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PUBLIC-PRIVATE PARTNERSHIPS: THE CASE OF RIO DE JANEIRO STATE

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Contents

1. Introduction

The Brazilian economy experienced a robust economic period of growth from 2004 until 2008.[1] The international financial crisis in 2008 cooled the cycle and the Brazilian government used fiscal and monetary policies to mitigate the outside shocks and also stimulate the domestic market. In the second half of 2009 and in 2010, the growth rate of the Brazilian economy reached its pre-crisis level, however, it slowed again since 2011. In order to maintain the higher growth rate as of that in 2010, Brazil needs to invest more in the infrastructure to enhance its international competitiveness.

Between 2006 and 2009, investment in infrastructure reached 2.1% of the country's GDP according to the Brazilian Development Bank – BNDES.[2] Some studies suggest an investment of 2.0% of GDP is just enough to maintain the current infrastructure stock in Brazil without any expansion.[3]

More investment in the infrastructure is needed in Brazil. According to the Global Competitiveness Report 2012-2013[4], Brazil's infrastructure needs remain an unaddressed challenge. Also according to the Global Competiveness Index (GCI)[5] in the same report, Brazil is ranked 48th out of 144 countries overall, while it is ranked only the 70th when it comes to the infrastructure pillar. A report released by Morgan

[1] (IPEA, 2012) Brasil em Desenvolvimento 2011. Estado, Planejamento e Políticas Públicas.

[2] (Puga and Borça Jr, 2011) Perspectiva de investimentos em infraestrutura 2011-2014. Available at: http://www.bndes.gov.br/SiteBNDES/export/sites/default/bndes_pt/Galerias/Arquivos/conhecimento/visao/Visao_92.pdf

[3-6] (Morgan Stanley, 2010) Brazil Infrastructure Paving the Way. Available at: http://www.morganstanley.com/views/perspectives/pavingtheway.pdf

[4] Released by The World Economic Forum: The Global Competitiveness Report 2012–2013 http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf

[5] GCI is a tool that "measures the microeconomic and macroeconomic foundations of national competitiveness". The Global Competitiveness Report 2012–2013 http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf

Stanley Bank forecasted that Brazil would need to spend 6-8% of GDP in the infrastructure annually to catch up with South Korea in 20 years and 4% per year to catch up with Chile (the benchmark in Latin America, according to their estimates).[6]

In terms of government spending in the infrastructure construction, the government faces budget limitations, so it is necessary to find a new way to finance these projects. Among several alternatives, the Public Private Partnership (PPP) model is being regarded to be efficient in providing goods and services that were previously only offered by the government. Under PPP arrangements, the private sector will take the responsibilities of designing, building, operating and often financing to provide the services needed by the public. As a result, central and local government agencies can focus more on planning, monitoring and contract managing instead of involving in the daily management and providing the services directly.

In Brazil, PPP agreements refer only to contracts between private and public sectors that involve payment or compensation from the public to the private partner. Although regular concessions are largely used in Brazil, there are only a few PPP (in the Brazilian strict sense) projects underway. However, this arrangement is becoming more popular because of the urgent needs for infrastructure investments to meet the commitments for the Soccer World Cup in 2014 and the Olympic Games in 2016 in Rio de Janeiro. This rising status of PPP arrangements in Brazil involves issues such as which is the best way to finance, how to ensure the future stream of payments, the obligations of the public to the private sector, how to design a good contract which will avoid overburdening the state budget in the future, and how to measure the contingent liabilities.

In the case of the Rio de Janeiro State, no PPP contract has been approved so far, although some projects have already been studied. On the contrary, many PPP projects are currently under implementation in other Brazilian states such as Minas Gerais, São Paulo and Bahia. At the local level, the Municipality of Rio de Janeiro also has projects relating to infrastructure and mobility to meet the requirements of the upcoming international sport events.

This paper has two main objectives. One is to give an overview of PPP implementation in Brazil, in the dimension of legal framework and management, as well as the successful experiences. Another is to analyze what the State of Rio de Janeiro is working on to make the PPP arrangement feasible.

2. Public Private Partnership: Definitions and Risks

Although there is no unique definition of public private partnership among different countries and authors, it typically refers to medium to long term arrangements or contracts between public and private entities where the private party assumes partial or total responsibility of providing public infrastructure and service. Pricewaterhouse Coopers (PWC)'s report "Delivering the PPP Promise" (PWC 2011)[7], listed some recent PPP definitions among others that illustrate the broad concept:

> *"Standard & Poor's definition of a PPP is any medium-to-long term relationship between the public and private sectors, involving the sharing of risks and rewards of multisector skills, expertise and finance to deliver desired policy outcomes.[8]*

[7] Delivering the PPP promise, A review of PPP issues and activity http://www.pwc.com/gx/en/government-infrastructure/delivering-ppp-promise.jhtml accessed on 2/23/2013

[8] Infrastructure & Public Finance Ratings Public Private Partnerships. Standard & Poor's Global Credit Survey 2005. http://www.ibtta.org/files/PDFs/PPP%20Credit%20Survey%20S%26P.pdf accessed on 2/23/2013

The term PPP is, thus, used to describe a wide variety of working arrangements from loose, informal and strategic partnerships, to design build finance and operate (DBFO) type service contracts and formal joint venture companies.[9]"

A main characteristic of a PPP is that it comprises investment and service provision into a single long term contract. It normally excludes from that concept regular service or turnkey construction contracts that are considered public procurement projects, as well as privatization of utilities where the role of the public sector is limited.[10]

The arrangements come in various forms depending on individual characteristics of each project as well as unique needs of each country. There is in fact no best solution or model for a PPP project, different approaches should be tailored to specific circumstances. Each structure differentiates from others according to project specificities, the private sector responsibilities and rights, and financing involvement.

The World Bank PPP Reference Guide describes PPP according to three different parameters: whether the PPP is for a new or existing asset (called "greenfield" or "brownfield" projects respectively), what the responsibilities for the private party are, and how the private party is paid.[11]

PPP arrangements are classified depending on the type of asset involved and the functions performed by the private party. Typical functions are described below:[12]

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[9] The EIB's role in Public-Private Partnerships, European Investment Bank. July 2004 http://www.eib.org/attachments/thematic/eib_ppp_en.pdf accessed on 2/23/2013

[10] PPIAF - Public Private Infrastructure Advisory Facility http://ppp.worldbank.org/public-private-partnership/overview/what-are-public-private-partnerships accessed on 2/12/2013.

[11] Public Private Partnerships – Reference Guide. World Bank Institute, PPIAF http://www.ppiaf.org/sites/ppiaf.org/files/publication/Public-Private-Partnerships-Reference-Guide.pdf accessed on 3/3/2013

[12] Adapted from Public Private Partnerships – Reference Guide. World Bank Institute, PPIAF http://www.ppiaf.org/sites/ppiaf.org/files/publication/Public-Private-Partnerships-Reference-Guide.pdf accessed on 3/3/2013

• Design—also called “engineering” work—means developing the project from initial concept and output requirements to construction-ready design specifications. When the private party is responsible for building or rehabilitating an asset, it may also be responsible for design

• Build, or Rehabilitate—when PPPs are used for new infrastructure assets, they typically require the private party to construct the asset and install all equipment. Where PPPs involve existing assets, the private party may be responsible for rehabilitating or extending the asset

• Finance—when a PPP includes building or rehabilitating the asset, the private party is typically also required to finance all or part of the necessary capital expenditure

• Maintain—PPPs assign responsibility to the private party for maintaining an infrastructure asset to a specified standard over the life of the contract.

• Operate—the operating responsibilities of the private party to a PPP can vary widely, depending on the nature of the underlying asset and associated service. For example, the private party could be responsible for:

i. Technical operation of an asset, and providing a bulk service to a government off-taker—for example, a bulk water treatment plant;

ii. Technical operation of an asset, and providing services directly to users—for example, a PPP for a water distribution system;

iii. Providing support services, with the government agency remaining responsible for delivering the public service to users—for example, a PPP for a school building that includes janitorial service.

Depending on the functions performed by the private partner, different terms are used, like BOT (Build-Operate-Transfer), DBFO (Design-Built-Finance-Operate), DBFOT (Design-Built-Finance-Operate-Transfer). Delmon (2010)[13] pointed out that a standardized classification would help to compare models among sectors and countries and thus improve expertise:

[13] Understanding Options for Public-Private Partnerships in Infrastructure; Delmon, Jeffrey. 2010. http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2010/01/11/000158349_20100111150559/Rendered/PDF/WPS5173.pdf

> "The lack of clear terminology has limited the development of PPP, and has made the study of PPP more complicated. It makes comparing structures (in particular in different countries and sectors) more difficult, as similar structures often use different terminology, while dissimilar projects may use similar terminology. By creating a common terminology, more work can be done adopting the lessons learned from one sector or region to projects of a similar design in another sector or region. It will also simplify dialogue between policymakers and practitioners, allowing them to express ideas and complex structures in simple, common terminology."

