the 27 faults were in procurement procedures. Some examples are invitation for bids to less than three firms, fractioning of procurement amounts, and inappropriate procurement modality. Although all of these cases were open doors to corruption, it was not possible to prove it. For this reason these irregularities were classified as Gray Zone. One case of corruption was found in a public hospital with

evidence of fraud and embezzlement of public funds. As in Barbacena, several occurrences of poor service delivery were found. Delayed provision of medicines to health care units, irregular attendance of mosquito control agents, and under-provision of health care services are some examples.

In Barbacena, the investment during the PB period was never higher than during the non-PB years. At same time, the own revenues were risen 7% in 2000, but in the following years the figures returned to the pre-PB levels.

5.10 Alvorada do Oeste and Cerejeiras

With relatively small differences in population and voter turnout, the matching rules of this matched pair were reasonably met.

Table 20
Matching rules and control variables: Alvorada do Oeste and Cerejeiras

County	Alvorada do Oeste	Cerejeiras
Population	19750	17925
Seat of Judiciary District	Yes	Yes
Voter Turnout	77%	80%
Per capita revenues (R\$)	386	541
Average civil servants wages (R\$/Year)	4468	7596
Illiteracy rate (%)	25.52	20.26
Population with 11 or more school years (%)	1.61	2.88
Per capita income	77.96	156.28

The PB county is the poorest county analysed here, with monthly per capita income below R\$ 80 (£ 20). The illiteracy rate is the highest in the sample considered in this study. Maybe not surprisingly, 18 out of 38 problems found in Alvorada do Oeste are related to education programs.

In Cerejeiras the per capita income is a slightly higher, but the non-PB county of this matched pair is still one of the poorest of the whole sample. The educational indicators are also better, but the illiteracy rate for instance, is the second highest of the sample.

When considering the audit reports, the scenario is not better. The number of irregularities per capita is the second highest of the sample and several serious irregularities were found in both counties.

In two of the problems classified as Gray Zone/Corruption found in Alvorada do Oeste the firms hired to do some public works, used low quality material and executed the projects with incorrect specifications. In another case, the public works were stopped because one city hall engineer was found also working for the contractors that won the procurement, which is illegal.

The Corruption record in Alvorada do Oeste was related to conditional cash transfers. Some of the civil servants responsible for registering those eligible to receive the

benefits had registered themselves as beneficiaries. Twenty five occurrences of bad management and poor service delivery were also found in the PB county.

Table 21
Governance indicators and scaling variables: Alvorada do Oeste and Cerejeiras

County	Alvorada do Oeste	Cerejeiras
Minor Faults	6	0
Mismanagement	25	17
Mismanagement/Gray zone	0	1
Gray zone	2	6
Gray zone/Corruption	4	1
Corruption	1	7
Total	38	32
Civil Servants	611	477
Irregularities per 10000 habitants	19.24	17.85
Irregularities per 100 civil servants	6.22	6.71
Irregularities/R\$ audited (millions)	5.37	4.63

In Cerejeiras, the non-PB county, the scenario is even worse. The auditors had found irregularities with evidence of corruption in 7 programs, 6 of them in procurement procedures. Fractioning of procurement amounts, simulation of procurement procedures, inappropriate procurement modality are examples of irregularities classified as corruption. In another sound example of corruption the auditors reported that a doctor was paid as if he had worked for 5 days a week, 24 hours a day.

Incomplete public works, under-provision of health care by the family health teams, inappropriate financial reports and inappropriate infrastructure were classified as mismanagement.

The own revenues were significantly higher during the PB period when compared with pre-PB years. The same had happened with the investment, although part of the money for these works came from transfers from other government levels, which also rose during the same period.

6. Conclusion

The analysis of the audit reports have shown, when considering the overall number of irregularities, better governance indicators in 7 out of 10 PB counties when compared to their respective pair matching county. However different outcomes for the governance indicator are found, depending on how the number of irregularities is weighted.

