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**Public-Private Partnerships and the Role of Internal
Control in the State of Rio Grande do Sul in Brazil**

MARCELO SPILKI

ADVISOR: CÉSAR QUEIROZ, Ph.D.

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"The definition of insanity is doing
the same thing over and over and
expecting different results."
Albert Einstein

This paper is dedicated to Jana, Luisa, and Lorenzo.

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1. Introduction

Developing countries face restrictions in economic growth caused by a deficit in infrastructure in transportation and other sectors. The limited fiscal revenues do not allow the necessary investments in infrastructure. Furthermore, governments have to share the scarce resources among other important areas, such as health and education.

The Brazilian economy has grown in the last few years at a lower rate than it could if the country had a better infrastructure, especially in transportation. Logistic costs are still high, representing 15 to 18 percent of Brazilian GDP, and hamper the country's economic growth (Veron and Cellier, 2010).

According to the World Bank Toolkit for PPP in Roads and Highways (2009), infrastructure investment can yield big economic gains. Building highways not only boosts output and jobs, but also helps to spur future growth. Countries with poor roads have high costs of transport and lose competitiveness, while countries with lower transportation costs tend to be more open to foreign trade and consequently enjoy faster growth.

“The World Bank estimates that a 1% increase in a country's infrastructure stock is associated with a 1% increase in the level of GDP. Other studies have concluded that East Asia's much higher investment in infrastructure explains a large part of its faster growth than Latin America.” (World Bank Toolkit, 2009).

Over the recent decades the investments in infrastructure in Brazil have been insufficient to expand or even maintain the existing assets. As a result of this limited investment, the Brazilian road network, and in particular, the roads in Rio Grande do Sul State (RS), are generally in poor condition and need increased investments to improve quality.

Rio Grande do Sul State has about 11,200 km of roads (7,320 km with asphalt pavement and 3,880 km without) which need investments for maintenance and reconstruction. The State Road Department (DAER) estimates that an annual budget of R\$ 1 billion (one billion reais) is required to cover such investments. In the last few years the investments in these public works have been on average R\$ 350 million, far below the necessary amount, except for 2010, when the expenditure was about R\$ 700 million.

This scenario has raised interest in the state government, as well as in Brazil and several countries, for Public-Private Partnerships (PPPs). PPPs provide assets and services making the best combination of private sector strengths (sources of capital, management skills, innovation, and assumption of some risks) and those of the public sector (regulation and protection of the public interest).

Investment commitments to road projects with private participation grew from US\$7 billion in 2005 to US\$16.7 billion in 2008 in developing countries, led by Brazil, Mexico, and India. These three countries increased their share of the total investment from around 20% in 2006 to 60% in 2006, 66% in 2007, and more than 80% in 2008 (Izaguirre and Jett, 2009).

On one hand PPPs provide an interesting solution for the deficit in infrastructure faced by developing countries. On the other hand PPPs are still difficult to implement and present challenges for governments, who need to be prepared to its delivery by developed institutions, accountability, processes, and procedures in PPP projects.

This paper analyzes the performance of the State Internal Control Agency (CAGE) in auditing two PPP projects launched in Rio Grande do Sul State in 2010. These auditing works, the trend to increase PPP projects, and the necessity of good governance in the public sector lead to the proposal of the creation of a specific unit for PPP auditing based on internal and external control experiences and on the best international practices in PPP.

2. PPP Concept and Definitions

It is important to define the Brazilian concept of PPP, which is different from the concept used in many other countries. PPP is not a precisely defined term and represents a variation of concepts and possible structures. Internationally, the term Public-Private Partnership usually refers to a broad concept, including several kinds of contracts. The Public-Private Infrastructure Advisory Facility (PPIAF) adopts the following definition:

“A long-term contract between a private party and a government agency, for providing a public asset or service, in which the private party bears significant risk and management responsibility” (PPIAF, 2012).

The key features of a PPP are the long term of contracts (sometimes up to 30 or more years, and up to 99 years in a few cases), the transfer of risk to the private partner and different kinds of contracts between public entities and private enterprises. According to this concept, there are many kinds of contracts subsumed into the definition of PPPs, which are commonly described by the following terms:

“Buy-Build-Operate (BBO): Transfer of a public asset to a private or quasi-public entity usually under contract that the assets are to be upgraded and operated for a specified period of time. Public control is exercised through the contract at the time of transfer.

Build-Own-Operate (BOO): The private sector finances, builds, owns and operates a facility or service in perpetuity. The public constraints are stated in the original agreement and through on-going regulatory authority.

Build-Own-Operate-Transfer (BOOT): A private entity receives a franchise to finance, design, build and operate a facility (and to charge user fees) for a specified period, after which ownership is transferred back to the public sector.

Build-Operate-Transfer (BOT): The private sector designs, finances and constructs a new facility under a long-term Concession contract, and operates the facility during the term of the Concession after which ownership is transferred back to the public sector if not already transferred upon completion of the facility. In fact, such a form covers BOOT and BLOT with the sole difference being the ownership of the facility.

Build-Lease-Operate-Transfer (BLOT): A private entity receives a franchise to finance, design, build and operate a leased facility (and to charge user fees) for the lease period, against payment of a rent.

Design-Build-Finance-Operate (DBFO): The private sector designs, finances and constructs a new facility under a long-term lease, and operates the facility during the term of the lease. The private partner transfers the new facility to the public sector at the end of the lease term.

Finance Only: A private entity, usually a financial services company, funds a project directly or uses various mechanisms such as a long-term lease or bond issue.

Operation & Maintenance Contract (O & M): A private operator, under contract, operates a publicly owned asset for a specified term. Ownership of the asset remains with the public entity.

Design-Build (DB): The private sector designs and builds infrastructure to meet public sector performance specifications, often for a fixed price, turnkey basis, so the risk of cost overruns is transferred to the private sector. (Many do not consider DB's to be within the spectrum of PPPs and consider such contracts as public works contracts.)

Operation License: A private operator receives a license or rights to operate a public service, usually for a specified term. This is often used in IT projects" (UNECE, 2008).

While some authors do not consider Performance Based Contracts (PBC) to be within the spectrum of PPPs (they consider such contracts as service contracts), the World Bank Toolkit (2009) considers PBC (a form of O & M contract) as PPP.

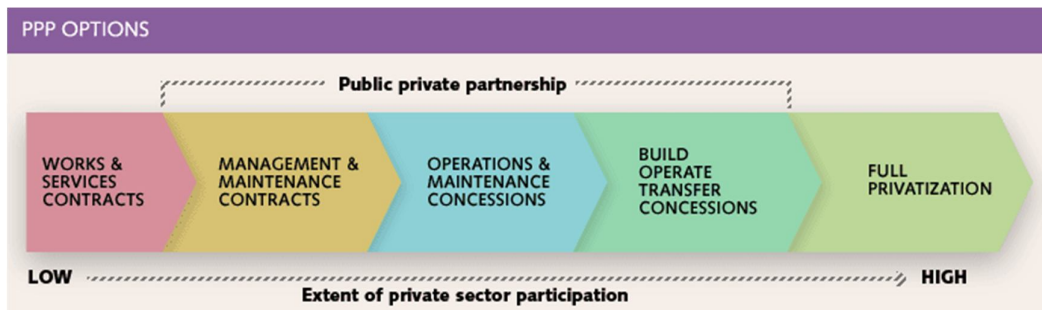
The World Bank Toolkit (2009) also presents other terms which are being used internationally to represent the partnership between the public and private sectors, such as: Private Participation in Infrastructure (PPI), used by the World Bank, within the development-financing sector, and also adopted by the South Korean PPI program; Private-Sector Participation (PSP), also used within the development-financing sector; P3, used in North America; Privately-Financed Projects (PFP), used in Australia; P-P Partnership (to differentiate from the term “purchasing power parity”), used in economics; and Private Finance Initiative (PFI), originating in the U.K. but now also used in other countries, such as Japan and Malaysia.

Sometimes people confuse PPP with privatization, but these have different concepts. In a PPP project, the accountability for delivery of public services is retained by the public sector, while in privatization the accountability is transferred to the private sector (UNECE, 2008). In the case of full privatization, the private sector assumes the ownership of the assets, while in PPPs it remains with the public sector (BOO projects being an exception).

“The levels at which the balance between the public and private sectors in transport can be changed are oversight, execution, and finance. Oversight generally involves user participation in the planning and regulatory aspects of sector operations. Execution refers mainly to how institutions actually undertake their work, including the extent to which public institutions subcontract to private enterprises and how they do this. Finance means the level at which the private enterprise provides some or all of the capital financing that would otherwise have come from the public sector” (World Bank Toolkit, 2009).

The World Bank Toolkit (2009) presents (Figure 1) a simple model with the major categories of PPPs, in which the extent of private sector participation increases from left to right.

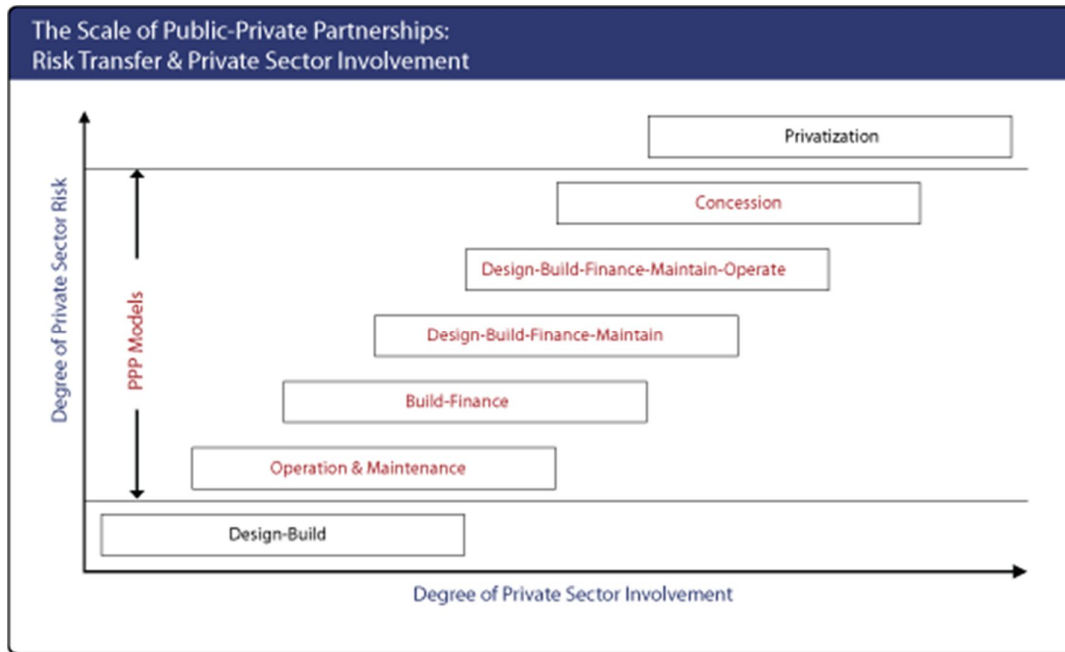
FIGURE 1: PPP OPTIONS



Source: World Bank Toolkit, 2009

The Canadian Council for Public-Private Partnerships (CCPPP) also presents a model in which the PPP projects are categorized based on the extent of public and private sector involvement and the degree of risk allocation. Figure 2 presents a simplified spectrum of Public-Private Partnership agreements used in Canada (CCPPP, 2012).

