



Public and Private Partnership as lever of benefits in infrastructure development: a study on Brazilian highway concessions

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ABSTRACT

This study explores the growing role of Public and Private Partnership (PPP) in delivering benefits through infrastructure development, looking specifically at the case of Brazil's highways. It discusses the benefits brought by Brazilian Concession program, and the influence of Brazilian PPP on fostering sustainable development. Due to the lack of literature on the subject, it makes use of a conceptual framework to clarify PPP, and to advance the two concepts that base the discussion. First, due to a large range of PPP arrangements, a project can have its risks optimally allocated, and maximize its benefits. Second, that open and free competition beneath bidders is an incentive to innovation on sustainability. From there, it assesses the relationship between Brazilian Concessions and Brazilian PPP arrangements, and contrasts it with the ampler PPP using legal guides and bank categorization. Further, it assesses the benefits brought by Brazilian Concession program upon the pillars of sustainable development with the use of reports, interviews, and available literature. And, finally the study unites these findings towards a discussion on the possibility Brazilian PPP has on supporting these benefits enhancement.

Keywords: Infrastructure Development, Sustainable development, Public and Private Partnership, PPP, Brazilian Highways, Concessions.

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ACRONYMS AND ABBREVIATIONS

ABCR	The Brazilian Association of Highway Concessionaries
CLN	Concessionária Litoral Norte S/A
BOT	Build Operate and Transfer
GDP	Gross Domestic Product
LCC	Life-Cycle Cost
OECD	Organization for Economic Cooperation and Development
PAC	Growth-Accelerating Programme – “ <i>Programa de Aceleração do Crescimento</i> ”
PPP	Public and Private Partnership
PPP/PFI	Public and Private Partnership – Private Finance Initiative
QID	Set of Indicator of accomplishment – “ <i>Quadro Indicadores de Desempenho</i> ”
SPC	Special Purpose Company
SPV	Special Purpose Vehicle
UK	United Kingdom
VfM	Value for Money

1. INTRODUCTION

1.1 THE SCENE

Need for infrastructure development

Infrastructure is the regional system of public works upon which a society relies. It consists of hospitals, schools, roadways, airports, wastewater treatment/plants, energy plants, housing, etc. Investments in infrastructure can directly contribute to improving human welfare, economic growth and can therefore be used as a lever to reduce poverty. Inequality not only declines with larger infrastructure stock, but also with the improved quality of infrastructure services (Calderon and Serven 2004). In a way, whether a nation is undeveloped, developing, or mature, they all hold a common characteristic in today's economy: the need to construct, repair, refurbish, and modernize their infrastructure (Levy 1996). In developing nations there usually exists a legitimate urge for development, due to its inhabitants lacking basic services with regards to heavy infrastructure provision plans. If, on one hand, the development of infrastructure comes to help; on the other hand, much planning is required to enhance its goal and also to mitigate the possible negative impacts. A massive infrastructure investment, if carried-out the wrong way, can threaten the economic, social and environmental cohesion of a particular area or region.

Further embedded in the legitimate idea of fostering development through the infrastructure business, lays its construction interface. The UK Commission for Architecture and Built Environment stresses that "constructing and running public infrastructure and services account for approximately one third of all carbon emissions" (CABE 2007). And, bearing in mind the speed at which urbanization is proliferating in the world and the impact that new power plants, highways, or airports (among other infrastructure), may bring to particular regions, there is a sense of urgency in introducing sustainable practices into the infrastructure development initiatives, particularly in the construction sector.

However, the first priority in both national and municipal budgets of developing nations is to tackle the recurring insufficient funds situation, which is an essential step to financing their required and desired facilities. Yet, the lack of funds can be so extreme, as it oscillates from time to time, that it does not only constrain new project investment, but it affects the maintenance of

present infrastructure. As the World Bank has reported, it is estimated that the maintenance of some existing highway systems in Africa would have cost US\$12 billion over the past decade, whereas reconstruction costs will amount to US\$45 billion(Levy 1996). Therefore it's cost-efficient to invest in maintenance of highways. This kind of loss in such a key infrastructure sector directly affects the region in achieving economic distinction, and it is a factor that will determine a country's success in economic prosperity.

Public and Private Partnership

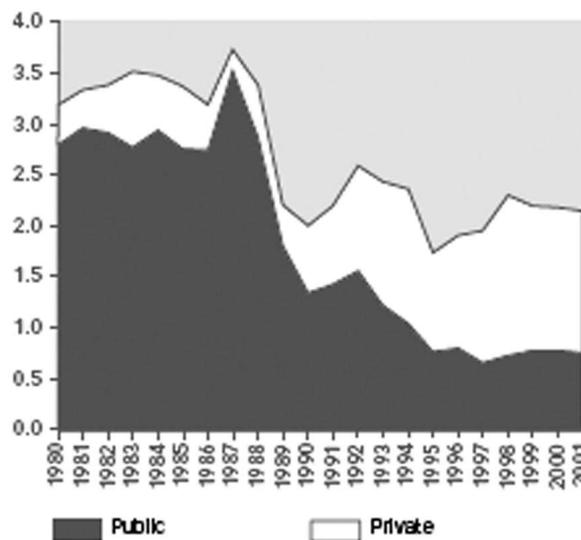
It was in the last decades that an alternative to public investment has reemerged with full force in the infrastructure development scene and consolidated itself as a possible option for avoiding the constraints of the public sector. One of the solutions found to meet the investment challenge is a broad and evolving arrangement called Public-Private Partnership (PPP), in which governments make use of private capital in social and economic projects. Basically, the idea is that, by the use of private economic interest to provide services that were traditionally fulfilled by public authorities, the private corporation ceases to be only contractors and transforms itself into actors with specific interests and initiatives(Pflug 2002). Therefore, the private sector participation and know-how shall not only contribute to raising funds for projects, but also, if the process is well-structured and transparent, it contributes to delivering innovative and quality services to society.