In Brazil, Public Private Partnerships excludes common concessions, i.e. those where the private partner doesn't receive any payment or financial transfer from the public sector. The PPP arrangements in Brazil will be discussed in Section 3.

2.1. PPP Motivation

Public Private Partnerships should not be regarded only as a resource of financing infrastructure for the government; other fundamental reasons/characteristics must be considered that justify PPP contracts. Ideally, PPP should combine the best of both public and private resources and skills, allowing governments to focus on policy, planning and regulation instead of day to day operations.[14] PPP transforms the public sector role to a supervisor of service contracts instead of a service provider.

According to Delmon (2010), there must be political will to adopt PPP contracts, considering that there are political and social implications. The institutional, legal and regulatory context - the extent to which government institutions have the needed skills and resources, the financial and commercial markets have needed capacity

[14] PPIAF - Public Private Infrastructure Advisory Facility http://ppp.worldbank.org/public-private-partnership/overview accessed on 2/12/2013.

and appetite, and laws and regulations encouraging or enabling PPP should be taken into consideration.[15]

In order to solve these questions, benefits and risks included in a PPP should be analyzed. According to the European Commission Guidelines:[16]

> "PPPs present a number of recognized advantages for the public sector to exploit. These include the ability to raise additional finance in an environment of budgetary restrictions, make the best use of private sector operational efficiencies to reduce cost and increase quality to the public and the ability to speed up infrastructure development."

The first step should be to analyze the viability of the project and its feasibility of being contracted as a PPP. Considering a project that is suitable for a PPP arrangement, its main objective should be to provide a better value for money in comparison to the public option. There are arguments both for and against described briefly below:[17]

Key advantages for using PPP procurement:

- PPPs make projects affordable
- PPPs maximize the use of private sector skills
- Under PPPs, the private sector takes life cycle cost risk
- With PPPs, risks are allocated to the party best able to manage or absorb each particular risk
- PPPs deliver budgetary certainty
- PPPs force the public sector to focus on outputs and benefits from the start
- With PPPs, the quality of service has to be maintained for the life of the PPP
- The public sector only pays when services are delivered
- PPPs encourage the development of specialist skills, such as life cycle costing

[15] Understanding Options for Public-Private Partnerships in Infrastructure; Delmon, Jeffrey. 2010. http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2010/01/11/000158349_20100111150559/Rendered/PDF/WPS5173.pdf

[16] Guidelines for successful Public-Private Partnerships http://ec.europa.eu/regional_policy/sources/docgener/guides/ppp_en.pdf accessed on 2/12/2013.

[17] Delivering the PPP promise, A review of PPP issues and activity http://www.pwc.com/gx/en/government-infrastructure/delivering-ppp-promise.jhtml accessed on 2/23/2013

- PPPs allow the injection of private sector capital
- PPP transactions can be off balance sheet

Key challenges in using PPP procurement:

- Does sufficient private sector expertise exist to warrant the PPP approach?
- Does the public sector have sufficient capacity and skills to adopt the PPP approach?
- It is not always possible to transfer life cycle cost risk
- PPPs do not achieve absolute risk transfer
- PPPs imply a loss of management control by the public sector
- PPP procurement can be lengthy and costly
- The private sector has a higher cost of finance
- PPPs are long-term relatively inflexible structures

The main concepts that are usually discussed when comparing PPP arrangements with conventional procurement contracts, or public sector providing services, are financing, utilization of private sector expertise, and risks transfer. At a first glance, the budgetary view may seem very appealing for the government since it helps to increase the amount of funds available for infrastructure. But considering the long term fiscal commitments – sometimes contingent and highly related to risks – the attractiveness of PPP may be reduced, since the risks associated with the project are reflected in the expected rates of return and therefore in a higher project cost by the private partner – this would lead to a negative value for money. Furthermore, the difficulty in measuring the fiscal cost of a PPP compared to a traditional government project where the capital cost is incurred upfront, can lead to over estimation of the benefits and resources created by the PPP as well as a temptation to spend more now, in response to political and other pressures to deliver new and improved infrastructure.[18]

[18] Public Private Partnerships – Reference Guide. World Bank Institute, PPIAF http://www.ppiaf.org/sites/ppiaf.org/files/publication/Public-Private-Partnerships-Reference-Guide.pdf accessed on 3/3/2013

The risk matter is a fundamental part of the concept of a PPP arrangement and will be discussed in the next topic. Although it is impossible to eliminate risks completely, a correct identification and distribution of risks among public and private partners is crucial for a successful project.

The third topic will focus on the Brazilian legal framework and issues concerning management by the public sector will be reviewed soon after along with the Rio de Janeiro State experience.

2.2. The risk distribution of PPP projects

As mentioned above, risks distribution among private and public sector in a Public Private Partnership arrangement may be a benefit for the public sector, and a challenge as well. The optimal risk management implies that risks should be allocated to the party best able to manage or absorb each particular risk. However, this task is not simple and considering that a PPP project is related to a public service, the government is ultimately responsible for its provision and bears the risk of failure. PPP projects can therefore increase implicit liabilities related to moral obligations or public expectations for the government that are difficult to identify and measure[19].

The risk allocation should be defined in detail at the PPP contract and due to its importance it often drives a lot of resources on identifying and allocating risks during project structuring.

2.2.1 Identifying risks

The risk identification is one of the first steps in structuring a PPP project. Detailed risk identification facilitates an optimal allocation among parties involved in the

[19] For definitions of explicit and implicit liabilities, see: Contingent Government Liabilities A Hidden Fiscal Risk, Polackova (1998). http://www.imf.org/external/pubs/ft/fandd/1999/03/pdf/polackov.pdf

project. Usually, risk is referred to uncertain but possible bad outcomes, that cause unpredictable variation in the project value.

Irwin (2007)[20] identifies the "Principle of four kinds of risks," dividing them in four categories, according to the scope – project specific or economy wide – and whether they affect total project value or only its distribution among stakeholders. Project specific risks can be influenced by stakeholders and thus should be allocated accordingly, depending which party controls or can influence it in order to prevent in advance. On the other hand, economy wide risks cannot be influenced by stakeholders and there should be given attention to anticipating and given the better possible solution when they occur.

Considering all possible risks in the structuring of PPP project can also be unviable as noted by Irwin (2007, page 64):

> "Other things being equal, fine allocations may maximize value, since they allow each risk to be allocated to the party best able to manage it. But it costs money to analyze risks and the ways they interact, to negotiate the allocation of risks, to draft contracts that effect the negotiated allocation, and then to monitor whether all the parties are complying with their contractual obligations. For a large, expensive project, a very fine allocation may make sense. But at some point the transaction costs of finer and finer subdivisions and allocations of risk must outweigh the benefits of better management."

The government's credibility is also taken into account by investors when analyzing a long term PPP contract. Policy risk can be defined as the "unpredictable variation in value arising from unpredictable variation in government action"[21]. All business are affected in this kind of risk, but certainly under a PPP contract that depends on government transfers for a long period of time it is a critical one. Considering that

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[20] Allocating and Valuing Risk in Privately Financed Infrastructure Projects. Irwin (2007). https://openknowledge.worldbank.org/bitstream/handle/10986/6638/394970Gov0guar101OFFICIAL0USE0ONLY1.pdf?sequence=1

[21] Allocating and Valuing Risk in Privately Financed Infrastructure Projects. Irwin (2007). https://openknowledge.worldbank.org/bitstream/handle/10986/6638/394970Gov0guar101OFFICIAL0USE0ONLY1.pdf?sequence=1

infrastructure investments are often sunk[22], in the case of the project abandonment (unprofitability due to changes in government policy, non-payment of transfers or expropriation without proper compensation as an extreme example), investors are unable to reverse an asset to another purpose than originally intended becoming thus more vulnerable. Such risk is of course reflected in the project value analysis, the higher the policy risk the higher interest rate of return will be in order to compensate it, causing sometimes governments to lose interest in the project. Best way to avoid it is to eliminate it completely or minimize it by enforcing property laws and providing guarantees for the government transfers or payments.

2.2.2 Allocating risks

The allocation of risks between the parties involved in a PPP project determines who is going to bear the cost (or reap the benefit) of unpredictable variation in value. Considering the identification of a range of variables that could be impacted by uncertainty, the challenge is to best allocate them to the party that can manage it best. According to Irwin's book on PPP guarantees and risk (2007):[23]

> "Each risk should be allocated, along with rights to make related decisions, so as to maximize total project value, taking account of each party's ability to:
>
> 1. Influence the corresponding risk factor.
>
> 2. Influence the sensitivity of total project value to the corresponding risk factor—for example, by anticipating or responding to the risk factor.
>
> 3. Absorb the risk."

An appropriate risk allocation does not implicate that governments should transfer the maximum possible risk to the private sector. The costs of assuming risks that

[22] Sunk costs: costs that have already been incurred and are beyond recovery. Browning and Zupan, (2012).