FIGURE 2: SPECTRUM OF PPP AGREEMENTS IN CANADA



Source: CCPPP

There are many alternative structures of PPP for the assignment of risks and responsibilities at the management level. As private sector involvement increases, it is expected that projects gain in efficiency. On the other hand, the level of complexity of the projects and the risk of failure grow in the same proportion (World Bank Toolkit, 2009).

Queiroz and Kerali (2010) emphasize:

“PPP is based on the recognition that the private sector can contribute to reducing the overall cost of delivering infrastructure services through increased efficiency and better management of some risks (such as construction). In successful PPP projects, the private sector’s higher cost of financing and need for a return on its investment are offset by the benefits provided by the private participation.”

In Brazil the concept of PPP is restricted to the definitions of the Federal Law 11,079/2004, which was created to include the possibility of paying government subsidies to the private partner, thus allowing the implementation of concessions with significant economic and social returns, but without financial feasibility. Subsidies to a

PPP assure projects which will result in a net economic or social gain can be commercially financed (World Bank, 2012).

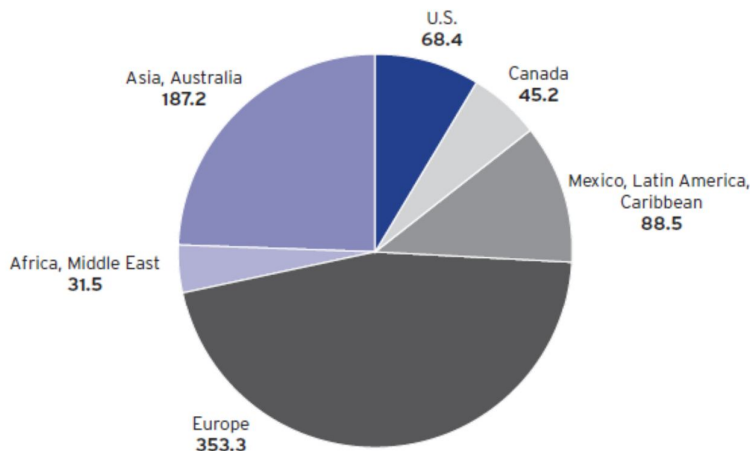
According to the PPP Federal Law, two kinds of concession contracts are defined as PPP: (a) sponsored concessions, when the government subsidizes part of the costs of the project not covered by user fees; and (b) administrative concessions, by which the private partner provides a service, preceded or not by a public work, where it is not possible to charge user fees (e.g., a prison or a school), therefore the government pays all the costs of the project. The Brazilian concept of PPP has been compared to the English Private Finance Initiative (PFI), where the government subsidizes the project (Ribeiro and Prado, 2007). However, not always PFI contracts are subsidized. For example, the Motorway M6, near Birmingham, is a self-financed toll road, without government funds or guarantees (World Bank Toolkit, 2009).

This paper adopts the international broad concept of PPP. Consequently, it will consider as PPP not only the two forms of concession defined as PPP by the Brazilian Federal Law 11,079/2004, but also the more common or traditional forms of concession that do not require government subsidies.

3. International Experience

Over the recent decades, PPPs have been used in several countries to provide infrastructure services and assets. Istrate and Puentes (2011) present (figure 3) the investments in infrastructure in the world from 1985 to 2011.

FIGURE 3: PPPs WORLDWIDE, NOMINAL TOTAL COSTS (IN BILLIONS \$USD), 1985–2011



Note: Includes funded road, rail, buildings, and water projects through October 2011 in nominal dollars converted into U.S. dollars at the time of financial close. Excludes U.S. design-build projects.

Source: Istrate and Puentes (2011) using Public Works Financing (PWF) data

A part of the international experience is described in the following.

European Union

From 1990 to 2009, there were more than 1,300 PPP contracts signed within the EU. The U.K., Spain, Germany, Italy, France, and Portugal are responsible for about 92% of those PPPs in this period. The U.K. has the biggest PPP program, representing 67% of the total EU numbers. Spain is the second competitor with 10%. The transport sector represents 41% of the total investment in PPPs in Europe. Education and health together represent 26% of number of PPPs and 11% of total value (IISD, 2012).

The U.K. began the Private Finance Incentive (PFI) in 1992, which has implemented almost 900 PPP projects up to date. Most of PFI projects are subsidized by the government and use the availability payment. There is not a specific PPP law, and contracts are based on tradition. After 10 years of experience of successes and failures, the PFI program shifted from a strict policy of contract enforcement towards a larger collaboration among public and private partners (World Bank Toolkit, 2009).

The first experience in the U.K. with toll roads was launched in the beginning of the PFI program with M6 Motorway; however, public objections to the road and to the charging of tolls caused a major delay in the process. Therefore, the road was built in 2003 and the project was refinanced after the opening. The actual traffic did not meet the model forecast, but refinancing was achieved (World Bank Toolkit, 2009).

A census from the National Audit Office (NAO, 2003) showed that PFI projects deliver price certainty and timely delivery of good quality assets. According to this census, 73% of traditional contracts had an increase in original price; meanwhile 22% of PFI projects had increased in price. The same census showed that 70% of traditional contracts were delivered late to the public, while only 24% of PFI projects were delivered late. Another survey conducted by NAO in 2009 showed that PFI projects delivery delay increased to 31% (NAO, 2009).

Portugal followed the U.K. PFI model, with toll highways and others with shadow tolls in non-financially feasible roads, which the government pays to the concessionaire based on the actual traffic. However, the traffic flow in some regions was underestimated, causing a huge budget problem for the country (Amorelli, 2009).

In Holland a *PPP Directorate* was created in 1999 in order to prepare the government to launch partnerships with the private sector (UNECE, 2002).

In France, there was not a defined policy to launch PPPs, which were considered an "old concept" (UNECE, 2002). In 2004, the French government enacted two decrees allowing all government bodies to use these partnerships. A task force was created in the same year to provide technical help and consultation to

government bodies, and to evaluate and rank PPP projects. In 2008, the French government passed a law to make PPPs more attractive to private investors. The same year, a government study predicted that there were about € 10 billion in PPP projects in development in France (USDOT/FTA, 2009).

Spain has a PPP program similar to that of Portugal, using tolls and shadow toll structure (UNECE, 2002). The first highways had been constructed under concession contracts in the 1970s using a BOT model. In the 1990s the PPP projects shifted from the national to regional governments and to other sectors, such as health (Allard and Trabant, 2007).

United States of America

According to IISD (2012), the U.S. showed some initial reluctance to undertake PPPs prior to 2007. However, now 25 states have enabling PPP legislation, and PPP projects are widely used to provide public services and assets. Since the passage of The Intermodal Surface Transportation Efficiency Act in 1992 (ISTEA, 1992), 32 U.S. states and one U.S. territory have developed 235 new toll-based projects, with an investment of \$160 billion (FHWA, 2009).

“The expanded use of tolling was promoted in the last two rounds of federal highway program reauthorization and today tolling is the subject of increasing interest as a potentially important funding source for transportation improvements and as a mechanism for managing congestion in metropolitan areas” (FHWA, 2009).

Table 1 shows the status of all toll-based highway improvements in the U.S. from 1992 to 2008.

TABLE 1: U.S. TOLL-BASED HIGHWAY IMPROVEMENTS (1992-2008)

STATUS	No.	States	Centerline Miles	Percentage	Lane Miles	Capital Cost (millions)
Toll Projects Open	70	17	1,008	22.4%	3,903	\$40,040
Toll Projects Under Construction	36	13	571	12.7%	1,734	\$17,793
Toll Projects in Design/Finance	26	9	483	10.7%	1,887	\$19,363
Toll Projects Undergoing NEPA Review*	31	10	676	15.0%	2,266	\$23,253
Toll Projects in Planning	72	17	1,772	39.3%	5,900	\$60,535
TOTAL	235	-	4,511	100.0%	15,690	\$160,984

*NEPA means National Environmental Policy Act

Source: FHWA (2009)

Canada

The first PPP projects in Canada were launched in the 1990s, when 20 individual projects were awarded by the three levels of government. In the first stage, PPPs were used to finance infrastructure projects without affecting the government indebtedness (off-balance sheet financing). The perception of other advantages, such as cost savings and efficiency gains, propelled PPPs to the second stage of development, with the creation of central procurement agencies and centers of excellence to develop the partnerships. Now the Canadian PPPs have reached their third and most important stage of development. The federal government has assumed a greater role in coordinating private investment in the country's infrastructure with a nationwide office to promote and oversee PPP projects (PEI, 2011).

Australia

Australia has been utilizing PPPs since the early 1990s and has developed specific policies and legislation. A large part of the infrastructure market is provided by PPP contracts. More than 127 projects before 2005 used PPP models in the country (IISD, 2012).

China

From the 1980s to the mid-1990s, China created an initial legal and policy framework for developing PPP projects. The first PPPs were mainly in power and water sectors. From 2000 to 2009, PPPs were further developed with large investments and improved legislation and policies (Cheng and Zhengxu, 2009).

The regulatory framework is still inadequate in China. Although the country has developed large PPP projects, there is not a specific enabling law. The legal framework and the administrative decisions are fragmented in central and local governments. There are conflicts between central and local legislation, mainly in key aspects of PPP projects, such as risk allocation and government guarantees. The dominance of the state and a planned economy result in the prevalence of bureaucratic power over legislative and judiciary powers. This issue negatively reflects on public-private and on state-society relationships (Cheng and Zhengxu, 2009).

Another challenge for the Chinese government is the capacity to manage PPPs. As the regulatory framework is fragmented and conflicting, PPPs depend on the performance of each implementing government, mainly local authorities. Experience has shown problems, such as corruption and lack of effectiveness and trustworthiness (Cheng and Zhengxu, 2009).

India

According to Mahalingam (2008), a survey done in 2005 found that 74% of all Indian PPP infrastructure projects were made up of national roads and bridges. Some programs were created in order to renew road infrastructure. The preference was to use BOT contracts and to limit the use of lump-sum or item-rate construction contracts to economically unviable stretches. However, the standard contracts had problems with risk allocation, which led to disputes, delays and renegotiations. Some successful experiences have been taken with annuity contracts instead of using a traditional toll collection formula. A Viability Gap Funding (VGF) arrangement was introduced limited to a maximum of 40% of the total project cost. The winning bid is often the one that requests the minimum VGF, which can be positive or negative, depending on the profitability of the stretches. For instance, on a recent project the successful bidder offered the government a negative grant of INR 5.04 billion, whereas the government estimated its construction cost at INR 4.92 billion.