The PPP arrangement that, in its contemporary form, was started in the Organization for Economic Cooperation and Development (OECD) countries is now becoming more popular in other world regions, including the developing nations. The proliferation of the arrangement worldwide seems to be transforming it from a simple alternative to structuring and financing national infrastructure, to a whole new way of seeing infrastructure development in the international development scenario. A further transformation that PPP is passing through is the modernization of its core principles and values. Basically, it is transforming itself from a way to relieve the government's balance sheet to a simpler, but more elaborate, idea of delivering Value for Money (VfM). The Advisory Council of Western Australia, writes that the main drives for VfM are: risk transfer, whole life costing, innovation, and asset utilization (WATIAC 2004). These two transformations, anchored in infrastructure development initiatives, and the closeness of the field with the vast construction business, makes the basic understanding of the PPP structure

indispensable in assessing the ways in which sustainability ideas can be thought of and incorporated into field practices. However, the particular transformation of delivering VfM, coined in the United Kingdom's (UK) experienced PPP market, does not imply that it would be equally adopted in all arrangements worldwide.

The PPP arrangement and ideas have reached many of the developing regions. In Latin America, it has propagated due to some of the governments' difficulties in raising urgently needed investments for their enterprise. The situation of low capital and investments resulted in inefficient and poor service provisions, which affects economic development in the areas of competitiveness and equity in the region (Guasch et al. 2004). Longing for investment channels to finance its infrastructure, the Brazilian government is today a vivid example on the continent, after Chile and Mexico's engagement in PPP arrangements, of a nation that has embraced the private initiative to foster infrastructure development. The involvement of private sector in Latin America infrastructure development investment is clearly illustrated in figure below.

Figure 1 – Investment in infrastructure in Latin America (*percentage of GDP, weighted by constant GDP in 2000 US\$*)



Source: Borensztein, E., Yeyati, E., et al. (2006). Note: Based on data that include Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Peru, and Venezuela. Calculations were based on Calderon and Servén (2004)

In figure 1, the dark grey area represents public sector investments on infrastructure, while colored in white are investments made by the private sector. Between 1980 and 2000, the share of GDP invested in infrastructure by the public sector fell more than a half, while the private share has increased about four fold in the same period. This is a strong sign of the increasing importance private sector has occupied in performing investments at Latin America's infrastructure.

Brazil

Since the economic depression Brazil suffered in the 80's, the percentage of GDP per capita invested in infrastructure fell from 3.6% to as little as 1%, highlights Yan, when reporting the inadequate condition of the country's highways, ports, power plant and sanitation installation (Yan 2007). Today, if Brazil aims at bringing its infrastructure standard up to that of other advanced developing economies; he adds that it ought to attract private investment to the business. Furthermore, Yan points out that if Brazil seeks to catch up in 20 years to the level of infrastructure development that can be seen in South Korea or the developed part of China, it must increase both private as well as public investment by 2.4 percent of GDP annually, to 5 to 7 percent of its GDP. (Yan 2007).

It seems that Brazil is not only eager to reach these high figures but intends to surpass them. At least, that is what the country's initiative in early January 2007 showed. In order to channel investment in infrastructure development, Brazil has launched a new and ambitious program to foster growth and development. The program named Growth-Accelerating Program - "*Programa de Aceleração do Crescimento (PAC)*", when released, had forecasted that at least R\$55 billion (US\$26 billion) would be invested in transport-logistic infrastructure (roads, railway, airports) in the country by the year 2010(Brazilian Ministry of Planning Budget and Administration 2007). Therefore opening extra space for new highway development and maintenance in the country. The private sector's share was also expected to reach R\$24,3 billions (US\$11 billions) in PPP and concessions(Brazilian Ministry of Planning Budget and Administration 2007). The PAC has clear goals, which are: to overcome structure limits, extend its limit geographically through infrastructure projects of transport and decrease the regional inequalities, therefore inducing development throughout its territory(Transport 2007). It is also the biggest strategic investment project Brazil has had in the last four decades (Embassy of Brazil in London 2004).

Highways in Brazil

In Brazil, highways, as public goods, have often been built through traditional procurement contracts with the private sector, and maintained exclusively by the public sector before 1995. However, after this date the government started to transfer the responsibility to run a number of highways to private sector. This would include the responsibility of expands, operate, and maintain a number of federal and state's highways for a specified period of time. The arrangement that made it possible was structure and named in Brazil as Concession. Moreover, recently as three years ago, the Brazilian Government announced that it would go beyond the known Concession arrangement, and created a number of laws to regulate the so-called Public and Private Partnership (PPP) arrangement in Brazil.