[23] Allocating and Valuing Risk in Privately Financed Infrastructure Projects. Irwin (2007). https://openknowledge.worldbank.org/bitstream/handle/10986/6638/394970Gov0guar101OFFICIAL0USE0ONLY1.pdf?sequence=1

cannot be controlled by the private sector would be too high. “The private sector will price the risk of the project based on how individual risks are allocated, their likelihood of occurrence, and impact. If the private sector is transferred a risk that it cannot control (for example inflation being higher than forecasted) it will either take a very conservative scenario (such as assuming a very high inflation rate) or simply not accept it (and therefore will not make any proposal, thus reducing competition).” (Queiroz & Martinez, 2013)

As already mentioned, a very detailed identification of risks although possible is costly and time demanding what may outweigh the benefits in doing so. It is common that governments group risks in broad categories like construction risks and demand risks leaving some space for exceptions in the case of very specific risks. This is especially important for greenfield projects that involves more uncertainty. The first step usually includes the definition of an allocation matrix that includes a risks list and the party responsible for each type of risk. The State of Rio de Janeiro includes in its PPP Manual an example of a PPP risk matrix for a PPP infrastructure project.[24] Once identified, the risks allocation should be negotiated between public and private sector in order to include specific clauses in the PPP contract.

3. Public Private Partnerships in Brazil

3.1. Legal Framework

In order to ascertain private and public interests in PPP projects, the legal framework must be well established.

According to the European Commission:[25]

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[24] Manual de Parcerias Público Privadas – PPPs Governo do Rio de Janeiro (2008) http://download.rj.gov.br/documentos/10112/167695/DLFE-32801.pdf/manual_PPP.pdf Annex 2

[25] Guidelines for Successful Public-Private Partnerships. European Commission (2003) http://ec.europa.eu/regional_policy/sources/docgener/guides/ppp_en.pdf

> "PPP arrangements come in many forms and are still an evolving concept which must be adapted to the individual needs and characteristics of each project and project partners. Successful PPPs require an effective legislative and control framework and for each partner to recognize the objectives and needs of the other."

Unlike other countries, the concept of public private partnerships in Brazil is applied only for administrative and sponsored concessions, or concessions that involve payment or compensation from the public to the private partner. Law 11,079 of December 2004 defines in Article 2 three types of concessions of public work or services: (i) administrative concessions; (ii) sponsored concessions; and (iii) "other" or "ordinary" concessions subjected to Federal Law 8,987 / 1995.

3.1.1 The Concession Law 8,987 / 1995

The Concession Law was approved on February 13th 1995 and regulates article 175 of the Federal Constitution, authorizing private concessionaires to operate public services. It establishes rules for public works and service concessions in Brazil,[26] rights and responsibilities of the contracting parties (including users), which government bodies can grant concessions, and defines concession types. Although Federal, State and Municipal authorities can alter their legislation it must satisfy specificities for each type of service. The process of selecting bidders for the tender is also determined by the 8,987 Law, as minimum contents required on concession contracts and tariff policy. There is no maximum term for a concession but it must be fixed in the bidding process. Since there is a fixed term determined for services completion, the 8,987 Law lists the acceptable reasons for contract termination.

This model works well for low risk projects and worse for greenfield projects.[27] Two main features of the concession law that limited private partnerships were: (i) project

[26] Portal Brasil, Contracts and Acquisitions. http://www.brasil.gov.br/para/invest/contracts-and-acquisitions/concessions accessed on 03/10/2013.

[27] Stetner, Renato (2011) - An Overview of Concessions and Public-Private Partnerships in Brazil

risk is fully assumed by the private partner; and (ii) the restriction of government granting subsidies or guarantees to the private partner. In order to increase the attractiveness of high cost infrastructure projects, the Brazilian government enacted the 11,079 Federal Law or the "Public Private Partnership Law" in December 2004.

3.1.2 The PPP Law 11,079 / 2004

As already mentioned, the Federal Law 11,079/2004 defines PPP in the Brazilian context as comprised of the following two types of concessions:

- *Sponsored Concession*: a public services or public works concession by which the private concessionaire receives both a tariff to be paid by end users and subsidies from the government or government entity to cover part of project costs.[28]
- *Administrative Concession*: a service provided by the private entity to the public entity without receiving any tariff or users fees. The government entity makes a payment on the basis of the services received from the private partner. This type of concession is applied to projects that have social and economic return but in which it is not feasible to impose a tariff, so the government is the service user and compensates the private partner. Examples of possible administrative concession are building and maintenance of penitentiaries or public hospitals. In fact the administrative concession is considered by some specialists as not being a concession at all, but a long term provision of services to the state, further subjected to the Procurement Law 8,666/93 that limits service administrative contracts to five years term.[29]

Concessions that do not receive any financial support from the public partner remains governed by the concession law.

[28] The total amount of public subsidies cannot exceed 70% (for sponsored concessions) of the total concessionaire revenue, unless there is a specific Legislative authorization. Art 10 § 3 of Law 11,079/2004 http://www.planalto.gov.br/ccivil_03/_ato2004-2006/2004/lei/l11079.htm accessed on 03/16/2013

[29] Bandeira de Mello, (2009,p772). Curso de Direito Administrativo..

Main provisions in the Federal PPP Law are:[30]

i. The statute's rules are applicable to all federal PPPs; it provides also general rules to be applicable to the States' and Municipalities' PPPs;
ii. The minimum value for a PPP is R$ 20,000,000.00 (twenty million reais), the minimum term is 5 (five) years and the maximum term is 35 (thirty five years);
iii. The lenders have step-in rights, and the state is authorized to pay the consideration arising from the PPP Agreement directly to the lenders, if the relevant financing agreements so establish;
iv. The state's consideration may be paid to the concessionaire in cash, in the form of non-tax credits, in the form of other rights in face of the state, use of government real estate, and other lawful means provided for in the relevant Concession Agreement;
v. The state is authorized to establish a performance based remuneration to the benefit of the concessionaire;
vi. The state may only make any payments[31] to the concessionaire after the services are made available; partial payments for partial availability of services is allowed;
vii. The contract may include payment[32] to the private partner for the investment during the construction period;[33]
viii. The state may provide warranties to its payment obligations, in the form of dedicated revenues, use of special funds, provision of performance bonds with independent insurers, warranties posted by multilateral institutions or independent banks, warranties provided by special funds or companies created with this aim by the state;
ix. The federal government will establish a fund to provide warranties to its obligations pursuant to PPP Concession Agreements.

There was an intense debate when the law was passed if the PPP contracts would be a way to circumvent the limits imposed by the Fiscal Responsibility Law (Lei de Responsabilidade Fiscal – LRF) [34] . Therefore the PPP Law[35] establishes a limit to

[30] Adapted from Stetner, Renato (2011) - An Overview of Concessions and Public-Private Partnerships in Brazil

[31] Referred to as "contraprestações" in Brazil.

[32] Referred to as "aporte de recursos" in Brazil

[33] Introduced by the Provisional Measure 575/2012 and converted by Law 12,766 in December 2012.

[34] Source: Brazil Government, Lei Complementar 101 de 04 de maio de 2000 available at:
http://www.planalto.gov.br/ccivil_03/leis/lcp/lcp101.htm

[35] The originally enacted Law imposed the limit of only 1% of NCR commitment to expenditures arising from PPP by States and Municipalities. In 2009, this limit rose to 3% and was increased to 5% with the Law 12.766 / 2012 which will be discussed in the next Section.

the amount of expenditure on PPP contracts that cannot exceed 1% and 5% of the net current revenue for the Union and for the States and Municipalities respectively. If States or Municipalities exceed the limit, the Central Government will cancel voluntary grants and guarantees until the limit is reestablished by the federated entity.

Until Provisory Measure 575 / 2012 converted by Law with the enactment of Law 12,766/2012, public payments to the concessionaire was only permitted after the service was at the disposal of the user (even partially). This was a relevant issue for private investors since the private partner would have to build all of the works/ facilities, making huge capital expenditures for many years without receiving any cash flow.[36]

The Provisory Measure 575 dated from August 2012 was a signal that the government intended to alter the PPP Law and sought to encompass the two problems outlined above. It was converted by the Law in December 2012 which will be discussed in the next topic.

3.1.3 The December 2012 Law 12,766 / 2012

The Federal Law 12,766 enacted in December 28th 2012 brought some important innovations to the PPP Law 11,079/2004.[37] First, it increases the maximum level of commitment for PPP payments for States and Municipalities from 3% to 5% of NCR. This measure was for some States an urgent issue since their few ongoing projects

[36] Stetner, Renato (2011) - An Overview of Concessions and Public-Private Partnerships in Brazil

[37] Law 12.766 of December 27, 2012 introduced changes to several laws, including the PPP Law. The PPP legal framework in Brazil was developed taking advantage of related international experience, including the UK Private Finance Initiative (PFI). Coincidentaly, in the same month changes were introduced to the Brazilian PPP Law (i.e., December 2012), the UK Treasury made changes to its PPP program, by *inter alia* introducing the new brand name of PFI -- it is now PF2.(UK Treasury (December 2012): "A new approach to public private partnerships." The report is available at:

http://cdn.hm-treasury.gov.uk/infrastructure_new_approach_to_public_private_parnerships_051212.pdf) According to the report, changes were introduced because PFI, the form of PPP used most frequently in the United Kingdom, "has become tarnished by its waste, inflexibility and lack of transparency."

have already reached large portion of the imposed limit. Navarro (2011) pooled data from four Brazilians states with relevant projects in PPP underway in October 2011 and stressed that the limit proves to be insufficient for the large amount of infrastructure projects required by local governments.