Other transportation sectors, such as airports, ports and railways, are also seeing increased levels of private involvement. For instance, the government intends to build 35 new airports, most of them using PPPs. Mahalingam (2008) emphasizes that in the five years after 2008 India would need to invest \$400 billion in infrastructure development, and at least 40% of the projects using PPPs. Recently, the Indian government initiated several arrangements to allow state governments to implement PPP projects.

The lack of enabling PPP legislation is a bottleneck which has caused disputes and delay in some projects. At the state level this problem is still more serious. Furthermore, the lack of specific policies, lack of capacitation, and low trust between private and public sectors are obstructing PPP projects (Mahalingam, 2008).

Mexico

The first Mexican phase in PPP projects started in 1989 and lasted up to 1994, in which period the government awarded 52 concessions for building and operating 5,500 km of motorways. In 1997, the government took over 23 of the concessions, totaling about 2,500 km (Carpintero and Barcham, 2012).

“The main reasons for the program’s failure were: i) the poor quality of the design, cost and traffic projections supplied by the administration; ii) the reliance on concession term as the main awarding criteria, thereby encouraging bids with very short terms and very high tolls offered, by consortiums interested mainly in the business of building the motorway; iii) the contractors taking advantage of the system both by underbidding and by exaggerating the sweat equity they were contributing” (Carpintero and Barcham, 2012).

In 2003, the Mexican government launched a new program of PPPs including toll roads, shadow tolls, and availability payments, with improvements in order to correct the failures of the first phase. As of 2011, the new program has been successful and had awarded 18 toll road concessions and seven concessions combining shadow tolls and availability payments (Carpintero and Barcham, 2012).

From 2006 to date, the Mexican government has re-offered several of the concessions of the first phase that were taken over in the 1990s, bundling them into packages of several highways. The first of these packages was awarded in 2008, the second one was awarded in 2009, and a third one was offered in 2010 but it was cancelled due to disappointingly low bidding (Carpintero and Barcham, 2012).

Chile

Chile has arguably the most advanced PPP program in Latin America and one of the most successful in the world. The private participation in many sectors helped the development of Chilean infrastructure, mainly in roads, airports, and seaports (Carpintero and Barcham, 2012; Vittor and Samples, 2011).

Since 1991, the government awarded over 50 concessions, with total value of approximately \$11.3 billion (Vittor and Samples, 2011). Regarding the road sector, from 1992 to 2010, the government awarded 33 motorway concessions, totaling 3,328 km. The first two PPPs were modeled based on a complex formula; however, the criteria were simplified in the next contracts, awarding the concessions to the best economic bid. The financing through bond issues, first used in 1998, is another key feature of the Chilean road PPPs. Currently Chile offers the best financing conditions in Latin America (Carpintero and Barcham, 2012; Vittor and Samples, 2011).

Sharing of traffic risk and minimum income guarantee were also key features of Chilean PPPs. However, renegotiation has marked the country's concessions, as stated by Vittor and Samples (2011).

“Historically, the main source of unplanned costs for PPPs in Chile has been renegotiation. Renegotiation has affected a substantial portion of PPP investments in Chile with changes representing as much as 26% of total PPP investments. Data reflecting renegotiation of PPP contracts in Chile is comparable to regional data and in many cases renegotiations benefit the concessionaire. Nonetheless, renegotiations are often costly for both parties and have potential to cause delays, incentivize corruption and undermine public budgets” (Vittor and Samples, 2011).

The economic recession experienced from 1998 to 2002 and the necessity for further investments led the government to allow renegotiation of all previously

granted concessions, which resulted in a substantial decrease in traffic in all road PPPs (Carpintero and Barcham, 2012).

Regarding the regulatory framework, a decree enacted in 1991 allowed the Chilean government to grant concessions for most public works. It was modified in 1996 in order to clarify key procedures, expand the scope of public works concessions and improve operational aspects. In 2010 the regulatory framework was reformed substantially through an enabling PPP law, which introduced limits on renegotiation and strengthened institutional safeguards (Vittor and Samples, 2011).

4. Public-Private Partnerships in Brazil

4.1 Regulatory Framework

To attract the interest of private partners and provide incentives to investors, PPP projects need to be modeled, procured, executed, and supervised under a stable and fair regulatory framework.

“Investors in PPPs need predictability and security in legal frameworks, which means fewer, simpler and better rules. In addition, the legal framework needs to take account of the beneficiaries and empower them to participate in legal processes, protecting their rights and guaranteeing them access in decision-making” (UNECE, 2008).

According to the World Bank Toolkit (2009), the legal framework combines legislation and contracts. Some countries do not have specific PPP or road sector legislation, leaving definitions only to contractual documents. This can be described as a contractual framework. In general this path has been followed by developed countries, with relatively well-defined market structures. Other countries have adopted extensive legislation and regulations, characterizing a statutory framework. This way has been taken up by developing countries, which have more recently started private sector participation in public infrastructure. Several countries which had an initial contractual approach are now legislating, and others which had adopted general or sector specific legislations, are now using the contractual approach (World Bank Toolkit, 2009).

“The perfect system would be the one which finds the right balance between what should be addressed by the law and what should be left for the parties to negotiate in the contract, that is a law which is not over prescriptive, but still protects the legitimate interests of both parties” (World Bank Toolkit, 2009).

According to UNECE (2008), a law and regulating framework must be based on fewer, better and simpler rules, focused on outcomes and with emphasis in flexibility. PPP processes are often complex, which leads to rising costs and excluding good enterprises from the biddings. On the other hand, simple procedures and standardization of contracts can increase competition and improve efficiency in the PPP process.

Some countries with long tradition in PPPs, such as France and Portugal, only in the last 10 years have adopted specific laws and statutes. The United Kingdom has almost 900 PPP projects and does not have a specific PPP law, with exception for the case of toll roads. The PPP projects in U.K. are based on non-written legal tradition (World Bank Toolkit, 2009).

“There is no single recipe for the successful implementation of a PPP program. A PPP framework law is not essential as the United Kingdom, the European country with the most developed PPP market, has no specific PPP law and relies on its commercial laws for the implementation of PPP projects. Neither is a PPP unit a requirement for success. Spain which has been especially successful in PPP transport projects does not have a central PPP unit. Moreover, several central European countries (such as Czech Republic) have enacted both a PPP framework law and established a central PPP unit – but yet have not been able to realize many PPP projects.

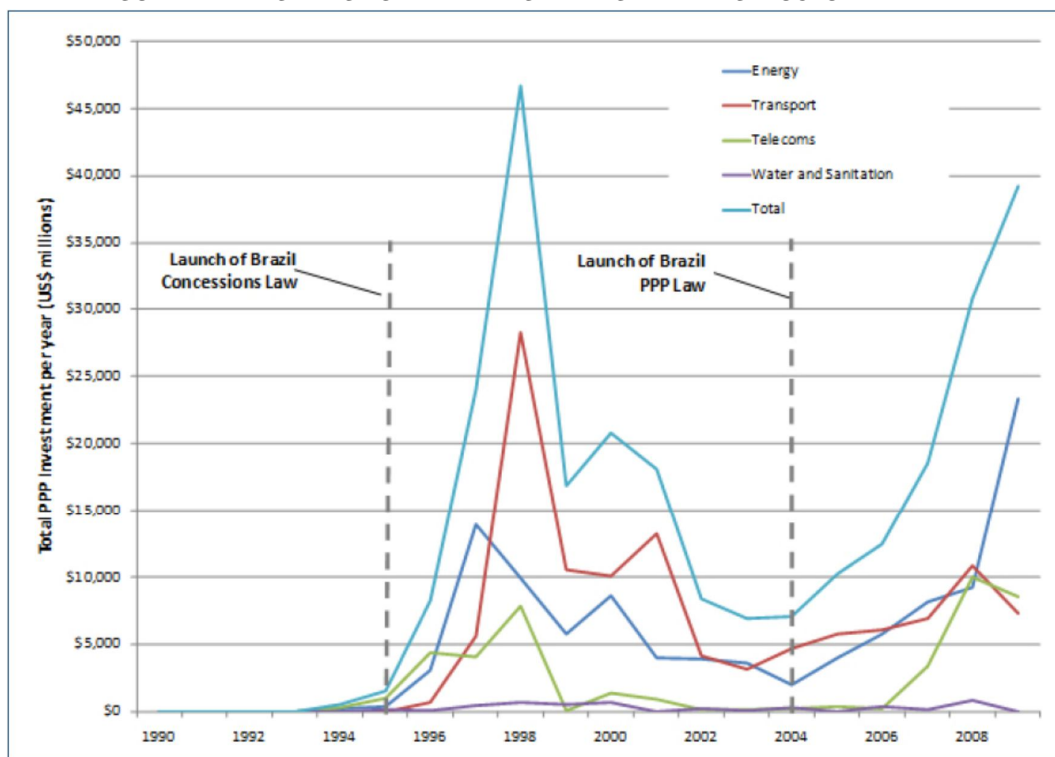
A similar situation occurs with the Slovak Republic which has PPP units at the Ministry of Finance and at the Ministry of Transport, but only recently has awarded the first PPP contracts in the roads sector” (Queiroz and Kerali, 2010).

The regulatory framework is composed of specific PPP law (enabling law) and laws that may have an impact on a PPP project. The latter are numerous because PPPs are large and complex multifaceted projects. The enabling law could either be general (PPP laws) or sector specific laws. The laws which typically would have the most impact on a PPP project in highway infrastructure are procurement law, foreign investment laws, property laws, dispute resolution, company laws, security and insolvency laws, tax laws, accounting standards, labor laws, intellectual/industrial property laws, environment laws, competition laws, and tort laws (World Bank Toolkit, 2009).

Enabling Laws

The Brazilian enabling laws are the Concession Law 8,987/1995 and the PPP Law 11,079/2004. Figure 4 shows a time series for PPP investments in infrastructure in Brazil. With the passing of the Concession Law in 1995, investments in energy, transport, telecoms, and in water and sanitation highly increased. With the passing of the PPP Law in 2004, investment in these sectors had another huge increase.

FIGURE 4: TIME SERIES FOR PPP INVESTMENTS IN INFRASTRUCTURE IN BRAZIL



Source: World Bank (2012)

Concession Law 8,987/1995

The Concession Law was enacted in line with the trend of transferring investments and services to private partners to achieve some goals: (a) reduce government investment in sectors where it was possible to have private exploitation; (b) allow government to focus its activities on services in which the private sector does not demonstrate interest, and in regulation and oversight of transferred public services; (c) lower public debt with resources from privatization of state owned enterprises and other assets; and (d) improve efficiency with private management of services (Ribeiro and Prado, 2007).