1.2 AIMS AND OBJECTIVE

This study aims to untangle as by exploring PPP's regulation in Brazil and its benefits towards sustainable development in the field of infrastructure development. The objective of this study is to find out if the introduction of Brazilian PPP arrangements could enhance these benefits. The hypothesis to be tested is that: regulation of PPP in Brazil allows the country to create further paths to enhance benefits towards sustainable development. This hypothesis is based on benefits' pathway the more experimented and documented UK's PPP arrangements claimed to deliver in its Private Finance Initiative / Public and Private Partnership (PFI/PPP) program.

1.3 RESEARCH QUESTIONS

What is the difference between Brazilian Concessions and Brazilian PPP? What are the benefits relating to sustainable development brought by Brazilian Concession in highways from the social, environmental, and economical perspective? How could the regulation of Brazilian PPP arrangements enhance these benefits in infrastructure development?

The study is advanced as follow:

1. Definition of sustainable development, and background discussion on what PPP is. (Section 3)

2. The example of UK's PPP/PFI, and its important driver of Value for Money: competition. (Section 3)
3. PPP in Brazil: Brazilian Concession versus Brazilian PPP. (Section 4)
4. The benefits on sustainable development brought by Brazilian Concessions. (Section 4)
5. The organization discussion of benefits under the dichotomy of macro and micro-benefits. (Section 5)

1.4 SCOPE AND LIMITATIONS

This study does not attempt to discuss the idea of when and how the infrastructure investment in highways would be appropriate to be considered sustainable. Neither has it sought to survey comprehensively the actual sustainability performance of PPP programs, individually or as a whole – that is also beyond the scope of this study – although the benefit of PPP examples assessed here make an influential contribution to illustrate the nature of sustainability initiatives.

Due to complex relation of stakeholders a highway has, as user, affected community, as other, the commercial stakeholder limits the study, where the concessionaires are its focus. However, it recognizes that in order to fully understand the nature of benefits, as the complexity of enhancing it would be necessary to do a complete stakeholder analysis. Moreover, it tackles the term *enhance the benefits* as of the adherence of the goals of the concessionaries towards the center and meeting point of three pillars of sustainable development, illustrated in the conceptual framework, and where the idea of sustainability expands a bit beyond the understanding of Brundtland¹ definition of sustainable development.

Further, it also does not try to investigate new trends in the transportation system, such as decarbonization, urban agglomeration, livability, or the substitution of construction material to others less environmentally harmful. Nor has it attempted to assess the appropriateness of a PPP form for any kind procurement or culture. When it searches for the benefits brought by highway development, its goal is to clarify the present level of awareness and spot initiative on sustainability to incite a further discussion over sustainability in infrastructure development.

¹ See more at Our Common Future, World Commission on Environment and Development (WCED 1987)

2. METHODOLOGY AND MATERIALS

Before becoming immersed in the field of sustainability in public and private partnership in infrastructure development, I performed a literature review and came to realize that it is neither extensive nor widely developed yet. Therefore, in order to answer the research question I have organized my study in three parts.

First, I have put into a conceptual framework the information I found necessary to define sustainable development and the structure of a PPP arrangement. I provide a literature review, which covers sustainability guidelines for business, project finance literature, and HM Treasury publications from the UK government. I have focus on UK literature for two reasons. First, because it was one of the first early adopters of elaborated PPP programs, and the literature about it was more representative than those of others programs. And, second, because it mirrors the two aspects this study shall be base on: competition and a large range of arrangement in its PFI/PPP program.

Secondly, I have dig on the difference of PPP, Brazilian PPP, and Brazilian Concession. Than, given that the benefits of concession were nether clearly separated by the ideas of the pillars of sustainable development, nor were its sources and incentives, I have identified the common benefits brought by the concessionaries, and ordered them in respect to these pillars. Since the number of concessionaries in Brazil is nearly forty, I have chosen to assess all the federal concessions, which are six operated by five consortiums, and which were the first to be launched in the country, plus at least one in each state, therefore covering the entire country. I believe that this was necessary because concessions contracts were signed in different periods, therefore covering possible services and contracting changes due to the arrangement evolving nature. Further on, the benefits were assessed in two manners. Primarily I did a reviewed on the Brazilian Association of Highway Concessionaries (ABCR) reports and literature on Brazilian concession, to find out what they were, and further I conducted interviews and questionnaires in order to find out more about how they were triggered.

Finally, on the discussion section, I synthesize the difference within PPP arrangements in Brazil, and reorganize the benefits I found to be brought Brazilian Concession. This discussion is carried towards the identification of Brazilian PPP influence on the benefits brought by Brazilian

Concession, and in opening new ground for the discussion on how benefits could be further enhanced. At this section I cross the data from conceptual framework with the finding on benefits, the questionnaires, and interviews.

Description of people interviewed

The interviewees were selected based on the commercial stakeholder analysis, which is in the conceptual framework. The concessionaries were the focus of it. The interview lasted from 30 minutes to more than 3 hours, averaging an hour of talking. The contact was often reestablished more than once in order to get more information on unclear points, and in some cases ask for them to answer a short questionnaire that would help in the merging of conceptual framework with finding the benefits of concession. With the exception of the interview of the stakeholder 1, all the others were carried out by phone.