Table 1: Payment for PPP projects relative to Net Current Revenue (selected States)[38]

	2010	2011	2012	2013	2014	2015
Bahia	**0.11**	**0.69**	**0.74**	**1.19**	**1.15**	**1.11**
From State: (Fonte Nova Stadium and Subúrbio Hospital)	0.11	0.55	0.53	0.99	0.95	0.92
Nondependent state enterprises:	0.00	0.14	0.21	0.20	0.19	0.19
Pernambuco	**0.11**	**0.82**	**0.83**	**0.89**	**0.89**	**0.86**
From State:						
Bridge and Road Praia do Paiva	0.11	0.11	0.11	0.10	0.07	0.06
Itaquitinga Prision Complex	0.00	0.71	0.72	0.75	0.79	0.77
Stadium for 2014	0.00	0.00	0.00	0.03	0.03	0.03
Minas Gerais	**0.03**	**0.09**	**0.26**	**0.57**	**0.55**	**0.50**
From State:						
Highway MG-050	0.03	0.03	0.03	0.03	0.03	0.02
Prison Complex	0.00	0.03	0.20	0.24	0.23	0.22
Integrated Service Unit (UAI)	0.00	0.04	0.04	0.04	0.04	0.04
Stadium Mineirão	0.00	0.00	0.00	0.27	0.25	0.22
São Paulo	**0.11**	**0.19**	**0.29**	**0.28**	**0.27**	**0.25**
From State:	0.06	0.12	0.22	0.21	0.20	0.18
Nondependent state enterprises:	0.05	0.07	0.07	0.07	0.07	0.06
Memo:						
NCR (in R$ billions)						
Bahia	17.4	18.9	19.6	20.3	21.0	21.7
Pernambuco	12.4	12.9	13.3	13.8	14.2	14.7
Minas Gerais	33.2	34.3	35.5	36.7	38.0	39.3
São Paulo	99.9	103.4	106.9	110.6	114.4	118.3

Source: Secretaria do Tesouro Nacional, Relatório Resumido de Execução Orçamentária do 6º bimestre de 2010.

[38] Adapted from Navarro (2011). Relatorio Evolução das PPP no Brasil

As can be seen in Table 1, the state of Bahia has already exceeded the limit of 1% of NCR imposed by the original PPP Law. For the State of Pernambuco, only one project is responsible for 0.8% of NCR, limiting the approval of new projects.

The guarantee fund was also object of some modifications applicable for the Federal Level in Law 12,766/2012.[39] The minimum term for the private partner to trigger the guarantee fund reduced from 45 to 15 days of due date for any accepted and not paid invoices provided that there is no founded act that rejected the payment. For invoices not formally accepted by the public partner (without any express reason), the term reduced from 90 to 45 days to trigger the use of the fund. More important than the term's reduction is the fact that it allows the concessionaire to trigger the guarantee fund in the case of governmental silence.

However, the most important innovation brought by the 12,766/2012 Law is the institution of the payment of public resources to the private partner for investments upfront, that is, prior to the delivery of services by the concessionaire. These payments will receive a different tax treatment - it can be deducted from the net income that determines the profit tax basis, as well as other taxation. In the Law text this different tax scheme is introduced as a possibility, which may induce some uncertainty among private sector actors.[40] The payment of part of capital expenditures during the construction phase is important to reduce risks and future government disbursement flows to the private partner. This may seem a little controversial at a first view mainly due to the biased perception that the main benefit for PPPs is to finance infrastructure, postponing the payment streams. The postponement of all the payment for the capital investment to the private partner

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[39] Those changes were already introduced by Provisional Measure 575/2012

[40] "§ 3o O valor do aporte de recursos realizado nos termos do § 2o **poderá** ser excluído da determinação: I - do lucro líquido para fins de apuração do lucro real e da base de cálculo da Contribuição Social sobre o Lucro Líquido - CSLL; II - da base de cálculo da Contribuição para o PIS/Pasep e da Contribuição para o Financiamento da Seguridade Social - COFINS."

increases the financial cost associated with the project and hence the expected rate of return on equity. The payment in advance of part of the capital costs reduces the flow of future payments by the government, signals a government's commitment to the project, and reduces the amount of value subjected to risk of non-payment of its future obligations. Whereas the private market may still have some uncertainty to the long-term modeling of a PPP, the possibility to receive payment for part of the capital cost during the investment period was an important step to stimulate PPPs.

Thus, the changes introduced by Federal Law 12,766/2012 make PPPs more appealing to private investors than originally, which seems to be the intention of the government to incentive infrastructure projects.

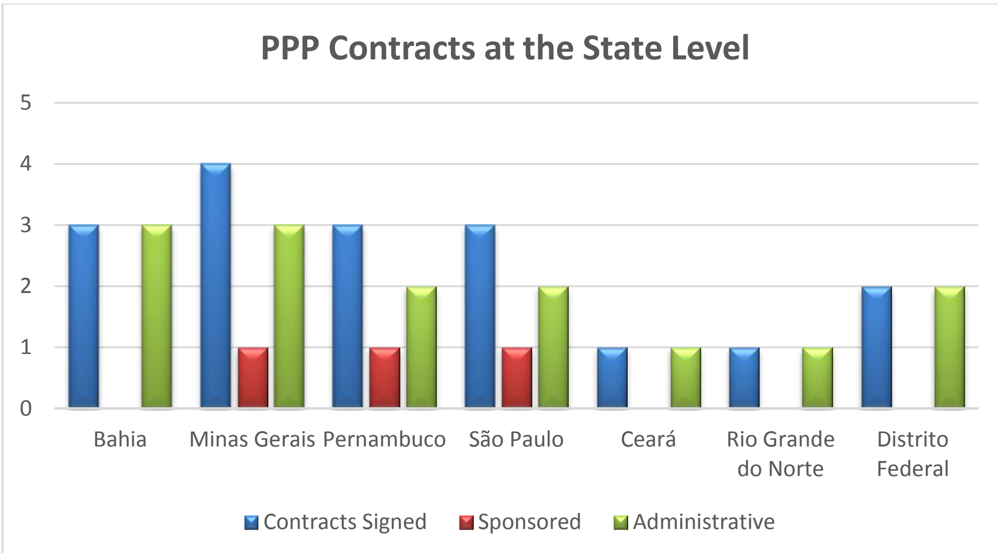
3.2 Experience and Projects – some numbers

At the Federal Level, the first PPP project started operation in March 2013, under Law 11,079. The Datacenter Complex located in Brasília, Brazil's Federal District, aims to ensure the continuity and expansion of the business of public banks Caixa Econômica Federal and Banco do Brasil for the next 15 years while reducing operational risks, and to follow international norms dealing with IT security in banks. The investment for the construction and installation of the entire complex was R$ 322 million. According to data collected from the PPP Unit based on the Ministry of Planning and Management, there is one project at the auction phase, four being analyzed, and one at the Procedure for Expressing Interest ("Procedimento de Manifestaçao de Interesse – PMI" in Portuguese)[41] stage. A report compiling data at the state level dated from June 2010 lists PPP projects status. Some States with

[41] The PMI is a tool that institutionalizes the public-private dialogue about a project of public interest to be awarded to the private sector. The PMI is an invitation to the private sector to submit, at his own risk, proposals for a project of public interest that, in the future, may be bid as a PPP or other form of contract. As a rule, the authors will be paid by the successful bidder, provided that the government incorporate the study in the bidding documents, in whole or in part. Like other federated entities, the State of Rio de Janeiro set rules and procedures with the goal of allowing private sector participation in the structuring of PPP projects of interest to the state government through Decree No. 43,277 of November 7, 2011.

more experience in this type of modelling maintain project data available through websites. The Figure 1 shows an estimated number of PPP projects approved at the State Level by type of contract until 2013, according to information collected from different sources:[42]

Figure 1: Number of PPP projects approved at the State Level



From the data above it should be noted that from the total of 17 PPP contracts already signed at the State Level, five are for soccer stadiums in host cities for the 2014 World Cup. Regarding the type of concession, only three projects are sponsored concessions namely, the Metro Line 4 in São Paulo, the MG-050 Highway in Minas Gerais and the Bridge and Road to "Praia do Paiva" in Pernambuco.

[42] Sources: Ministry of Planning and Management – PPP projects June 2010. Available at: http://www.planejamento.gov.br/hotsites/ppp/conteudo/projetos/arquivos_down/table_of_ppps.pdf

PPP Brasil, relatório sobre as PPPs Estaduais http://www.pppbrasil.com.br/portal/content/relat%C3%B3rio-sobre-ppps-estaduais and updated according information collected by State web-sites.