One of the most important innovations of the Concession Law is the flexibility in specifications. The law requires only basic project elements, instead of the detailed project required by the Procurement Law 8.666/1993. This view is focused on output and service performance. As the contracts are long term and the private partner is responsible for the maintenance for many years, it is expected that the concessionaire uses new technologies and best engineering solutions which provide higher durability and lower costs of maintenance for the roads and other assets. This model is an incentive to the private partner to improve efficiency in the contract services (Ribeiro and Prado, 2007).

According to Ribeiro and Prado (2007), other innovations in the Concession Law are sometimes misunderstood: (a) non-exclusivity of service delivery, which incentives competition; (b) the price cap system, by which a ceiling tariff and a deflator are defined, which has the goal of transferring to the user gains in efficiency; and (c) the guarantee of the financial stability of the contract according to the risk allocation, which differs from the concept of the Procurement Law. The possibility of transferring gains from alternative revenues to the tariff affordability and tariff revision were also innovations brought by this law.

It is important to state that by the Concession Law there is not a maximum term for the contracts. However, some specific laws have established a maximum term for different sectors (Ribeiro and Prado, 2007).

PPP Law 11,079/2004

The PPP Law brought some innovations and completed the regulatory framework for PPPs in Brazil. There are two kinds of concessions according to this law: (a) sponsored concession, by which the private partner levy tolls and receive a subsidy to cover part of project costs not covered by user fees; and (b) administrative concession, by which the private partner provides a service, preceded or not by a public work, and it is not possible to charge fees. Thus, in the administrative concession government makes payments based on the services received.

The PPP Law introduced the possibility of government subsidies in order to allow the implementation of concessions with significant economic and social returns, but without financial feasibility if only based on levy of tolls. Another main goal of this law was to increase the amortization term of investments in services and public works up to 35 years, beyond the 5 year limit imposed by the Procurement Law (Ribeiro and Prado, 2007). The PPP Law added to the Concession Law the possibility of including in concession contracts services formerly submitted to the Procurement Law.

Another innovation in the PPP Law regards the budget and introduces an important advantage related to the fiscal space, which is defined by Ostry, Ghosh, Kim, and Qureshi (2010) as the difference between the current level of public debt and the debt limit implied by the country's historical record of fiscal adjustment. In Brazil there are legal limits for public indebtedness and the fiscal space is restricted to these definitions. According to the Federal Constitution, the Brazilian Senate has the power to define debt limits for federal, state, and municipal debt levels. The Resolutions 40/2001 and 43/2001 establish limits which vary monthly as a proportion of the last 12 months' Net Current Revenue (NCR). In summary, the maximum sum for the consolidated debt is limited to twice the NCR; the global sum annually contracted is limited to 16% of the NCR; and the maximum annual expenditure is limited to 11.5% of the NCR.

As the measure of the debt in PPP projects is the subsidy paid to the private partner, there is no increase in public debt and low impact in the primary result goal. This borrowing which does not affect the country indebtedness is called *off balance sheet financing*.

According to Ribeiro and Prado (2007), the Ordinance 614/2006 of the Secretariat of the National Treasury (STN) defines private investment depending on the level of risk transference. Therefore, the goal in the fiscal space is achieved only if sufficient risks are transferred to the private partner.

Several improvements in the regulatory framework were introduced by the PPP Law, and some of them were used to amend the Concession Law in 2005. Ribeiro and Prado (2007) state some of these innovations: (a) possibility of inversion of bidding phases, allowing the opening of the bid proposals before the pre-qualification documents; (b) possibility of an additional phase to correct formal defaults in the bidding documents; (c) possibility of settlement of disputes by arbitration; (d) step-in rights, which allow the assumption of control of the concessionaire by investors for its financial restructuring; (e) possibility of sharing any kind of risk; and (f) possibility of guaranteeing the payment of subsidy by government, such as the PPP Guarantee Fund, which has private nature and its own capital.

Even though the procurement process requires two envelopes (bid and documents), the possibility of inverted phases and bidding by auction led to high discounts at the second phase concession contracts and showed to be a great evolution in relation to the former process defined by the Procurement Law.

The PPP Law limits the subsidy payment to the proportion of the available service. Ribeiro and Prado (2007) explain the legal device:

“For example, one can imagine a PPP for building a 400 km length road. Imagine, also, a contract forecast that on the 6th month the first 100 km are ready, and this segment connects two important regional cities, configuring, autonomously, a utility for users independently of the rest of the road. Thus, the Law makes it feasible, in such a situation, that the Administration can begin the subsidy payment after the mentioned segment is available.

It should be noticed that the partial service has to be effectively available (i.e. which, in fact, would provide an economical utility to the user), and not potentially available. By the same example above, if the available road segment connects two points in the desert and the trip from one point to another would not provide any utility to users, it would not be possible to begin the subsidy payment” (Ribeiro and Prado, 2007).

On one hand this legal device may be useful in a corruption prone environment in order to avoid advance of resources to the concessionaires, but on the other hand payment proportional to investments, or building subsidy, would help to lower the financial costs of the project. A suggestion for the Brazilian PPP and concession laws is to allow payment of construction subsidies. However, it would be necessary to introduce legal devices to avoid advance payment to the concessionaire (i.e., subsidy payments should be disbursed in proportion to the execution of the works). The oversight of concession contracts is focused on performance indexes. However, a different kind of supervision may be required during the phase of investments, in this case.

Although few projects so far have included subsidies, the PPP Law brought innovations which helped to facilitate better policies and development of new PPP projects (World Bank, 2012).

Suggestions for the Enabling Laws

The concession and PPP laws took into account the Brazilian experience in PPPs. Several devices introduced by these laws are oriented toward the best international practices. Although both are concession laws, the Brazilian definition of PPP is different from the international concept and defined by the latter as a concession with payment of subsidies by government. It seems to be simpler and more understandable to unify the two laws and have a unique PPP law with rules for all kinds of concessions used in the country. The example of the BR116/BA324 PPP project justifies the necessity of unification of the two concession laws. The project was modeled and launched under the rules of the PPP Law, predicting a subsidy payment by the government. However, the market showed the project's feasibility based on affordable toll tariffs, without subsidy. Therefore, the process was cancelled and relaunched under the rules of the Concession Law (Oliveira, 2007).

The major element still missing is the unification of the two laws, as noted above. Other improvements should be incorporated in order to meet the best international practices.

Queiroz and Motta (2012) state that full disclosure of concession agreements is not currently included in the Brazilian concession and PPP laws. However, it is foreseen by the Brazilian Law 12.527/2011, which regulates the citizens' constitutional right of access to public information. It seems appropriate the addition of a clause on the full disclosure of contract documents in future revisions of the enabling laws. This device would increase accountability of both public and private partners.

Queiroz and Motta (2012) also suggest the inclusion of renegotiation mechanisms in the enabling laws.

4.2 Public-Private Partnership History in Brazil

According to Ribeiro and Prado (2007), the first Brazilian PPPs started in the middle of the 19th century, when federal government attracted international investors to implement infrastructure projects. Typical examples of this phase are the concession contracts to build railroads. Other PPPs were launched in the 1930s with direct intervention of the state on economic activities. Indeed these contracts delegated services to state owned enterprises. As the government was the owner of the enterprises, contracts were not necessary, and sometimes were not established (Ribeiro and Prado, 2007).

The Brazilian experience in highway PPPs started with six road concessions established by the National Road Department (DNER) in 1995 and 1996. As there was no specific PPP law at the time, the procurement was carried out under the Federal Procurement Law. Five of the six roads were federal and one of them was delegated to Rio Grande do Sul State (Pelotas Pole) to be granted under the state law, but political issues resulted in cancelation of the delegation instrument and the concession was reincorporated to the federal government.

The Brazilian National Agency for Land Transportation (ANTT) was created in 2001, after the biddings. In the first years of the concession program, before the creation of ANTT, DNER played the role of regulatory agency, which caused conflicts of interest among its multiple roles, such as modeler, regulatory agency, public work builder, and supervisor of concessions, which goes against all theoretical recommendations (Amorelli, 2009).

The macroeconomic context of the 1990s led to limited competition in the first phase concessions. The fiscal constraints, the impossibility of subsidies, the detailed prescriptions imposed by the Concession Law, and high costs of capital led to concessions mainly focused on operation and maintenance of existing roads, including urban segments. Low technological implementation led to inefficient toll collection system, in which some users do not pay tolls when using segments of the roads (Veron and Cellier, 2010).

The first phase contracts followed the model of DNER contracts, based on engineering works, with rigid specifications, quantities, and costs, which were detailed in the Road Exploitation Program (PER), a kind of engineering basic project. Previous experience in engineering works was required for the bidding, biasing the tender to engineer enterprises which had worked for DNER (Amorelli, 2009).

The asymmetry of information, which means that the operator has more information and knows its business more than the regulatory agency, is common in PPP projects, and leads to the regulatory capture.

“Regulatory capture means the operator or concessionaire unduly secures influence—overt or covert—over the regulatory process to bias the regulator’s decisions in favor of the interests of the operator or concessionaire” (Guasch, 2004).

As there was no regulatory agency, the information asymmetry was very high in these first phase contracts. Companies hired by DNER were responsible for the oversight of the concessionaires. As the market of consultants and enterprises was restricted, the first phase contracts suffered political pressures for renegotiation (Amorelli, 2009).

The concessionaire’s advantage in information over government is a strong incentive to renegotiate contracts and achieve a better deal in relation to the original bid (Guasch, 2004).

“Although some renegotiation is desirable, appropriate, and to be expected, this high incidence exceeds expected and reasonable levels and raises concerns about the validity of the concession model. It might even indicate excessively opportunistic behavior by new operators or by governments. Such behavior undermines the efficiency of the process and the overall welfare, because renegotiation takes place between the government and the operator only, so it is not subject to competitive pressures and their associated discipline. When used opportunistically or strategically by an operator or government, to secure additional benefits, and not driven by the incompleteness of a contract, renegotiation can undermine the integrity of a concession, reduce welfare, and threaten the desired structural reform program in infrastructure. The high incidence of renegotiation reported here should indeed be a cause of concern” (Guasch, 2004).

Even though ANTT assumed the responsibility for the program management in 2002, modifications on the investment program in the first 13 years of contracts led to hefty tariff increases of an average of 40 percent, up to 124 percent (Veron and Cellier, 2010).

The first phase model prevent benefits from productivity gains or reduced cost of capital because it was anchored in the initial commercial proposals of the concessionaires, such as unit costs, high financial rates, and traffic forecasts offered at the bidding time. As a result, the users pay high tolls related to the level of services provided (Veron and Cellier, 2010).

These problems in the first phase led to a limited acceptance of concessions in Brazil. Political and judicial disputes became common; however, in most cases, administrations and courts reaffirmed the validity and maintained the initial financial equilibrium of the contracts (Veron and Cellier, 2010).