The interviews were carried out in three different ways. In Stakeholders 1, it was carried out as an unstructured interview, meaning that I just had a list of topics and issues to cover. In the Stakeholder groups 2, and 3, the interviews were semi-structured (Bryman, A. and Teevan, J. 2005), with the exception of one, in which I have attempted to perform a structured interview, in order to simulate a questionnaire that the interviewee did not had time to answer in written format, and which I sent to interviewees from stakeholder group 2 after the phone interview. Moreover, two interviews, person 2 from Stakeholder group 2A, and person 5 from Stakeholder group 2B, had the questions mainly address three major points: first, getting to know more about their understanding of sustainability in the business; second, trying to spot what were the benefits of each pillar of sustainable development in the concession, and on others; third, I enquired about how the demand, or interests, were triggered.

Stakeholder 1: Government customer

Objective: To learn about the characteristics of PPP and to hear about how they selected the preferred chosen bidder for their first project. Further, to inquire about the motivation for PPP use as benefits of using it.

Person: Marco Aurelio Barcelos, Director of the PPP Unit of the State of Minas Gerais

Stakeholder 2A: Operation - All the federal concessionaries²

Objective: to learn about the benefits of these first line of concessionaires of Brazilian concession program.

Person 1: Marcia Soares, Engineering manager – CONCER, Rio de Janeiro

Person 2: Moises Basilio, Environmental Issues Advisor – ECOSUL, Rio Grande do Sul

Person 3: Pedro Lancastro, Communication Manager – CRT, Rio de Janeiro

Person 4: Karina Cunha, Public Relations – CONCEPA, Rio Grande do Sul

Stakeholder 2B: Operation - State concession

Objective: to learn if the different states had different ways of dealing with concessions.

Person 1: Andreas Kiekbusch, Coordinator of Biotic studies – RODOSOL, Espirito Santo

Person 2: Marlon Carvalho, Environment Issues Advisor – Caminhos do Parana S/A, Parana

Person 3: Cesar Sass, Operation Manager – Rodovia das Cataratas, Parana

Person 4: Vera Marisa, Responsible for environmental issues – Univias (which comprehend 3 concessions: Metrovias, Convias, and Sulvias), Rio Grande do Sul

Person 5: Mr. Maron, Responsible for highway surrounding areas – CLN, Bahia

Person 6: Mr. Pires, Safety specialist, Colinas, Sao Paulo

Stakeholder 3: Finance

Objective: To learn how a holding that owns and control concessions thinks about the benefits of the pillar of sustainability.

Person: Rogerio Sa, Business Development of Companhia de Concessoes Rodoviaras – CCR, Sao Paulo

² Nova Dutra and Ponte concessionaires are missing from this list, although they are represented by their holding group, CCR, in which a interview was carried at Stakeholder group 3.

3. CONCEPTUAL FRAMEWORK

3.1 INTRODUCTION

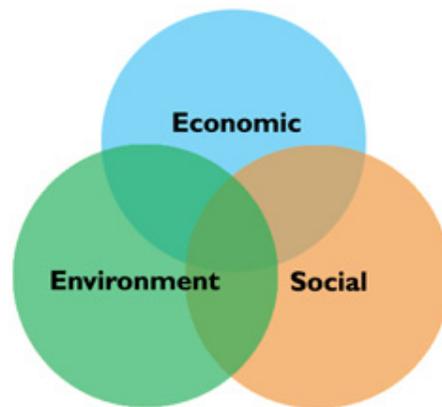
Due to the fact that there is no cohesive theory underlying this study, but a merging of empirical findings that seeks to make the path for the assessment of the benefits enhancement at PPP in Brazil, I shall name this section conceptual framework rather than theoretical framework. It is a section guided by empirical findings that poses the research questions. Furthermore, it can also be understood as conceptual framework because it explains the two concepts in which the discussion of this study is based: the range of PPP arrangement and its risk characteristics; and, the strength of competition towards innovation, through the UK's example of Value for Money.

In the following subsections, I shall explain the basic ideas that are necessary to construct these two concepts, and which also help to guide the research process. The first is to have the idea of pillars of sustainability more clarified. The second is a step towards a better understanding of what a modern PPP is; where it came from, its rising importance in financing development, and where in the world it is taking place. Third, given that PPP is a broad term and which takes form as a project finance structure, I believe that it is necessary to become familiar with project finance risk characteristic. The idea of mitigation risks from various sources is also an entrance for environment, and social concern in infrastructure development. A financial safe deal is only possible after an arrangement' risks are properly scrutinized. Fourth, the commercial structure of PPP is explored, allowing a better understanding of the commercial stakeholders involvement in the arrangement, so to make their influential power assessable, as the exploration on the time it occurs towards enhancing the benefits linked with sustainability. And last, a description of what may be considered today the benchmarked program in PPP, the PFI/PPP from UK, which has more of a decade of well-documented experience, and carries the idea of competitive tender in its essence.

3.2 PILLARS OF SUSTAINABILITY

The idea of the three pillars today might seem too much of a natural simplification on what came after an extensive discussion that was the Brundtland definition of sustainable development. This study deals with the concept of sustainability upon these three pillars ideas: the economic, social, and environment pillars. Below is the illustration of the pillars of sustainable development.