For a list of PPP Units websites see the Federal PPP Unit page: http://www.planejamento.gov.br/hotsites/ppp/conteudo/projetos/estaduais/estaduais.html

Some states are noteworthy for the development of PPP projects, including Minas Gerais, Bahia and São Paulo. The International Finance Corporation, a member of the World Bank Group, in partnership with the Infrastructure Journal, have released a publication in 2013 with the top 40 PPPs projects in Emerging Markets. Around 120 projects were eligible as a result of collating information and submissions from the public to be considered by regional judging panels. Each project was scored based on the following criteria:[43] (i) financial innovation (use of creative finance structures); (ii) technological innovation; (iii) developmental vision (measurement of social impact, sustainability with minimal stress on environment); (iv) replicability; and (v) impact (number of people directly benefited as a result of the PPP). Projects also must have reached financial close for at least part of the project between January 2007 and June 2012.

The São Paulo Metro Line 4 was awarded with the top "Gold" recognition in Emerging Partnerships in Latin America & the Caribbean. The metro infrastructure (tunnels, stations and track) was built with financial contributions and loans from the state government, the World Bank and JBIC. The private concessionaire (ViaQuatro) was responsible for acquiring the metro trains, signaling and power supply systems and for operating the completed line. The concessionaire receives a charge per passenger carried on the line daily, fixed payments to cover operation and maintenance costs (subject to performance targets), and revenues from commercial development at the metro stations. The state government shares gains and losses derived from more than 10% of the forecasted demand. If ridership falls below predicted levels, the government compensates the concessionaire for the revenue shortfall. On the other hand, if the actual number of passengers is higher

[43] Emerging Partnerships – Top 40 PPPs in Emerging Markets. IFC, World Bank and IJ Infrastructure Journal, (2013). Available at: http://www1.ifc.org/wps/wcm/connect/511912004ebc2c059d48bd45b400a808/EmergingPartnerships_FINAL_lowres.pdf?MOD=AJPERES

than forecasted in the contract, the government will receive the excess revenue from the concessionaire. The Metro Line 4 is already one of the most heavily used metro lines in São Paulo, carrying 650,000 people a day and rising, what leads to payments from the concessionaire to the state-owned metro company.[44] In January 2013, the experience acquired led the State of São Paulo to call bids for metro Line 6 that will include infrastructure works as well.

Minas Gerais is the State with more PPP projects underway. It was the first state to pass a specific law[45] for public private partnerships, in December 2003, one year before the Federal Law 11.079 / 2004 enactment. The state PPP Unit of Minas Gerais founded in 2003 is charged with executing all operational activities related to the implementation of a PPP and is currently recognized by other Brazilian states for its good experience in structuring and preparation of projects, and serves as a reference in case studies in Brazil.

The first PPP implemented in the State of Minas Gerais was the state highway MG-050. The prison complex Ribeirão das Neves, inaugurated in January 2013 is the first private operated prison in Brazil. The concessionaire is responsible for all operation and maintenance, including security and is paid according to performance. This is Minas Gerais' first PPP contract under administrative concession (without user charging). The State government structured a guarantee fund using state revenues that will cover all capital expenditure in order to reduce risk associated with government payments for the private investors. Other PPP ongoing projects includes the Mineirão Stadium that will be used in the 2014 Soccer World Cup, and

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44 Passos (2013). Public or Private: how to fund metro investment? Available at: http://www.axiom.com.br/poli66/carlinhos/Gazette.pdf

45 Law 14,868 enacted in December 16th 2003. Available at: http://www.ipsm.mg.gov.br/arquivos/legislacoes/legislacao/leis/lei_14868.pdf

the Integrated Service Unit (UAI) where citizens can renew or obtain copies of all their documents and certificates.

Bahia was the first state to adopt a PPP in healthcare with the Subúrbio hospital located in its capital Salvador. The construction was already in progress but state government decided to structure a partnership to supply equipment and carry out all services and maintenance. The 10-year contract includes 70% of payments related to bands of patient attended and 30% linked to quality indicators. The hospital became operational in 2012 and results demonstrate not only quality of service, but the potential to improve a project after award. The number of patients were more than double of initial projections and the concessionaire added beds and negotiated a higher payment from the authority. The Subúrbio hospital project serves as a model to more full PPPs in healthcare including design and construction, several of which are underway elsewhere in Brazil.

4. The case of Rio de Janeiro State

In Brazil, among the 26 States and the Federal District, Rio de Janeiro presents the second highest GDP (accounting for 10.8% of national GDP) and the third largest population with 16 million inhabitants. In terms of territory extension, it is the fourth smallest state in the federation.[46] The Planning and Management State Secretariat published in March 2012 the Strategic Plan for 2012 – 2031 representing the consolidation of identification of “constraints and opportunities for the development of the economic, social and environmental reality”[47] of Rio de Janeiro State. The report presents results of 15 indicators related to: (i) economy and public finance, (ii) income, equality and safety, (iii) health & environment, and (iv) human capital for

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[46] Source: Desenvolvimento Econômico – Indicadores e Dados Econômicos available at: http://www.rj.gov.br/web/sedeis/exibeconteudo?article-id=317302

[47] Source: Strategic Plan – State Government of Rio de Janeiro 2012-2031 available at: http://download.rj.gov.br/documentos/10112/179269/DLFE-50347.pdf/StrategicPlan20122031.pdf

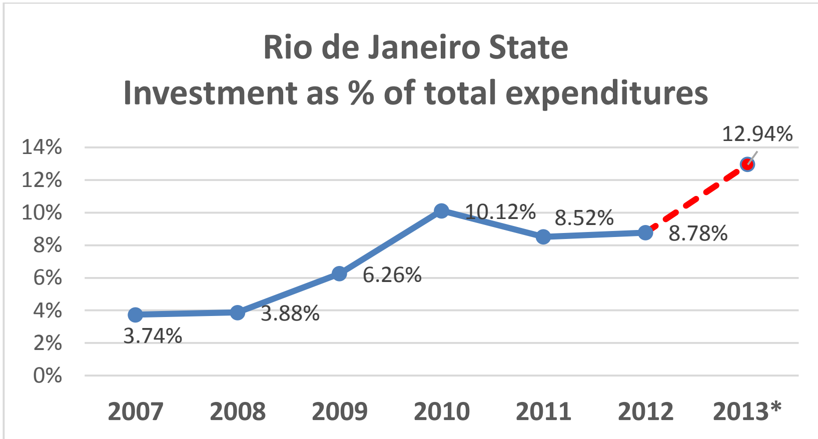
four different scenarios until the year of 2031. It also lists the long term sectorial challenges to overcome between 2012 and 2031. According to the report, Rio's infrastructure requires several interventions in projects like the expansion of the subway system in the capital city, modernization of train wagons, investments in roads (new ones and repaving and dualizing existing roads) as well as expansion of sanitation systems for the Metropolitan region. It is estimated that the State of Rio de Janeiro still has more than 2,000 kilometers of unpaved roads. The government plans to supply half or more of this need in four years, and expects that until 2031 all these roads have been paved. Besides these projects, other actions regarding the urbanization of low income communities in the capital city and the resettlement of dwellers of areas threatened by hundreds of potential landslides in the countryside shall occur in parallel to the renovation of public schools and to the refurbishing of police stations. The conquest of the right to host international sports mega events – World Cup 2014 and Olympics 2016 – have been an opportunity to accelerate investments in physical and social infrastructure which are expected to lay the foundations for higher state growth.

4.1 Investments needs / opportunities

The Government of Rio de Janeiro State has increased the amount of spending dedicated to investments during the last 6 years. As it can be seen in Figure 2, during the period from 2007 to 2012, the amount spent on investments by the government of Rio de Janeiro rose from 3.7% to 8.8% of the annual budget reaching a peak in 2010 when it exceeded 10% of the total budget.[48]

[48] Source: Sistema de Informação Gerenciais SIG/SIAFEM. Secretaria de Fazenda do Estado do Rio de Janeiro. Accessed on 03/20/2013

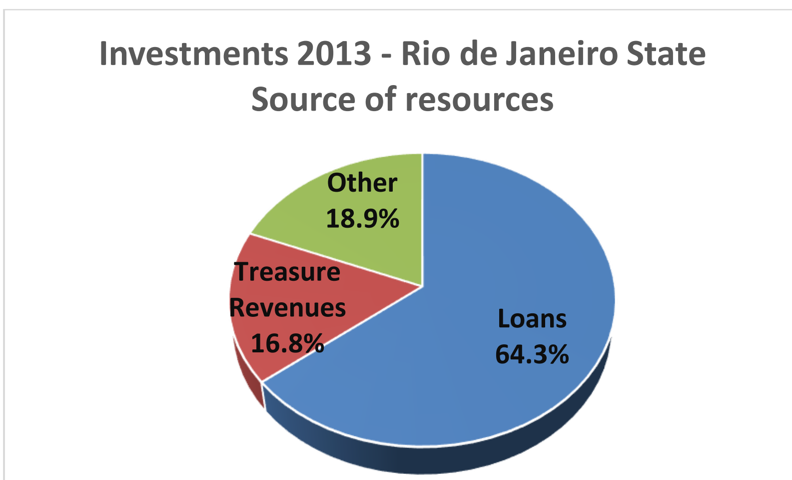
Figure 2: Annual investment as a percentage of total expenditures – State of Rio de Janeiro



(*) Appropriation approved in the Annual Budget Act of 2013[49]

For the year of 2013, the approved annual budget targets expenditures totaling R$ 72.7 billion with investments accounting for R$ 9.4 billion or 12.9% of the total.