“Concisely, the first phase concession contracts are faulty designed, very difficult to monitor, and they represent a source of asymmetric information. All those factors increase the possibility of renegotiations, allowed by the regulatory agency attempt at adapt them to reality of the highway conditions and of the Brazilian economy” (Amorelli, 2009).

After ten years of studies, the second phase of Brazilian concessions was launched in 2007, comprising seven lots and covering 2,600 km. The experience gained in the first contracts was applied in the design of the second phase model. Several modifications were introduced in order to increase the efficiency of the procurement process, the quality of the contracts, and competition (Carpintero and Barcham, 2012).

“Economic shocks, threats of expropriation, lack of adjustments in prices, opportunistic behavior of governments and concessionaires, local politicians building routes of escape, provide a range of practical constraints faced in implementing concession programs and highlight the difficulties of reforms implementation.

However, a set of public policies have been implemented and the experience acquired by both public and private sectors were applied in the design of the second package of road concessions. The regulation on public-private partnerships (PPP) provides a more flexible framework to private participation in the transport sector” (World Bank Toolkit, 2009).

The biddings were highly competitive (seven to 13 tenders per concession), resulting in discounts up to 65 percent in relation to government forecast, with tolls around R\$ 0.02 to 0.03/car-km, five times lower than the first phase contracts and ten times lower than European levels (Veron and Cellier, 2010).

Low Internal Rate of Return (IRR) and low toll rates are great concerns about the second phase contracts, as expressed by Veron and Cellier (2010):

“While this is good news for the users, this could put at risk the concessions and might ultimately prove costly to the taxpayer. Unlikely low returns to capital or extremely high traffic forecasts apparently expected by the concessionaires might be symptomatic of low-balling strategies. The materialization of less optimistic traffic – levels more in line with the government’s initial forecasts for instance – could then put at risk the financial viability. The way ANTT regulates these contracts will likely require adaptation to the new context: low returns on capital upheld by rules built into the contracts might de facto provide incentives to concessionaires of the second phase to gradually solicit reductions in their investment programs” (Veron and Cellier, 2010).

The main changes in the second phase were a better allocation of risks (construction, traffic, and financial risks), tender and contract design issues (auction process, concession award criterion, penalty rules, termination rules, amortization rules, business-oriented behavior, and dispute settlement mechanisms), regulatory regime (toll evolution rules, financial stability of contracts, and additional regulation rules) (Veron and Cellier, 2010).

In the first phase contracts, the construction risk caused several renegotiations and, consequently, increasing in toll rates (Veron and Cellier, 2010). In the second phase, trying to allocate the risks to the party who can better handle them, the regulation was focused on economic and quality aspects rather than on technical specifications (World Bank Toolkit, 2009), allowing enterprises to improve technological development and consequently to find better engineering solutions.

“To increase concessionaires’ responsibility in the second phase of concessions, the ANTT separated works into two categories: (i) non-mandatory works that must be realized to comply with the contracts’ performance targets and are within the full technical and financial responsibility of the concessionaire, and (ii) mandatory (improvement) works such as third lanes, whose timing is defined by the ANTT and whose costs are based on kilometric prices defined in the initial commercial proposition. This arrangement appears much more satisfactory in terms of risk allocation, as concessionaires have strong incentives to optimize their productivity” (Veron and Cellier, 2010).

The experience acquired with the first and second phases, the consolidation of the regulatory framework, with the enacting of the PPP Law and evolution of regulation, and the country’s economic stability brought a favorable environment to launch the third phase of concessions in Brazil.

There were some doubts about the role of ANTT, and the third phase of Brazilian road PPPs was conducted by The National Bank for Economic and Social Development (BNDES), as stated by Amorelli (2009):

“With the changes in the decision making structure within the Federal Government, it was easier than before to determine a new responsible agency for the studies of the concessions of the third phase, even because it would use the process of the modeling the PPP of the BR116/324/BA. Thus the BNDES became the manager, in fact, of the concession process (this change has been suggested by technicians at the beginning of the studies of second phase, in the late 90’s)” (Amorelli, 2009).

As stated by Amorelli (2009), there was criticism about the model, which was designed according to the definitions of the PPP Law and conflicted with the Brazilian concepts of concession and PPP. The stated issues were (a) lack of instruments to

create a marginal cash flow in case of new events which could change the financial stability of contracts; (b) debates about traffic risks, and (c) the definition of unavailability.

However, government coordination prevailed and the third phase was a step ahead into the Brazilian concessions program (Amorelli, 2009).

At the same time, more effective governance has provided a better environment for new projects. The country is on the right path for attracting private partners in order to increase the program and bridge the infrastructure gap, which is somehow limiting the economic growth.

Even though the PPP Federal Law was enacted before the state laws, the Brazilian states launched the first PPP subsidized projects, as stated by World Bank (2012):

“Brazil’s National PPP Law allowing for subsidies to PPPs was signed in 2004. The PPP and subsidy program at the Federal level is administered by the PPP Unit in the Ministry of Planning, Budgeting, and Public Administration. Implementing agencies request subsidy funds, which are then reviewed by the PPP Unit and the Ministry of Finance, approved by an inter-departmental PPP council, and paid through the annual budgetary process. States, such as São Paulo, follow a similar practice.

Although no federal subsidies have been disbursed to date, the federal PPP reforms and the work of the federal PPP Unit has helped states, including São Paulo, develop over US\$12.4 billion worth of PPPs funded in part with state subsidies. Ten projects have been initiated in São Paulo with an average of 24 percent subsidies” (World Bank, 2012).

According to The World Bank (2012), 35 PPP projects have reached financial closure with state and municipal subsidies, and many others are being developed. Brazil currently has the second largest highway network managed under concession among developing countries, which covers more than 12,000 km, only below China’s road network under concession (Veron and Cellier, 2010).

5. Public-Private Partnerships in Rio Grande do Sul

5.1 Regulatory Framework

The RS enabling laws are the Concession State Law 10.086/1994 and the PPP State Law 12,234/05. The federal laws establish general rules for bidding and

contracting PPPs on federal, state and municipal levels. The rules for bidding and contracting concessions on the state level have to be defined by each state.

Rio Grande do Sul passed the PPP State Law about two weeks after the Brazilian Congress had passed the federal law, which shows the interest of the RS State in this kind of contract. The state law also created the PPP unit and established its rules and competences.

There are small differences between the state and federal laws, but all of them are minor. For instance, according to the federal law, it is forbidden to use a PPP contract for a public work, while the state law allows it.

Another difference regards the possibility of auction biddings, which is predicted in the federal law and is not part of the state law. The auction is an important step in order to increase competition in a corruption prone environment and should be incorporated into the state law. The step-in rights is another device from the federal law that was not introduced in the state law.

Indeed, the state law could not contradict the federal law, and this device is obviously unconstitutional and should be modified. Hence, those differences do not interfere in the final result of a PPP project but the corrections should be done in order to avoid administrative and judicial conflicts that could extend the period, already long, to launch and implement such complex projects.

5.2 Public-Private Partnership History in Rio Grande do Sul

The PPPs in RS started in 1998 by the State Program of Road Concessions (PECR) with 15 year contract terms, covering approximately 1,800 km of state and federal highways, comprising seven road poles. The covered area represents about 25% of the state area and 50% of the state GDP. The State Road Department (DAER) was the entity responsible for the design of the concession model, procurement process and supervision.

The PECR is the only program in Brazil with systematic cross-subsidies between the toll plazas of the same pole, an alternative that made possible the transfer of attractive and financially unprofitable road stretches to the private partner (AGERGS, 2012).

“A pole is a set of toll plazas forming a cordon line (which can be partial or total) around a network hub (or central point where at least three highways converge). The toll plazas are located in at least three of highways converging, with toll collection in both directions (the collection was initially made in a

single direction, and a renegotiation of the contract authorized the collection in both directions)" (World Bank Toolkit, 2009).

Like other Brazilian PPPs from the first phase, the state program was conceived as operation and maintenance concessions, focused exclusively on road maintenance and upkeep, without expanding capacity (dualization). The contracts' IRR vary from 23.6% to 28.12% (leveraged) and from 18.3% to 21.77% (based on equity) (TCE, 2009), representing the country economic situation at that moment. Even though the predicted investments have been low, the toll rates are high as a result of the high interest rates of the projects.

A recent survey conducted by The State Regulatory Agency (AGERGS) concluded that the toll rates applied in the concession contracts are considered high for more than 78% of highway users. Of these, 77.1% aim for a price reduction and improvements in the quality of roads, for obvious mismatch between the toll rates and the services provided by the concessionaires (ALRS, 2007).

The contracts were granted to the bidder who offered the largest covering (inclusion of more kilometers in the contract) for a fixed toll and predefined operating services and works. In this program there is no payment of subsidies by the state to the concessionaire. Also, as in the Brazilian first phase of concessions, bidders had to demonstrate technical expertise in quality control and in public works and services. The concessionaires were consortia of traditional enterprises which had executed public works for the state government.

As the toll plazas were sometimes located closer to cities, alternative routes were developed to avoid the payment of tolls by users. Some mayors encouraged this action as a populist measure to win elections. These routes profoundly affected the revenues, costs, and safety of roads (World Bank Toolkit, 2009).

The program implementation caused political discussions and was one of the main issues during the political campaign for the state government in 1998. The opposition party, which had assumed a position against tolls and PPPs, won the election and took office in the beginning of 1999. Since then, disputes between government and concessionaires related to legal issues brought uncertainties to the concession program.

The new government imposed unilateral breaches of contracts from the first year of its term, causing revenue losses. An agreement in the end of 2000 led to the signature of the first addendum, which changed some important items, such as bidirectional levy of tolls, the provision of additional services (ambulance, towing, medical and mechanical help), reduction of required quality parameters, and higher toll rates (AGERGS, 2012).

The Pelotas Pole was composed of federal highways and delegated to RS state to be granted as a concession, but the political issues described above hindered the levy of contract tolls. Hence, the delegation was canceled and the concession returned to the Federal Administration in 1999 with an extended term.

The Santa Maria Pole, composed by federal roads, was transferred to federal responsibility, and had been granted but never operated by government decision, thus the case is still being discussed on the courts (World Bank Toolkit, 2009).

The concessionaires campaign for financial rebalancing, which the government does not recognize. Reports issued by The State Legislative Assembly (ALRS), The State Regulatory Agency (AGERGS), The State Court of Audit (TCE/RS), and The Task Force created by The State Decree 47,939/2011 (with the purpose of controlling and inspecting actions on DAER) have stated that the alleged financial rebalancing has to be better investigated.

According to the task force report, the events which caused the alleged disequilibrium should be legally evaluated. Events which possibly caused disequilibrium in favor of the users, such as the lack of compliance with the performance indexes required by the contracts, have to be considered (DAER Task Force, 2011).