Figure 2 – The pillars of sustainable development



The interrelation of the each of the three pillars, represented as circles, means sustainable development. While in the economic pillar there is the idea of economic growth and market expansion, the social pillar is more based on equity and local self-reliance, as on the environmental pillar is closely linked with sustainable yield of the natural environment (BELL and MORSE). Whereas, a system that is economically sustainable is the one which guaranties a balanced continual production of goods and service; the environmental system focus in maintaining its resources base; and, the social system in keeping fair opportunities, equity and social accountability (Harris, J.M., Wise, T. A. et al 2001).

3.3. PUBLIC AND PRIVATE PARTNERSHIP (PPP)

3.3.1 Financing for development

When a PPP is noted as an instrument to facilitate and to provide worldwide financing for development, in today's world, it is also interesting to highlight that the theme of finance for development has been within the international relation and political United Nations agenda for many decades (Pflug 2002). Pflug observes that, although the theme has lingered for more than four decades in the United Nations, it was just in 1997 that resolution agreement was settled, and finance for development became an important issue. Further, she adds, that the increased attention and

“shift towards inclusion” was only possible due to the involvement of the European Union and United States, which she suggests to have been influenced by the following factors(Pflug 2002):

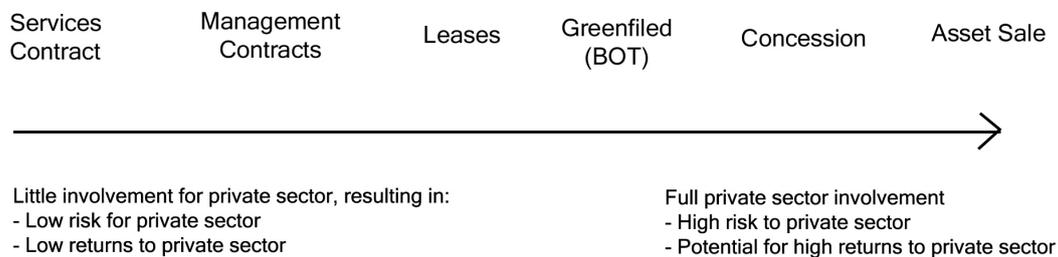
- *The majority of the developing countries did not gain from increasing global private capital flows in the 1990s, regarded as a new source of development resources*
- *The financial crises in Asia and Russia in the mid 1990s underlined the need for regulation and consultation concerning global flows and the international financial system*
- *The crisis of official development assistance: while most of the industrialized countries had, in the 1970s, agreed to pay an amount of 0.7 percent of their Gross National Product as development aid per annum, the actual rate fell to 0.4 percent in the late 1990s*

A further advance in the agenda of Finance Development took place after an ad-hoc group was united in 1999, with the purpose of establishing concrete suggestions for the development agenda. In 2001, they gained further support from organizations such as the International Monetary Fund, World Bank, and the World Trade Organization, which helped to increase the weight of the initiative recommendation. However, due to the lingering need for alternative sources of funds and, given that the foreign direct investments – a kind of international private financial flow – increased more than four-fold in the beginning of the 90s, the emerging importance of this flow became recognized as a boost for development. Possibly, PPPs could be one means to overcome the boundaries between domestic and international, and public and private, as finance starts to be restructured and its flow continues to increase.(Pflug 2002)

3.3.2. The diversity of PPPs

Public and Private Partnership arrangements can take many different forms. The amount of risk transferred from the public to the private sector is important in defining the arrangement model. Therefore, before a government chooses a specific form of partnership for a given project, it is expected from their part to perform a pre-analysis of the desirable and feasible level of risk to transfer, as a basis for the arrangement. The typical form that a PPP can take varies and can take the following formats(Schwartz 1999): service contracts, management contracts, leases, concession, and greenfield contracts.

Figure 3 – Types of PPP organized by private risk exposure



Source (adapted): Toolkit: A guide for hiring and managing advisors for private participation in Infrastructure, World Bank Private Sector Advisory Group and Frontier Economics. (Schwartz 1999).

The service contract usually lasts from two to five years and employs the private sector for a specific and narrowly defined task. The responsibility of the private sector is limited to that service. In the management contracts, the period of time is similar to that of a service contract, but the service also includes the management of the entire company, which means that risk is transferred to the private sector. In the leases, the period of time ranges between ten to twelve years, where the private sector fully operates an asset during this period. The details are that the assets remain state-owned during the operation, the public sector continues to finance the project, and the private only operates it. In the concession program or project, the private sector is responsible for both financing and operating the asset. At the end of the contract period, the asset is returned to the government. And, finally, there are the greenfield contracts, in which investment refers to the construction of new infrastructure projects and in which a series of different arrangements can take place, like the BOT (Build Operate Transfer), ROT (Rehabilitated Operate and Transfer), and so on. (Schwartz 1999).