Figure 3: Source of resources for planned investment in 2013 - State of Rio de Janeiro



[49] Annual Budget Law 6,380 / 2013 for Rio de Janeiro State. Available at: http://download.rj.gov.br/documentos/10112/186190/DLFE-57612.pdf/Livro_LOA_2013.pdf

The total amount of new loan operations projected for 2013 is R$ 6.0 billion, what covers 64% of the investment for the period (Figure 3). Main projects are the expansion of the metro line in the city of Rio de Janeiro as well as other transportation works, sanitation works, urban works, and expenditures related to the Soccer World Cup of 2014 and the Olympic Games of 2016.

The Rio de Janeiro State Pluriannual Plan (PPA)[50] approved for the period of 2012-2015 allocated resources of R$ 19.8 billion in investments (planned or already in progress) mostly designed for infrastructure.[51] Therefore, the state of Rio de Janeiro experiences a moment of great investment opportunities in infrastructure that could be maximized with increased private sector participation.

The limits for the consolidated debt of states and municipalities were set in December 20, 2001, by Resolution No. 40 of the Senate who is responsible, under the Federal Constitution, for setting debt limits and conditions for contracting operations credit. In compliance with article 30 of the Fiscal Responsibility Law - LRF[52], the President referred to the Senate proposal for global limits on the amount of consolidated debt of the States, Federal District and municipalities, as a percentage of the net current revenue - NCR. Limits were set at 2 times the size of NCR for states and federal district and 1.2 times for municipalities until the year of

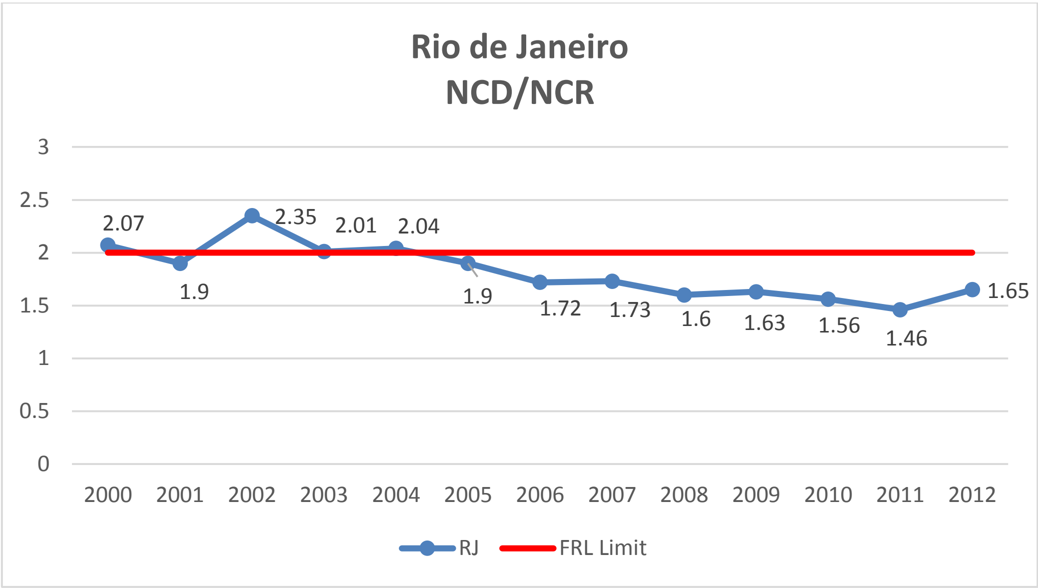
[50] The PPA is an instrument of medium-term planning that establishes the government's longer-term actions, setting guidelines and goals for public programs and projects over a period of four years. More information available at: http://www.planejamento.gov.br/link_secretaria.asp?cod=9150&cat=569&sec=10&sub

[51] The PPA covers four budgets, but its fiscal base changes annually. Source: PPA de Bolso – Plano Plurianual 2012-2015 Gov. do Estado do Rio de Janeiro. Available at: http://download.rj.gov.br/documentos/10112/780695/DLFE-51468.pdf/PPAdeBolso20122015.pdf

[52] Source: Brazil Government, Lei Complementar 101 de 04 de maio de 2000 available at: http://www.planalto.gov.br/ccivil_03/leis/lcp/lcp101.htm

2016. Figure 4 shows the trajectory of the ratio NCD / NCR from 2000 to 2012 for the State of Rio de Janeiro:[53]

Figure 4: Ratio net consolidated debt / net current revenue – State of Rio de Janeiro



The State of Rio de Janeiro has presented values consistently below the limit imposed by the Fiscal Responsibility Law – LRF since 2005, but the fiscal space may not be sufficient to cover all investments planned for the coming years.

In a scenario of budget constraints, infrastructure investments made with PPP modelling may be an interesting solution, since the public sector may not have the financial capacity to implement it without the private partnership. Moreover, it should be analyzed if the public sector will have the capacity to carry out a large number of infrastructure investments in a short period of time.

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[53] Source : Brazil Government, Secretaria do Tesouro Nacional, Ministério da Fazenda. Available at: https://www.tesouro.fazenda.gov.br/images/arquivos/Responsabilidade_Fiscal/Prefeituras_e_Governos_Estaduais/arquivos/copem/financas_estaduais_divida_liquida.pdf Accessed on 04/06/2013.

4.2 Legal framework

The State of Rio de Janeiro approved Law 5,068 in July 2007 that creates and regulates public–private partnership programs (PROPAR) at the State level. The law complies with the general rules established by Federal Law No. 11,079/2004, and govern the special features of the local partnership program, serving as a guarantee for the local management agency.

The Law establishes the PROPAR Management Council ("Conselho Gestor do Programa Estadual de Parcerias Público-Privadas – CGP" in Portuguese), reporting directly to the Chief Executive and defines its members and responsibilities. In November 25th 2011, State Law 6,089 created the State Partnership Fund (Fundo Fluminense de Parcerias – FFP) and modified three Articles of Law 5,068/2007, in order to consider modifications done at the Federal Law 11,079 and related to the sources of revenues that may feed the FFP. The FFP operations, however, still have to be regulated.

4.3 Governance and management

Capacity building is essential to empowering agencies and staff to take the lead in PPP projects. This has been identified in several countries, as indicated, for example, in the Public-Private Partnerships (PPP) Days -- a four-day conference jointly hosted by the United Nations Economic Commission for Europe (UNECE), the World Bank Institute, and the Asian Development Bank, held in Geneva on 21-24 February 2012.[54] Reviewing PPP options and carrying out financial analysis of PPP projects is one of the key areas demanding enhanced capacity and better understanding. It is important to ensure that only the so called "best projects" or projects that provide value for money for the society will be chosen. Considering

[54] More details are available at: http://www.unece.org/index.php?id=27543

PPP arrangements, the role of government in management and regulation is crucial. In this sense, it includes all the phases of modeling, construction and operation as well as an effective contract monitoring to ensure that quality and timing obligations are being met. According to World Bank Guidelines:

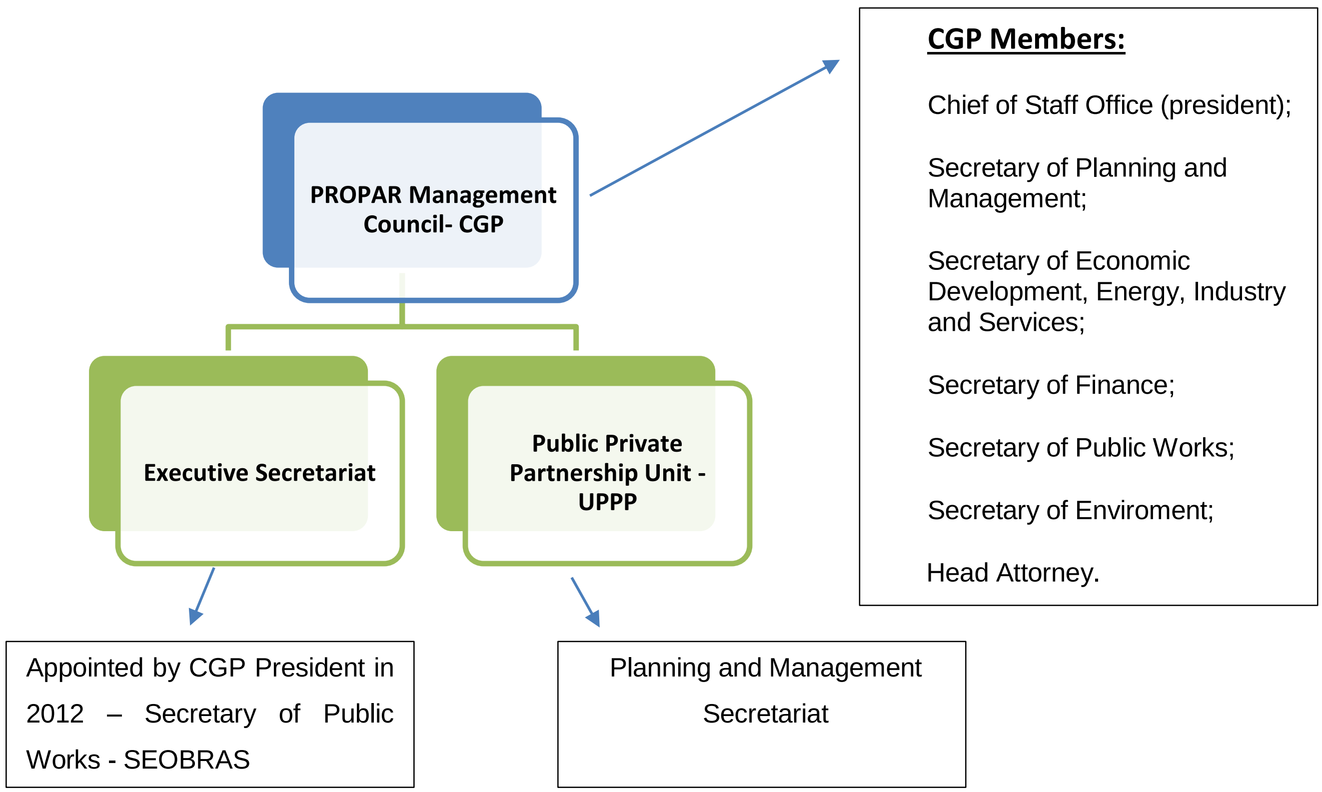
> "Without sound plans, responsible agencies will not have the full view of potential projects that could be implemented and will not know the sequence in which to implement the projects to achieve the best value for money, and cross-sector coordination will be weak."[55]

Once defined government priorities and possible candidate projects, it is important to implement a competitive procurement process with a well-defined and structured PPP project. This will help to minimize uncertainties to the market and consequently post bid negotiations what increases competitiveness among bidders and more efficiency gains and transparency to the process.

The Organizational Structure for PPP projects was defined by State Law 5,068/2007 together with the description of each unit responsibilities. A basic diagram would be as follow:

[55] Public Private Partnerships – Reference Guide. World Bank Institute, PPIAF http://www.ppiaf.org/sites/ppiaf.org/files/publication/Public-Private-Partnerships-Reference-Guide.pdf accessed on 2/25/2013

Figure 5: Organizational Structure for Public Private Partnerships in Rio de Janeiro State.



The management council – CGP is the main instance for approving PPP projects, bidding documents and contracts. It authorizes the opening of the bidding process as well as the use of resources of the State Partnership Fund - FFP as a guarantee of financial obligations incurred by the Administration in the PPP contract. Each CGP member is responsible for giving their advice according to the respective activity area. The CGP shall prepare annually the State PPP Plan with the approved projects and priority areas subjected to the program - PROPAR.

The Public Private Partnership Unit – UPPP is responsible among others for assisting the CGP, executing the operational and coordination activities referred to PPP projects, giving technical support to state units, disseminating concepts and methodologies for PPP contracts and elaborating management reports of PPP contracts. The UPPP should also conduct studies and recommend priority projects.

The state government has sought to stimulate PPP projects, proof of this is the definition of the Executive Secretariat in 2012 and the publication of the first PPP project bidding in 2013. Measures such as training of the staff involved in the organizational structure and interaction with other PPP units in Brazil will enhance the knowledge and technical skills that are necessary for a PPP program of excellence in the state of Rio de Janeiro.

4.4 Costs and attractiveness

The Art.10 of Rio de Janeiro State Law 5,068/2007 sets as a prerequisite for launching a PPP project demonstrating the convenience and opportunity of providing services through PPP. The project's technical study should demonstrate that:

I - the actual public interest, considering the nature, relevance and value of the project, as well as the priority of its implementation, subject to government guidelines;

ii - the economic and operational advantages of the proposed project and the improvement of efficiency in the use of PPP as compared to other options, namely: traditional public procurement and ("common") concessions governed by Federal Law No. 8,987 of February 13, 1995;

iii - the goals and outcomes to be achieved, forms and deadlines and amortization of invested capital, as well as details of the evaluation criteria or performance to be used;

iv - the effectiveness of indicators to be adopted, due to its ability to assess, on a permanent and objective performance of the private entity or the outcomes and outputs as well as the parameters that link the fee to the results achieved;

v - the private entity feasibility of obtaining from the operation of the service, financial and economic gains sufficient to cover their costs;

vi - the form and terms of repayment of capital to be invested by the contractor, stating the projected cash flow and internal rate of return;

vii - the fulfillment of fiscal and budgetary requirements set forth in Art. 11 of the Federal Law. 11.079, of 30.12.2004.

The PPP Manual published in April 2008 by the Rio de Janeiro State PPP Unit defines that the public unit responsible for the project shall conduct a technical study in order to include it in the framework of the State PPP Plan.

The Unit responsible for the project should prepare the above mentioned studies in order to decide whether or not to adopt the PPP option, and the subsequent publication of the request for proposals. The Unit can do this: (i) by itself, (ii) by a consultant specifically hired for such purpose, or (iii) it may receive and validate studies carried out by private interested parties. The last option, involving a private party to carry out the studies and a simple validation from the government is known as Procedure for Expressing Interest ("Procedimento de Manifestaçao de Interesse – PMI" in Portuguese).

All of the options above are time, effort and cost demanding, which could discourage a state entity from considering PPP as an option for the project. According to the PPP guidelines, the state entity responsible for the project should prepare a preliminary study before incurring the expenses inherent in the development of a PPP. The preliminary study should contain, among other information, a demonstration of the economic advantages of adopting the PPP. A basic financial model would help the government to disseminate the concept throughout different state entities helping them to have a preliminary evaluation, in order to assist structuring potential PPP projects.

The World Bank developed a toolkit for PPP in roads and highways. As part of the toolkit, simplified financial models were developed to assist in the preliminary assessment of the financial feasibility of roads PPP projects. The financial models are flexible enough for application in sectors other than roads.[56] An example will be used here to illustrate the application of the graphical financial model to a potential administrative concession in Rio de Janeiro State. Let us assume the following parameters defining the project:

- Concession life: 30 years
- Construction cost: $ 100 million
- Construction Period: 2 years (considering 50% of total cost for each year)
- Equity: 30 % (70% credit)

Table 2 was prepared using the financial model. It shows the values of the annual payments from government ("contraprestações") to the private partner, according to different scenarios: (i) annual operational costs of 3% and 6% of the construction cost; and (ii) targeted internal rate of return of 9% and 13%.

Other criteria used in the calculations included:

- Minimum return on equity: 15%
- Minimum annual debt service coverage ratio: 1.2
- Investment subsidies: 0
- Debt maturity: 20 years
- Loan Interest rate: 6% annually
- Loan grace period: 2 years
- Inflation rate: 0%
- Corporate tax rate: 30%

[56] Toolkit for Public Private Partnership in Roads and Highways – PPIAF The World Bank. Available at: http://www.ppiaf.org/sites/ppiaf.org/files/documents/toolkits/highwaystoolkit/6/financial_models/index.html

Table 2: Estimated annual value of State obligation ("contraprestações") for an administrative concession example using the World Bank toolkit of PPP in roads and highways

(In K$)

	Operational Cost / Construction Cost		% Increase
	3%	6%	
IRR 9%/year	17,666	21,024	19.0%
IRR 13%/year	23,543	26,901	14.3%
% Increase	33.3%	28.0%	

As it can be seen from Table 2, an increase of IRR from 9% to 13% results in an increase of 33.3 % to the annual payment, considering operational costs of US$ 3 million. Also, the annual payment increases by 19.0% when the annual operational cost doubles from US$ 3 million to US$ 6 million.

The toolkit can be used with flexibility according to different parameters and could be adapted or served as a model for the use in the pre-evaluation stage of PPP projects in Rio de Janeiro and other states in Brazil.

A complete value for money assessment requires consideration of qualitative factors along with the quantitative assessment (including the infrastructure and services solution). Identifying the best outcome requires a flexible valuation process and the consideration of the qualitative factors associated with the project that have not been explicitly valued. A proposed methodology should contemplate a qualitative analysis of merit for each project.[57]

[57] (Grilo, Alves, 2011). Guia Prático de Análise do Value for Money em Projetos de PPP. http://dl.dropbox.com/u/18438258/Leonardo%20Grilo/Guia%20Pr%C3%A1tico%20de%20An%C3%A1lise%20do%20Value%20for%20Money%20em%20Projetos%20de%20PPP%20(2012%2011%2030).pdf

Considering budget limitations, the comparison may consist of choosing between doing the investment and not doing it, since the public sector may not have the financial capacity to implement it without the private partnership. The challenge in this case is to measure the social opportunity cost and to establish a transparent way to select priorities among different projects.