On one hand there were events which caused disequilibrium in favor of the concessionaires, such as the opening of toll gates and freeze of toll rates. On the other hand the concessionaires have offset the decrease in toll revenues with less investment than necessary to maintain the quality standards required. The measurement of performance indicates that the quality indexes have not been achieved during the contract execution (AGERGS, 2009; TCE, 2009; ALRS, 2007).

“It should be noted that it is prohibited for the concessionaires to exercise self-regulation in order to achieve balance, facing a situation of falling revenues” (DAER Task Force, 2011).

In 1985 DAER had about 7,000 public employees. This number has decreased to 4,000 in 1995 and to 1,800 in 2010. This is a result of a shifting in the focus of the road department, which doesn't execute the major part of the road works anymore, only supervising enterprises which execute the public works. Unfortunately, DAER does not have a sufficient number of technicians even to oversee the contracts run by the department.

“According to a survey conducted by DAER with regional superintendents, as SEINFRA/GAB/399/11 letter, today there are 48 professionals working directly on road inspection, and approximately one third of them are engineers (some

regional superintendents or assistants perform administrative tasks and do not have time to supervise)” (DAER Task Force, 2011).

AGERGS is a multi-sector agency, differing from the Brazilian model, which has one specific agency per sector. It was created after the bidding for the state road concessions. Thus, there are some conflicts in the contracts, such as the establishment of a commission of experts to settle contractual disputes, which is one of the legal competences of the regulatory agency (TCE/RS, 2009). Another example of this issue is that AGERGS did not participate on the first addendum, which caused relevant changes in the contracts. Also, the oversight of the quality patterns is assigned by the contracts to DAER, but this is another legal competence of AGERGS. The same problem happens in applying penalties. The TCE/RS report also suggested an analysis of the legal oversight competences of DAER and AGERGS in order to provide a complementary actuation among them up to the end of the contracts (TCE/RS, 2009).

As a result of these organizational and contract failures, the state PPPs do not have adequate oversight, increasing the information asymmetry between enterprises and government agencies.

6. Suggestions for Rio Grande do Sul Internal Control

6.1 Good Governance

According to the UNECE Guidebook on Promoting Good Governance in PPPs (2008), countries tend to go through some stages before a PPP program becomes fully operational. Following these stages countries will move up on a maturity curve, establishing required institutions, capital markets, know-how, expertise, and therefore can develop better projects and financial arrangements. Most countries are in the first stage; meanwhile few others have achieved the third stage.

Table 2 shows the stages of PPP development and its stages:

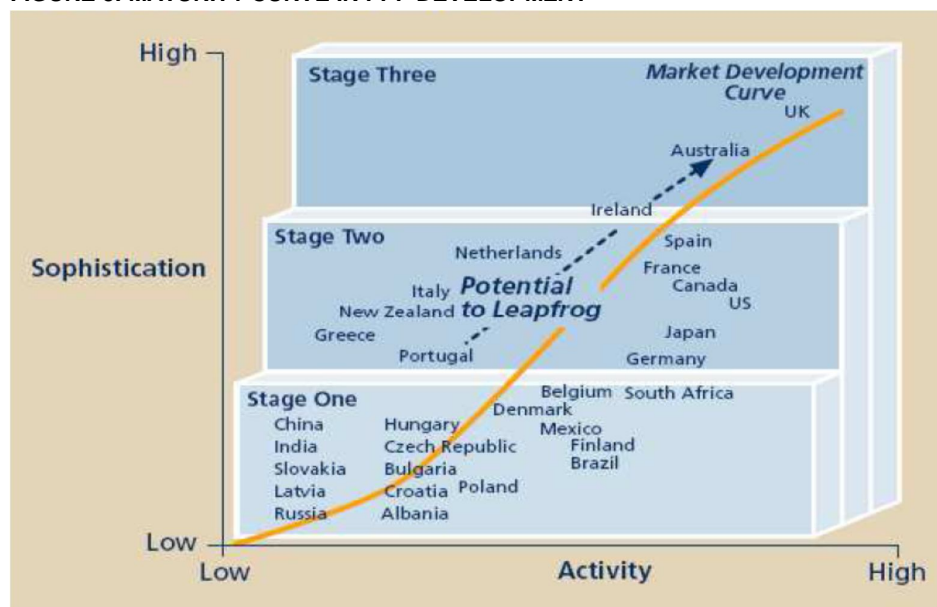
Even though Brazil has a considerable experience in PPP projects, UNECE (2008) includes the country in the first stage. Figure 5 shows the maturity curve and the position of several countries along the three stages of developing PPPs.

TABLE 2: PPP DEVELOPMENT STAGES

Stage One	Stage Two	Stage Three
<ul style="list-style-type: none"> • Define policy framework • Test legal viability • Identify project pipeline • Develop foundation concepts (PSCs etc) • Apply lessons from earliest deals to other sectors • Start to build marketplace 	<ul style="list-style-type: none"> • Introduce legislative reform • Publish policy and practice guidelines • Establish dedicated PPP Units • Refine PPP delivery models • Continue to foster marketplace • Expand project pipeline and extend to new sectors • Leverage new sources of funds 	<ul style="list-style-type: none"> • Fully defined, comprehensive “system” established • Legal impediments removed • PPP models refined and reproduced • Sophisticated risk allocation • Committed deal flow • Long-term political consensus • Use of full-range of funding sources • Thriving infrastructure investment market involving pension funds and private equity funds • Well-trained civil service utilises PPP experiences

Source: UNECE, 2008

FIGURE 5: MATURITY CURVE IN PPP DEVELOPMENT



Source: UNECE, 2008 using Deloitte and Touche data

UNECE (2008) also states that PPPs on one hand bring benefits but, on the other hand, present challenges:

“(…) there is a risk that too fast a turnover of assets to the private partner, without the public sector providing the necessary scrutiny, may put in jeopardy the delivery of essential services to the general public. Indeed, governments should be wary of a headlong dash into projects without full knowledge of what

has worked and what has not, which puts themselves at risk of repeating earlier mistakes in other countries” (UNECE, 2008).

The expertise of public sector includes the capacitation and skills in negotiation, contract management, and risk analysis.

“The challenge is not just to create new institutions but also to develop the public expertise to administer projects. PPPs demand a strong public sector, which is able to adopt a new role with new abilities. In particular, strong PPP systems require managers who are not only skilled in making partnerships and managing networks of different partners, but also skilled in negotiation, contract management and risk analysis. Indeed, asking private partners to deliver government services places more, not less, responsibility on public officials” (UNECE, 2008).

The World Bank Toolkit (2009) states the necessity of setting up a PPP policy which redefines the role of government in the transport sector, shifting the focus from a supplier function to regulation and enabling of competition. Long-term and in-depth reforms are necessary to remove bottlenecks which limit private sector involvement in PPP projects.

“This means that governments need to create the proper institutional framework for competition, set economically efficient charges for the use of publicly provided infrastructure, carefully appraise the allocation of scarce public resources and increase community participation in decision making” (The World Bank Toolkit, 2009).

According to UNECE (2008), there are 6 core principles to achieve good governance in PPPs: (a) participation (involvement of stakeholders); (b) decency (formation and management of rules without affecting people); (c) transparency (clarity and openness of decisions); (d) accountability (responsibility of political actors for their acts); (e) fairness (equality in appliance of rules to everyone); (f) efficiency (better allocation of limited human and financial resources); and (g) sustainable development.

PPP projects require further sophisticated mechanisms that demand a high level of knowledge and capacitation for the Public Administration and control bodies, which are not well prepared for the task. The control bodies are blamed for blocking PPP projects and they should assume their role in the conduction and in the results of these instruments (Ikemura, 2011).

Queiroz and Kerali (2010) state several constraints that should be considered by governments when launching PPP projects:

- a. The private sector will do what it is paid to do and no more than that – therefore incentives and performance requirements should be included in the contract.
- b. There is a cost attached to debt – while the private sector can make it easier to get finance, finance will only be available where the operating cashflows of the concessionaire are expected to provide an acceptable return on investment, that is, the cost has to be borne either by the users or the government (through, for example, subsidies, shadow tolls, annuities).
- c. Bidding and ongoing costs in PPP projects are likely to be greater than for traditional government procurement processes - the government should therefore determine whether the greater costs involved are justified.⁶¹
- d. There is no unlimited risk bearing – private firms will be cautious about accepting major risks beyond their control, such as exchange rate risks or risk of existing assets. If they bear these risks then their price for the service will reflect this. Private firms will also want to know that the rules of the game are to be respected by government as regards undertakings to increase tariffs and fair regulation. The private sector will also expect a significant level of control over operations if it is to accept significant risks.
- e. Government responsibility continues – citizens will continue to hold government accountable for the quality of the facility and services provided. The government will also need to retain sufficient expertise, whether itself or via a regulatory body, to be able to monitor performance of the private sector and enforce its obligations.
- f. A clear legal and regulatory framework is crucial to achieving a sustainable PPP program.”

Queiroz and Kerali (2010) also emphasize other key characteristics for the success of PPPs:

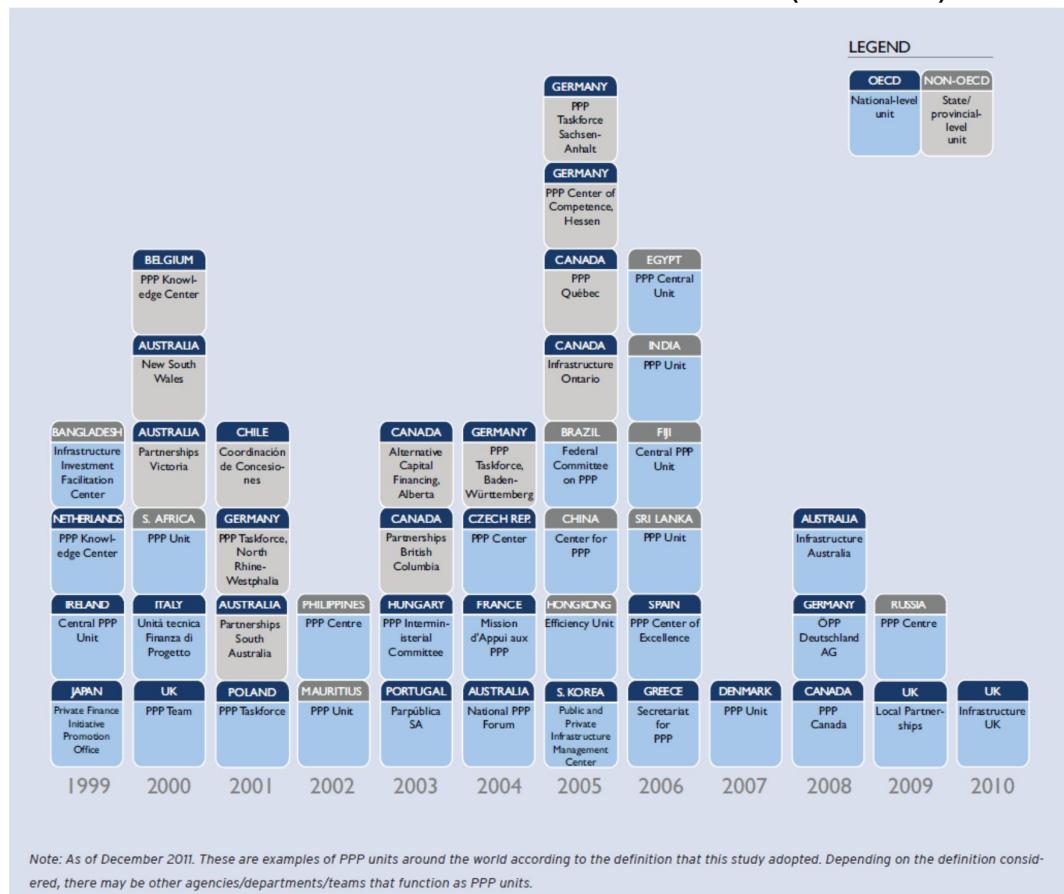
- (a) Risk allocation: risks should be identified and allocated for each part of the project. The clear definition of responsibilities will determine the costs borne by each partner. A risk matrix can help the government in this task.
- (b) Risk mitigation: credit guarantees, political risk guarantees or insurance are examples of instruments currently used to attract private capital to finance PPPs.
- (c) Good governance: As PPPs in infrastructure tend to have monopolistic features, good governance is essential to ensure the maximum benefit for the public. Good governance in this case requires; (i) competitiveness in selecting the private partner, (ii) properly disclosure of relevant information to the public, and (iii) oversight of the contractual agreements over the life of the concession by a regulatory entity.