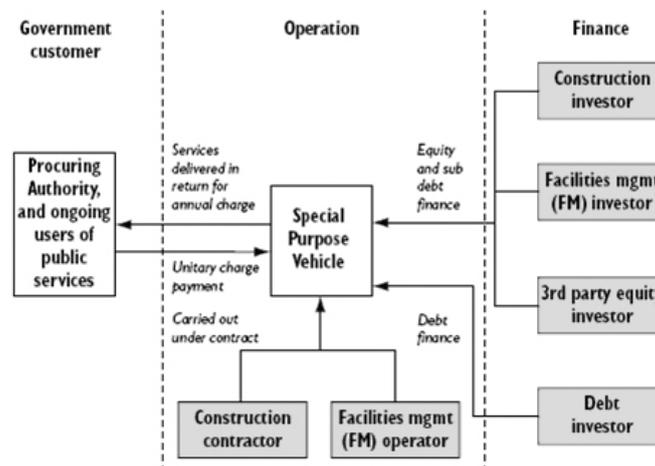
The idea is that for every type of PPP project there is a degree of involvement and responsibility transferred to the private sector, which enhances the arrangement's success. This involvement is measured by a set of risks put together, which vary from region to region and project to project. In Brazilian PPP, which has just come out of the oven, the federal law demands that a risk study or matrix be established to give orientation to both parties towards an optimum risk deal. The idea of a risk study is to allow the parties to better negotiate risks, making it possible for

the public sector to identify those risks in which it can do better than the private sector, and to propose a partnership in the others. The idea is also to enhance the chances of an optimum risk allocation and a successful project. Furthermore, it will also prevent the public sector from transferring to the private sector the entire risk associated with the project, which is often the case, and to contribute to a balance (EIC 2003).

3.3.3. How does a PPP work

A PPP brings together different commercial stakeholders into the creation and operation of infrastructure assets. For that, it unites private investors, developers and constructors into a Special Purpose Company (SPC) in order to share responsibilities, as to provide the necessary finance to carry out the work. Tied up in a contract of long-term, usually between 25 to 35 years, this SPC signs a contract with the public sector from which the expected cash flow of the project is guaranteed under certain risks. The commercial format illustrated by the HM Treasury “Meeting the investment Challenge” clearly illustrate the commercial stakeholders of a PPP arrangement, as it also separated them into three groups: government customer, operation, and finance.

Figure 4 – Typical Commercial structure of PPP: PFI/PPP joint venture model



Source: PFI: meeting the investment challenge (HM Treasury 2003)

Although the illustration above shows specifically the PFI/PPP arrangement of the UK, the typical commercial model is very similar to other PPP, where the stakeholders are related as

follows. On the left side, is the government, which is also the customer, and that specifies what kind of PPP will take place, pre assesses the risk which it seeks to transfer to the private sector, as how payment occurs with many other contract biddings. In the middle, are the stakeholders of PPP arrangement that are directly involved with the project's construction and operation, and where lay the concessionaire, also named Special Purpose Company or Vehicle. The concessionaire delivers the service as part of the stipulated payment arrangement with the government, which can vary from a complete payment from the government, the complete payment of the services by the user, or something in between. In the right column are the stakeholders that are linked with the financing of the project. They are the sponsors, and usually consist of a combination of: the construction company, the operational and maintenance investor, third party investor, multilateral banks, local development bank, and debt investor, according to the capitalist market.

3.5. UK PPP/PFI

Today, the well-established United Kingdom Private Finance Initiative (PFI/PPP) PPP program is perhaps the best developed of all (International Monetary Fund 2004). It started in 1992, under the administration of John Major, when he was looking for alternatives to meet the infrastructure investment challenges posed by a 3% public deficit limit on GDP, as agreed upon in the Maastricht Treaty (Brito and Silveira 2005). Basically, at the time, the main reason that led a government to choose the PPP route instead of the traditional public investment in infrastructure development was the conversion of up-front fixed expenditures into a stream of future obligations (European Commission 2003). The arrangement had a kind of "off-balance-sheet" treatment. However, the simple motivation of anticipated future economic benefits was not sustainable, given the risk it had for accentuating possible fiscal crises (Brito and Silveira 2005). As clarifies Li Bing et al, the PPP/PFI is today treated as a case of risk allocation in public infrastructure projects, instead of being perceived as a kind off-balance-sheet route(Li Bing et al 2004). The UK has realized that their PPP is only interesting to the public sector if its overall risks are fairly shared. The main idea is that these risks must be allocated to the party that is more able to control and manage them. The private sector is expected to have an appropriate amount of risk transferred to its hands, making their duty to deliver the product or service with quality, and securing the value for money for the public sector.

The UK uses a series of statements to clarify when it judges PFI/PPP should be (HM Treasury 2006):

- *The choice of procurement route is based on an objective assessment of value for money;*
- *There is no bias between procurement options;*
- *Value for money does not come at the expense of employee terms and conditions; and*
- *The use of PFI is consistent with the government's wider public sector reform*

I have underlined the words “value for money”, because I believe it is a key feature in establishing the relationship between PPP and pillars of sustainable development.

3.5.1 Value for money

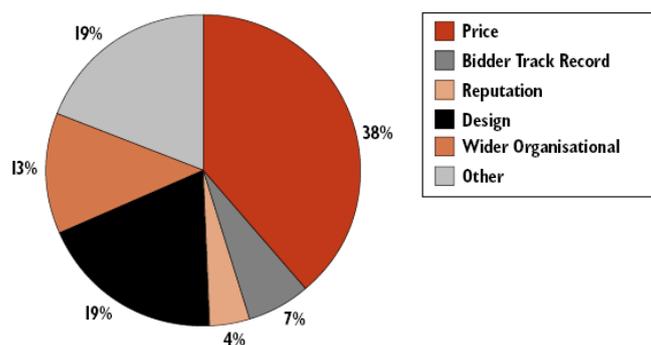
In the UK, the public sector does not envisage risk transference as an end, in itself, and when it takes place, states the “PFI: strengthening long-term partnerships” publication from Her Majesty’s Treasury, it is “to create the correct disciplines and incentives in the private sector, which then drive value for money through more effective risk management.” (HM Treasury 2006).