4.5 Projects in course

The State of Rio de Janeiro does not maintain a specific webpage for the Public Private Partnership Unit or for PPP projects underway. The "PPP Brazil" portal[58] released a report in 2012 on PPP projects currently being structured via Procedure for Expressing Interest - PMI.[59] The research involved the PMI published by the States and the Federal District. Data were obtained both by research conducted in government websites and official press. According to this report, the State of Rio de Janeiro has solicited 4 project studies to be structured by PPP listed below:

Table 3: PPP projects in the State of Rio de Janeiro

Project	Sector	PMI Publication Date
Sewage in Municipality of São Gonçalo and Itaboraí	Sanitation (sewage)	13-Jan-12
Operation and Maintenance of the Maracanã Complex	Stadium / Arena	13-Jan-12
Metro - Line 3	Transport - metro	6-Jun-12
Construction and Building Maintenance of Health Units	Health	9-Mar-12

[58] PPP Brazil is a portal maintained by people interested in debating and spread events, ideas and opinions concerned to Public-Private Partnership (PPP). Source: http://www.pppbrasil.com.br/portal/en/content/observatory-public-private-partnership accessed on 03/24/2013

[59] (Pereira, Villela e Salgado, 2012). Relatório sobre projetos de PPP em fase de estruturação via PMI.

From the four projects, one is at the bidding phase, mainly the Maracanã Stadium, Rio de Janeiro City's main attraction and stage of the final world cup soccer match that will take place in 2014.

The Stadium was originally inaugurated on June 16th, 1950, having been used for World Cup soccer matches that year. For the 2007 Pan-American Games, Maracanã undergone a major renovation and hosted the opening and closing ceremonies. For the upcoming sport events to be held in Rio de Janeiro, the State government started in 2010 a major reconstruction in the Stadium. Altogether, 6.500 workers took part in Maracanã's reconstruction. Maracanã is expected to open in April 2013. The cost of the renovation totaled about R$ 650 million until 2012 and the projected amount for 2013 is estimated at R$ 245 million. From the total amount, some 60% was financed via loan operations.[60]

In January 2012, the Government of the State of Rio de Janeiro invited interested parties to submit the PMI for conducting the feasibility studies of technical, environmental, economic, financial and legal structure for the project of an administrative concession for the operation and maintenance of the Maracanã Complex.

Only one company presented a study that was adapted considering Government inputs and was presented for public consultation on October and November 2012. The call for tenders was published in January 2013 with date set for bid opening as April 11, 2013.[61]

[60] Source: Sistema de Informação Gerenciais SIG/SIAFEM. Secretaria de Fazenda do Estado do Rio de Janeiro. Accessed on 03/27/2013

[61] Source: Rio de Janeiro Government – Casa Civil. http://www.rj.gov.br/web/casacivil/exibeconteudo?article-id=1457206

The PPP of the Maracanã Complex is an administrative concession for the period of 35 years that will comprise the management, operation and maintenance of Maracanã Stadium and the Maracanãzinho arena (also called Maracanã Complex) preceded by works like the reform of Maracanãzinho arena and parking facilities around the Stadium. According to the tender document, the estimated value of the investments required for this concession is R$ 594 million.

The counterpart of the State for the private partner will be as follows: rather than to disburse a payment for services management, operation and maintenance of the complex, the State will receive an amount from the private partner. The idea is that the sports Complex generates revenue for the concessionaire more than enough to cover its operating costs and recoup its initial investment. The bidding process will combine the criterion of highest financial contribution to the State (in this case the counterpart payment by the government is a negative value) with best technique according to score defined in the bidding documents. The financial contribution criterion which has a weight of 40% of the total possible score was set at a minimum of R$ 4.5 million per year.

5. The Porto Maravilha case – Rio de Janeiro City

The development of the city of Rio de Janeiro is being driven by the large events that will occur in the city in the coming years. Within this context, the reuse of the old port area is an opportunity for occupying vacant space in a very well located region, being situated in close proximity to central Rio's hub of public transportation, from both of Rio's airports, as well as the bridge connecting Rio to Niterói city. The port area of the city of Rio de Janeiro has become greatly degraded, due to the reduction in port activities and the construction of the Perimetral Highway that converted the area into a passageway.

The City of Rio de Janeiro, with state and Federal government support, created the Porto Maravilha Urban Operation,[62] a special economic zone covering five million square meters at the port area of the city. To deliver the necessary infrastructure for this area, an administrative concession was structured under the PPP law and signed in 2010 with the Novo Porto consortium.[63] For a period of 15 years, Porto Novo will manage the public services in regards to operation and maintenance, in addition to the revitalization works of the Rio de Janeiro Port Region. The construction is estimated to last five years and will cover the renewal of 70 km of streets, installation of 84 km of drainage channels, 26 km of gas pipelines, 75 km of optical fiber lines and 500 km of electric cable. The old Perimetral overpass that crosses the area will be demolished in 2013, after the building of nearly 4 km of expressway tunnels and viaducts to carry the existing traffic. After the construction, the consortium will provide services and maintain infrastructure for 10 more years.

An important feature of this PPP project was the way found by the municipality of Rio de Janeiro to finance the payment to the concessionaire. The investment cost is forecasted at R$ 8 billion including works and services for the length of the contract and is being met without the use of municipal treasury funds. The city government raised the funds by the sale of additional construction potential certificates - CEPACs (an acronym to describe the name, in Portuguese, of Certificates of Additional Construction Potential). CEPACs allow the developer of a building in the area to build additional floors to the maximum allowed by regulations, according to the construction potential.[64] The sale of CEPACs enable financing the implementation of

[62] Created by Municipal Complementary Law 101/2009, the Porto Maravilha Urban Operation is managed by the Rio de Janeiro Port Region Urban Development Company (Cdurp), established by Complementary Law 102, in 2009. More information available at: http://portomaravilha.com.br/web/esq/mnuBrieFing.aspx

[63] Porto Novo Consortium is a company belonging to Construtora OAS Ltda., Construtora Norberto Odebrecht Brasil S.A., and Carioca Christiani-Nielsen Engenharia S.A.

[64] The construction potential is the quantity of square meters that can be constructed on a given piece of land, represented in the square meters of area contained in the building's height and number of floors. The law that creates the Porto Maravilha Urban Operation defines a potential increase of construction, which varies according

infrastructure interventions and are a way for the local government to capture a share of the private property value appreciation resulted of public improvements. This is a good example of a well-structured PPP project that could serve as a model of financing the government obligations in large infrastructure intervention.

6. Conclusion

The 2008 global financial crisis brought new challenges to the Brazilian Government, which pursued to use fiscal and monetary policies to stimulate domestic demand. The Federal Government has sought to encourage private sector participation in infrastructure investments in order to boost Brazilian competitiveness in the international arena. In this context, public-private partnerships has been viewed as an interesting model for infrastructure investments.

The correct risk identification and allocation between private and public partners is a determinant factor that leads to sound PPP projects. The Federal PPP Law enacted in 2004 (Law 11.079 / 2004) brought innovations to Brazilian administration by allowing a better allocation of contractual risks and letting the public partner to provide or complement revenues to the private partner when private investment cannot be recovered solely through user fees.

The first PPP in the form of administrative concession at the federal level began operation in March 2013. Other projects are still in the bidding and study phase. At the state level, some states such as Minas Gerais, São Paulo and Bahia have approved several projects and can serve as an example for future similar projects in other subnational governments.

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to the sector and type of use. To use the Additional Construction Potential the interested parties should purchase Cepacs.

The state of Rio de Janeiro is experiencing a period of great visibility domestically, as well internationally, because it will host international events of great magnitude in the forthcoming years. The state government has also an aggressive plan of infrastructure investments in areas such as transportation, roads, sanitation and health for the next 20 years as described in the strategic plan released in 2012.

The State Government passed the PPP Law for Rio de Janeiro in 2007.[65] Although some projects are at the evaluation phase, no PPP contract has been approved so far. The administrative concession comprising the management, operation and maintenance of the Maracanã Complex is at the bidding phase and will be the first PPP for the state of Rio de Janeiro. In 2012, the state government appointed the Executive Secretariat that will assist the PROPAR Management Council – CGP, a demonstration of the willingness to explore PPP as an alternative for infrastructure investments given the financial constraints faced by the state of Rio de Janeiro.

While the state of Rio de Janeiro has made progress in recent years with respect to PPP, given the impending investment needs and current fiscal limitations it will benefit significantly from a continued effort towards developing and refining PPP modeling and arrangements. There is substantial room for improvement and this will come with the experience acquired with projects developed within the state as well as from best practices from other subnational governments.

In summary, it seems fair to conclude that the state of Rio de Janeiro is on the right track to enhance its PPP program, in view of its willingness to learn from successful experience of other states and other institutions, and the variety of potential PPP projects currently under study.

[65] The Law 5,068 / 2007 needs to be updated in order to incorporate some important modification brought by Federal Law 12,766/2012.

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