Concerning the disclosure of PPP agreements, Queiroz and Motta (2012) emphasize:

“Full disclosure of concession agreements, an indication of good governance, helps ensure that the users know what to expect from the facility under concession, thus increasing transparency in the role of the regulator. Nevertheless, not all concession contracts are open to public scrutiny. A typical excuse is a claimed need for confidentiality. While not currently included in the Brazilian PPP Law, it appears appropriate that in future revisions a clause be added on the full disclosure of contract documents, which would increase accountability of both the concessionaire and the regulator.”

Istrate and Puentes (2011) emphasize the necessity of a PPP unit in order to contribute to the successful implementation of an overall PPP program. More than 31 countries have a PPP unit at the national or subnational level, as shown in figure 6. The U.S. federal government does not have a PPP unit; however, seven U.S. states have PPP offices, and four of these have dedicated PPP units.

FIGURE 6: PPP UNITS AT NATIONAL OR SUBNATIONAL LEVEL (EXCEPT U.S.)



Source: Istrate and Puentes, 2011

Even in United Kingdom, which has the most developed PPP program, The National Audit Office (NAO) has reported that public sector should act as intelligent customers across all phases of a project. According to NAO (2011), the lack of commercial skills for complex projects can put the public sector at a disadvantage in the negotiation and management of contracts. Furthermore, skill shortages lead to an over-reliance on advisers who do not pass on their knowledge. NAO (2011) also recommends a better management of data (identifying, collecting, and using) in order to help support decision-making and secure the best value of money.

As PPP projects are complex and involve many government bodies, it is important to provide capacitation to all participants. Concerning road PPPs in RS, the PPP unit, DAER, and SEINFRA need good structure and their servants should have sufficient knowledge either to develop or analyze such projects.

According to Santos (2009), the quality of Brazilian regulation, which is an indicator of governance, is still lower than in developed countries and even than in some countries from Latin America. The Bill 3,337/2004, on discussion on The Brazilian Congress, introduces several devices in order to improve the role of the regulatory agencies.

AGERGS also should have adequate structure and propitiate training for its technicians. Of the 66 Senior Technician positions, only 29 are filled. Low wages have discouraged new servants to take office and some technicians have migrated to other state bodies. For example, there is only one servant for the oversight of 325 bus stations, and only two for the oversight of road concessions.

Regarding the internal control, CAGE should have in its staff a sufficient quantity of auditors who are specialist in PPP projects. It is also important to state that these projects involve some key areas of knowledge, and multidisciplinary staffs composed of diverse professionals, such as economists, engineers, lawyers, and accountants, are required for all government bodies involved.

PPPs have several proper features, such as (a) large value and long term; (b) higher autonomy to the private partner to manage the project; (c) information asymmetry; (d) complex financial structure; (e) participation of the finance agent in different parts of the project; (d) sharing of risks; and (e) legal obligation of complex technical studies which justify the model adoption. Therefore, its oversight requires a different approach from the one used in contracts ruled under the Procurement Law (Ikemura, 2011).

According to Ikemura (2011), the federal and state Brazilian courts of audit have an important role in addressing good practices, spreading knowledge and approving benchmarks. The experiences from The Brazilian Court of Audit (TCU) and

The Court of Audit of Minas Gerais State (TCE/MG) in monitoring PPP projects are interesting examples of the evolution of the Brazilian external control.

TCU oversees the Brazilian regulatory agencies and bodies involved in PPP projects by two Secretariats for Oversight of Privatization and Regulation (Sefid 1 and Sefid 2). Regarding PPP projects, TCU oversees the processes concomitantly and preventively. Indeed, the contracts' oversight is responsibility of the regulatory agencies, and TCU's duty is to oversee their performance. The monitoring and oversight follow several internal rules, such as Internal Rules 27/98, 43/02, 46/04, and 52/07. PPPs are monitored throughout five stages: (a) documentation analysis concerning the feasibility of the enterprise or service provision; (b) examining of necessary actions to the publication of the bidding notice and its analysis, as well as the contract draft; (c) examining the bidders questions, the minutes and reports concerning legal, technical, economic, and financial qualification; (d) analysis of the appreciation of the tenders and bidding results; and (e) analysis of the awarding and contract signature (TCU, 2012).

According to Ikemura (2011), TCE/MG created a specific PPP unit in 2010, which already has achieved good results, such as (a) annual planning to define the projects to be analyzed; (b) a Normative Instruction in final phase of development; (c) specific software to receive information about PPP projects in developing phase; (d) technical capacitation already applied to six servants; (e) three PPP projects previously monitored (two under the PPP Law and one under the Concession Law); (f) strong acceptance by the government bodies involved in projects, which have accepted the team's recommendations; and (g) the procurement processes have been improved.

The U.K. National Audit Office (NAO) has a specific PFI/PPP team made up of around 20 experienced public sector auditors and staff who joined the NAO from careers in banking, economics and private sector contracting. In addition to the core work of producing value for money reports, NAO provides several services in order to help departments to improve public services, and spreads knowledge through workshops, conferences, and website information (NAO, 2006).

6.2 Lessons from Public-Private Partnerships Launched in 2010

In 2010 the RS State Government launched two PPP projects under the PPP State Law: (a) construction and operation of a prison complex in Porto Alegre metropolitan area (administrative concession); and (b) construction and operation of the Road ERS/010 (sponsored concession), in order to solve the traffic flow issue between the cities of Porto Alegre and Novo Hamburgo.

The procurement processes were submitted to the State Internal Control Agency (CAGE), for auditing within a term of 45 days. Two audit teams were

designated for the work. Although both audit works were coordinated by the State Auditor-General Office and had the support of the Studies and Orientation Division, the two audit teams were from different divisions of CAGE, and there was no specific internal rule to guide the analysis. Thus, each team focused the auditing on the issues related with its expertise and routine job.

A team of three auditors (one from the State Auditor-General Office and two from the CAGE Sectional at the Department of Public Safety – two accountants and one civil engineer) was designated for auditing the prison project, and another one of four auditors from the Auditing Division, with expertise in auditing public works in the Road Department (one accountant, one economist, one civil engineer and one electric engineer), was designated for auditing the road project. Even though the auditors had experience in several kinds of auditing, including public works, none of them had audited a PPP project, and the task was indeed a challenge for both teams.

The CAGE report about the prison complex project stated (a) the lack of detailing of the technical specifications; (b) the lack of explanations about the calculation of the estimated contract value; and (c) the lack of compliance with devices from the PPP and Fiscal Responsibility federal laws about fiscal goals. The report also suggested (a) a revision on the guarantee value; (b) a change in the readjustment index; and (c) a revision on the payment clause for a better understanding about the payment method and period (CAGE, 2010).

The Road ERS/010 project was launched in order to address the traffic issue between Porto Alegre and Novo Hamburgo. The federal highway BR116, which connect both cities, is often congested and cannot handle the daily traffic. The solution proposed by the state government was to build the parallel road ERS/010, with several other necessary works, such as the extension of roads ERS/429 and ERS/449.

The project was conceived under the restricted definitions of the Federal Law 11,079/04 and the State Law 12,234/05. The concessionaire would build the roads and levy tolls to cover the investments and road operation. As the project wasn't feasible with the acceptable fees, the government would subsidize the concessionaire.

The PPP model was developed by a private enterprise, which was one of those with vested interest in the PPP project, contracted for the amount of R\$ 3.3 million, to be reimbursed by the winner of the bidding.

The estimated revenues for the project totaled R\$ 4.69 billion for the period of 35 years, R\$ 3.03 billion from tolls and R\$ 1.66 billion of state subsidy. An allocation of R\$ 1.39 billion was provided for the implementation of infrastructure works, R\$ 1.14 billion for operating and administrative costs, R\$ 1.03 billion for taxes, and R\$ 1.13 billion for the profits. The maximum exposure of the private partner would be R\$ 529.22 million.

R\$ 166 million of the subsidy would be paid in the first three years and R\$ 332 million over the next four years, until the conclusion of the infrastructure implementation, totaling R\$ 498 million. The main investments for implementation would total R\$ 819.2 million, but R\$ 137.5 million of this amount could be executed by the private partner only in the last two years of the concession term (34th and 35th years). It is also important to note that in these initial seven years, plus the subsidy, the government would be obliged to perform other works which summed R\$ 207.8 million, necessary for the success of the project, and also undertake, at its expense, all expropriations, which amounted to approximately R\$ 90 million. Thus, over the first seven years, the RS State would have to spend R\$ 800 million. The works under the state's responsibility are roads ERS 118 (under construction), ERS 429 and ERS 449, key to achieving the Annual Average Daily Traffic (AADT) under the project.

The first premise adopted by the audit team was that PPPs tend to be a monopoly. According to The World Bank Toolkit (2009), the scale of investments and the network effects of highway infrastructure make it impractical and inefficient to have direct competition between providers, thus it can be considered to be a natural monopoly, requiring regulation.

Moreover, in this case there was a great probability that the enterprise which had modeled the project could have some privileged information. This feeling was confirmed when the auditors had the first appointments with the PPP unit members and DAER technicians. The latter ones were not part of the process and all the information was centralized in the modeler and in some members of the PPP unit. During the auditing some of DAER technicians were involved into the process in order to validate the budgets by request of the audit team.