The value for money term is said to seek the optimum combination of whole life cost and quality (HM Treasury 2003). The whole life cost is a concept closely linked to Life-Cycle Cost (LCC) that Barron’s Dictionary of Accounting Terms defines as: whole-life costs equal life-cycle costs (LCC) plus after-purchase costs (Accounting Terms 2005). Where the idea of LCC is to calculate the infrastructure over its entire life spans. Therefore, the more daring bidders are in enhancing their chances by proposing innovative solutions towards reaching LCC in a tender negotiation, the more space will be available for knowledge materialization, and the incorporation of advanced studies, such as the life cycle assessment, in the environmental perspective. This implies that VfM has a much more embracing characteristic than the simplistic low-income bid approach, which further allows the arrangement an enormous advantage of being able to constantly improve and diversify the way in which it is evaluated.

“The proper evaluation of bids for PFI projects is essential in securing value for money. It is important for the public sector to evaluate bids for PFI projects from the perspective of overall best value in the long term. It can be a mistake for the public sector to confuse least cost with value for money” (HM Treasury 2003)

Construction companies, which are often the major shareholders of SPC, are constantly seeking to improve their reputation and organization, factors that increase their PFI/PPP bid value (see below, and figure 5). Therefore, the adherence to innovative action motivated by awards, engagement in not-so-new certificates, such as ISO 14001, or adherence to the recently released BS:8900 on sustainable development, may sound as promising winning or competitive strategies. The value for money is the trigger idea. Further proof of this space for innovation with environmentally and socially accountable propositions within a PPP framework, are the criteria the UK government uses when practically accessing the PFI/PPP. When Her Majesty’s Treasury (the United Kingdom's economics and finance ministry) asked its PFI/PPP project managers what are the important factors that determine a contract award; they have pointed out many that are not price-based.

Figure 5 – Bidder selection in PFI/PPP



Source: PFI: meeting the investment challenge, (HM Treasury 2003)

This was not just a strong sign that there are, indeed, other evaluations than simple lowest bid, but that environmentally and socially accountable initiatives that show their benefits can

encounter the space to be enhanced in a tender negotiation. This important detail of PPP/PFI makes the private initiative very active during the negotiation of PPP development.

3.5.2 Competition

Competition and the quality of the outputs specification in UK are directly linked with SPC ability to innovate (Pitt and Collins 2006). Therefore, the competition can be an important driver of sustainability through private sector, as it allows in UK bid differentiation base on Value for Money. Consequently, at the same time that competition forces are securing better bidders in tendering negotiation, it is also promoting the spread of knowledge and consensus among the shareholders of winning strategies, as contributing to raise the business bottom line. In UK's PFI/PPP, often with hospital and educational development, the project or initiative that embraced quality of design have be very welcomed by the government (Kennedy 2002), insofar opening the possibilities for ideas and technologies that incorporate in their project eco-friendly that could differentiate a project from others in the tendering.

In UK, Carillon, a leading market share construction company in PFI/PPP, was one of the first to detach from others by winning awards and gaining recognition in environment and sustainability initiatives (Carillon 2007). In the process of improving their idea of sustainability in PPP and construction, Carillon hired the TNS International, which helped them in using the TNS framework and understanding of how sustainability can be advanced in construction and infrastructure development's practical fields of the business. TNS fundamentals of sustainability are based on the law of thermodynamics and, although broad, has consensus on what sustainability on earth could mean. Skanska ID, a Swedish construction company and shareholder of many PPP worldwide, has also opted to hire and work together with TNS to further their understanding on how to reach sustainability in their infrastructure development business. The idea of searching for TNS support to improve sustainability was thought-up after watching the success of Carillon sustainability initiatives, and need to be at least sustainable as them. Balfour Beatty is another construction company in UK who bets high on improving sustainability and which recently has won awards for excellence on low-energy and deep-planning in their building (Balfour Beatty 2007), therefore contributing to linking its brand with examples of excellence in sustainable development.

4. PUBLIC AND PRIVATE PARTNERSHIP IN BRAZIL

This section brings together the study's findings, and it is organized in three parts. The first part assesses the PPP arrangements in Brazil by clarifies its terminology as describing its characteristics. The second part gets deeper on Brazilian Concession program by digging into the benefits, and touching on contracts, and awards. The third part is mainly based on questionnaires answers, and it complements the second part by adding further options of concessionaries worker's on benefits incorporation.

4.1 BRAZILIAN CONCESSION VERSUS BRAZILIAN PPP

In Brazil, the use of PPP initiatives in the past years had been planned to take a significant share of infrastructure investments (International Monetary Fund 2004). The federal government had started studying how the term PPP could be incorporated into the procurement laws in 2001, but it was just as recently as December 2004 that the Brazilian president signed and sanctioned the law that defines PPP. However, long before the regulation of Brazilian PPP, the country already had a running concession program.