Table 22
Summary of Results

County	Number of Irregularities	Irregularities per R\$ audited	Seriousness	Irregularities per capita	Irregularities per civil servants	Total
Caieiras (*)	23	6.88	52	2.95	2.52	87.35
Matao	14	2.32	31	1.91	0.93	50.16
Ilha Solteira (*)	5	3.54	16	2.04	0.44	27.02
Ilha Bela	11	9.34	27	4.92	1.65	53.91
Ribeirao Corrente (*)	7	16.88	15	17.42	4.00	60.3
Orindiuva	13	24.82	46	29.57	8.28	121.67
Sumare (*)	0	0	0	0	0	0
Sta. Barbara D'Oeste	29	2.12	91	1.65	1.05	124.82
Sao Caetano do Sul (*)	19	3.73	62	1.37	0.73	86.83
Ferraz de Vasconcelos	28	2.79	83	1.84	3.54	119.17
Avare (*)	29	5.61	72	3.64	1.81	112.06
Itapira	46	3.74	156	7.56	2.52	215.82
Nilopolis (*)	76	5.71	255	4.97	2.14	343.82
Teresopolis	38	3.50	90	2.68	1.07	135.25
Armacao dos Buzios (*)	18	12.77	40	9.08	1.59	81.44
Pinheiral	20	6.33	63	9.76	2.90	101.99
Barbacena (*)	26	4.10	72	2.22	1.38	105.7
Itabira	27	1.00	80	2.67	1.35	112.02
Alvorada do Oeste (*)	38	5.37	90	19.24	6.22	158.83
Cerejeiras	32	4.63	108	17.85	6.71	169.19

(*) PB counties

When scaling the offences by R\$ audited, the result is the opposite. Seven out of ten non-PB counties has had fewer irregularities per R\$ audited than the PB counterparts.

Taking the seriousness of irregularities into account, the results are the same as when considering the overall number of irregularities: 7 PB counties have had fewer occurrences than their non-PB counterparts. The same situation is observed if the weighting variable is the number of civil servants or number of residents.

The last column of table 22 shows the sum of the overall number of irregularities and the other weighted values for each county. In this case, 8 out of 10 PB counties have had fewer irregularities than non-PB counterparts.

At this point worth mentioning the results of the analysis of the other variables considered: own revenues and level of spending in public capital. In 7 out of 10 counties with PB, there were improvements on own revenues. In most of these 7 cases, it was followed by increases in spending on public capital. In two of the three cases where the relationship between PB and those variables was not verified, Barbacena and Alvorada do Oeste, the results are very sensible to the weighting variables. In the other case, Avare, the offences are higher than those on the non-PB county only when weighted by R\$ audited. For the other 7 counties good and bad governance indicators could be associated to the effective implementation of PB.

Using any combination of weighting variables to extract conclusions about the effectiveness of PB policies is certainly arbitrary and not error-free. However it is unavoidable to do so because there is not an obvious choice of variable for scaling the number of irregularities. Even not scaling, in other words, taking the overall number only may lead to biased results. I would prefer using a combination of four of these variables: the number of overall irregularities itself and weighting it by its seriousness, R\$ audited and per number of residents.

According to the results, when employing such criteria as measure for good governance, the presence of PB is the factor that has the stronger and clearest relationship with the relatively better records of the governance indicator.

However, the analysis developed so far suggests that PB is not a sufficient condition for better governance. Besides counties like Nilopolis, with PB experiences and also very poor governance indicators, and the other matches where non-PB counties performed better, there are cases where the governance indicator was better for the PB county for a thin margin. But in any case, the main implication of these results is that we cannot reject PB as an advisable policy for the achievement of good governance indicators. Participatory policies are, obviously, limited (Jones, 2003). The occurrence of poor governance indicators in some counties with PB would require further investigations to understand the reasons and the roots of the problems found. It would be extremely useful especially to serve as guide to institutions that support the implementation of PB experiences around the world.

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