Furthermore, as usual in this kind of contract, the technical and financial requirements are extremely rigid, restricting the number of bidders and consequently limiting competition.

These facts caused great concern in the audit team about the estimated costs of the project. If the costs were overestimated and the competing enterprises could not deeply verify it by the short period to prepare the bid, the subsidy paid would be higher than the necessary, causing a loss for both state and society. This problem could be increased if a few number of enterprises could achieve the finance and technical requirements from the bidding.

Following the same line, Ribeiro and Prado (2007) emphasize that the estimated prices in a PPP budget should be based on real market prices, which express the real cost to be borne by the concessionaire, and not on public prices, which consider overpricing as a rule in government contracts.

The main notes resulting from the auditing process were about investment and operating budgets, interest rates, sharing of traffic risk, subsidized payments, and performance-based payments.

Investment Budget: Initially DAER did not disclose the works budget, but later scanned and provided the files for analysis when it was noticed that there was no discrimination of investment budgets, but only the total sum for each work. As requested by the audit team, DAER provided the budget worksheets. The budgets were approved by DAER only for the total amounts, not for the quantities of services.

The audit team compared the investment budget with recent works executed by the proper department and noticed that the parametric value of R\$ 2,454.98 per m² for bridges and viaducts was almost the double of similar works. The same happened with the planned tunnel, which was estimated at R\$ 68,370.00 per m, about 50% higher than market price.

Other notes from auditing referred to the Budget Difference Income (BDI) used in the budget, which counted in double some of the project costs, such as profit, taxes, guarantees, and administration costs.

Operating Budget: The operating budgets did not have enough detailing, and possible analysis showed they were high when compared with DAER patterns. There were some inconsistencies in the spreadsheet, like no consideration of residual vehicles' sale value when renovating the fleet, which would be an off-balance profit for the private partner.

The budget for personnel costs presented high values of wages and benefits, such as rental subsidies and medical insurance plan, which were higher than the market prices in the region. Also the quantities of the proposed staff showed to be higher than the average in this kind of service.

Interest Rates and Internal Rate of Return (IRR): The IRR indicates whether a project is attractive for investment. The model presented was defined by the required rate of 8.0% and IRR of 8.9%, which indicated that the project was attractive to the entrepreneur because the return was higher than the opportunity cost.

The interest rate and IRR reflect directly in calculating the subsidies paid by the State. As the model proposed a fixed toll rate, any change in the IRR would have a direct impact on the subsidies. Thus, there were no elements and studies demonstrating the methodology for its calculation and to justify the adopted rates. Similar projects carried out in the country have used lower interest rates based on technical notes founded on the evaluation of structures and costs of capital, market analysis, country risk, among other economic variables. The National Accounting Court (TCU) in several judgments have manifested itself in the sense that the IRR must fit the

current rates for Brazilian spread cost of BNDES in order to consider the improvement of the indicators, due to the economic/political environment and growth experienced by the country in the last years.

Risk of Traffic: The share of gains and losses caused by changes in volume of traffic showed doubtful. The losses would be divided between the parties based on estimates of the modeler and gains on estimates of the private partner in its Business Plan Highway presented in the bid. Furthermore, it would be possible to have incongruence between two different estimates of traffic if the modeler wins the bid.

Subsidies: According to the proposed schedule, 50% of the monthly subsidy would be paid when the concessionaire satisfied the following conditions: (i) start of operation on road ERS/118, which was under construction by the State; (ii) beginning of works on road ERS/429; and (iii) approval of the basic project of engineering and preliminary license. The audit team noticed that the necessary investment to achieve such conditions would be small in relation to the subsidy received. Furthermore, as a condition to receive 100% of the monthly subsidy, the enterprise would have to require the license to operate 1 km of the road ERS/429, for which the investment required would also be very small, in conjunction with ERS/118.

By the Federal PPP Law the subsidies only could be paid when the service was available. It is still possible a partial payment, proportional to the available service. According to the proposed schedule of operation, the entire system would be ready to be operated in eight years, when the condition was met for the payment of 100% of the subsidies.

Performance-based Payments: According to the Federal PPP Law and Resolution 010/2009 of the PPP Unit, the value of the subsidy may be linked to the performance of the private partner, with potential relevant efficiency gains in service delivery.

However, the proposed model predicted the imposition of fines if the service is not rendered properly. Anticipating a possible use of the subsidy linked to performance indexes, the Resolution 010/2009 of the PPP unit predicted a monthly subsidy payable in accordance with an evaluation system that should include performance clauses in the contract. In the model under examination, this recommendation was not addressed. Another point stated by the audit team was the cessation of subsidy payments from the 246th month. If the contract was 420 months, then there would be 174 months without any payment. Thus, the payments would not bond with the performance system forecasted by Resolution 010/2009.

The audit report recommended binding the subsidy payment to the performance indexes up to the end of the contract. This model would provide greater assurance to the public partner and to users, as would keep a direct relationship with

the level of performance in the provision of services by the private partner. Another viable way to adjust the fee according to the performance would be reducing the toll rates according to performance indexes achieved by the private partner. (CAGE, 2010).

The State Regulatory Agency (AGERGS), which was created in 1997 to monitor the concessions, also analyzed the proposed model and made statements converging to the CAGE audit report.

Unfortunately, both bidding notices were published without the necessary proposed adjustments. Based on the audit report, external control entities demanded judicially against the PPP projects, which resulted cancelled by government before opening the bids.

6.3 Creation of a Specific Audit Staff for Public-Private Partnerships

In the beginning of 2011 a new government took office in Rio Grande do Sul State and showed intention to address the traffic issue in the Porto Alegre metropolitan area, and the ERS/010 PPP project probably will be remodeled and re-launched soon.

Other PPP projects will be necessary to cover the infrastructure gap faced by the state. The contracts granted in 1998 will finish in 2013 and the new government is still studying possible solutions for those roads. Several possibilities are been argued, such as tolls directly administrated by DAER, new procurement or extension of the contract terms.

As stated above, several problems unable these contracts to be extended. The State Economic and Social Development Council (CDESRS) issued on December 2011 an Agreement Report ("Relatório de Concertação"), which proposed to the State Governor to not extend the concession contracts (CDESRS, 2011). On March 8, 2012, TCE/RS has issued a precautionary measure, which required The Department of Infrastructure and Logistics (SEINFRA) trough DAER to refrain from any acts that involve modifications of existing clauses signed with the highway concessionaires, which may result in changing the final term of the contracts. Therefore, the extension of the contract terms is not a possible option anymore.

The experiences on the analyzes of the prison complex and the ERS010 project showed the necessity of improvement of the performance of RS Internal Control (CAGE), which has an important role in addressing good practices, disseminating knowledge and approving benchmarks in PPP.

Up to the last two public selections, CAGE had in its staff only accountants. Changes in the Statute for Civil Servants allowed the Finance Secretary and CAGE, which is part of this secretariat, to hire auditors with other professional qualifications.

In 2006 and 2009, two public selections hired auditors from other areas, such as engineers, economists, business administrators, and lawyers, allowing the internal control to have multidisciplinary teams. The analysis of the ERS/010 PPP project showed an increase in knowledge in subjects such as public works, economic analysis, and legal devices, regarding to former audit reports.

On the other hand, auditing such complex projects require specialization of the audit staff. The aim of this study is to propose the creation of a specialized audit team to analyze PPP projects.

Adapting the Ikemura's (2011) proposal for creation of PPP units in the states accounting courts, there are some fundamental features to guide the specific PPP unit to be created in RS internal control.

The unit has to be involved in all process' phases. The control process should involve the planning, launch of projects, procedures of expressions of interest, public audiences, consultation processes, analysis of bidding documents, and supervision of contract execution. The monitoring of all the process for the same unit will allow the consolidation and improvement of knowledge, as well as higher uniformity and consistent analysis.

As stated above, the prison complex and the ERS/010 projects were submitted to CAGE prior to its launching. However, the audit team did not monitor the processes since the planning and project phases and had only 45 days to complete the auditing. If the internal control had accompanied the processes since their beginning it would be easier to timely require more information, clarify doubts, and eliminate some problems.

It is recommended a multidisciplinary team to compose the specific audit team, assuming the contribution of various approaches on the analysis. It is also important the participation of professionals with cross-section experience, such as lawyers accustomed to analyzing public works procurement or engineers with knowledge in accounting and economics, for example.

A minimum training plan is required for initial leveling the team knowledge, involving general rules of public-private partnerships, finance-economic analysis, and domain of computer software, such as Excel. In a second moment, further training is required, probably at post-graduate and participation in seminars, congresses and other events related with PPPs. Actually, there is a lag of knowledge and it will be necessary on-going training, continuous development, and updating expertise.

Internal rules are useful guidelines in order to establish procedures to monitor concomitantly and preventively PPP projects. The CAGE experience with the prison complex and the ERS/010 projects showed the necessity of analysis standardization. It

is also important the monitoring of projects since their beginning in order to avoid unlawful acts and to increase evenness and transparency.

7. Conclusion and Recommendations

Brazil has just achieved the position of the fifth largest economy in the world and tends to become the fourth in a few years. However, the lack of sufficient investments over the last decades led to a gap in infrastructure, which prevents a higher economic growth and became a challenge for the federal government.

The Rio Grande do Sul State (RS) faces the same issue. The state roads are generally in poor conditions and need large investments to allow the state development and the desirable economic growth.

Public-Private Partnerships (PPPs) provide several advantages in relation to traditional contracts and are a possible solution in order to help federal and state governments to bridge the infrastructure gap.

Over the last decades the Brazilian and RS governments have experienced the developing and implementing of several PPP projects, which helped to create and gradually complete a regulatory framework in both levels of government.

Brazil and RS need to foster a more favorable environment to PPPs, which consists of macroeconomic and sector contexts, in order to attract investors to these projects. The Brazilian macroeconomic situation showed improvement over the last years; however, good governance and institutional certainty are decisive factors that can avoid unforeseen risks.

Good governance in PPPs requires a strong public sector with institutions capable to manage and monitor such complex projects. Reviews of the enabling laws and a better definition of the role and actuation of the regulatory agencies are some of the goals to be achieved in order to improve a favorable environment and attract private partners.

Following the same line, the internal and external control bodies have to assume their role in PPP projects. PPPs are complex and require a new monitoring approach. The experiences of the U.K. National Audit Office (NAO), the Brazilian Court of Audit (TCU), and the Court of Audit of Minas Gerais State (TCE/MG) in monitoring PPP projects are examples to be followed.

In 2010 the State Internal Control Agency (CAGE) analyzed two PPP projects and faced some difficulties, such as the lack of specific knowledge in such complex

projects, the short period to deeply know all the process, and the lack of an internal rule to guide the analysis.

This analysis, added to the experience of NAO, TCU, and TCE/MG, showed the necessity of a specific audit team specialized in monitoring PPP projects and the enactment of an internal rule to guide the oversee and guarantee the involvement of the internal control in all phases of PPP projects.

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