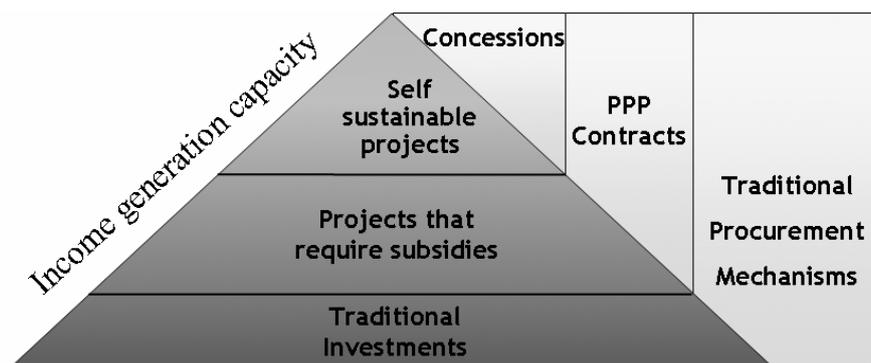
The PPP term in Brazil is legally structured as a kind of concession, being regulated by the concession law, and three others, including the so-called PPP law (Rocha and Horta 2005). Hence, this implies that in Brazilian law, structurally, both Brazilian PPP and Brazilian Concession are very similar kind of concessions. This definition is the opposite of the broader perception of the terms Concession and PPP, in which Concession is a form of PPP. Consequently, although confusing at first sight, the simple act of regulating PPP in Brazil was already an important step in clearing Brazilian ground on it, and setting rules to welcome investments. Thus, in order to avoid misunderstandings with international terms we shall use in this study the terms *PPP* as the broadest mode of infrastructure development that incorporates all modalities of PPP. And, *Brazilian Concession* will be differentiated from *Brazilian PPP*, where the second, despite being a concession contract, has also a few extra regulation and peculiarities that traditional concessions do not have.

Legally the Brazilian government offers three types of concessions.³

- *Traditional Concessions: Private Company charges users for the services provided. Ex. Telecommunications and energy.*
- *Administrative Concessions: Government makes periodic payments to private company for services provided. Ex. Waste management and prisons.*
- *Subsidized Concessions: Private Company charges users and receives periodic payments from the Government for services provided. Ex. Low traffic toll roads.*

Brazilian PPP is defined as Administrative, and Subsidized Concessions. Traditional Brazilian Concessions are those in which Brazil holds 12 years of experience, and which we simplify as Brazilian Concessions. At the end, in Brazilian rules it is the project's forecast of income generation is what discerns it from others, hence justifying the mode of concession that will be most appropriate for the project. At the end, the structural difference of Brazilian Concession contract and the Brazilian PPP contract is that, despite both being contract for public services, the remuneration to the private partner in the first comes exclusively from the services user, whereas in the second, a part of the remuneration comes from money transferred from public to private sector according to what is contracted.

Figure 6 – Project Income versus mode of infrastructure development in Brazil



Source: The Brazilian PPP Program, BNDES - The Brazilian Development Bank. (Pinto 2006)

In the figure above, it is possible to visualize how in Brazil procurements are differentiated by income generation capacity, and by an estimation of the number of possible contracts in the

³ These categorizations follow those of Mr. Pinto, head of PPP Unit of Brazil's Development Bank (Pinto 2006).

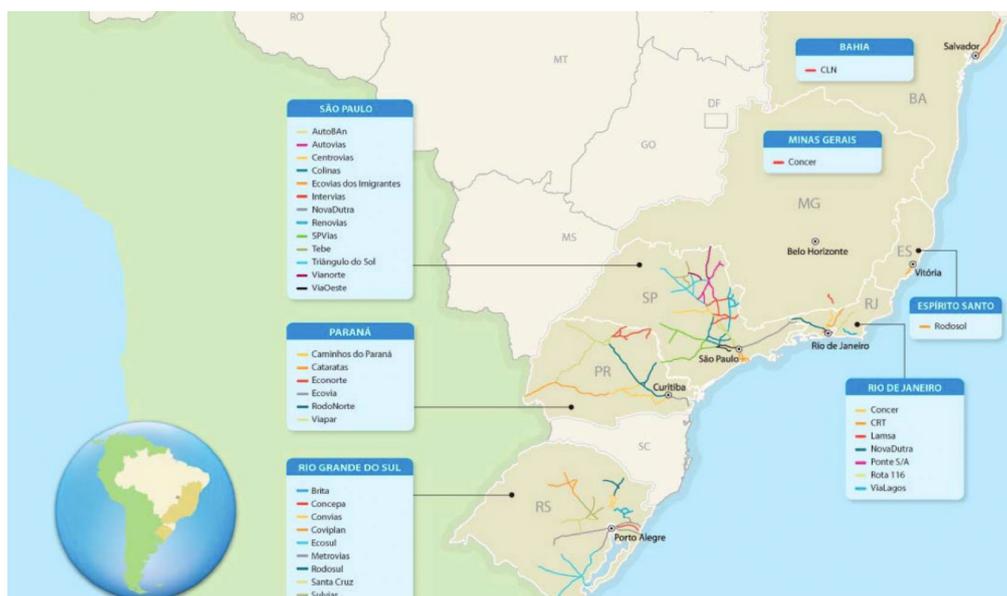
country. Therefore, meaning that in Brazil, concessions ought to be the scarcest form of contract, due the small and limited number of self-sustainable projects. On the opposite side are the tradition procurement mechanisms developed by the public sector alone, and which will remain the most common form of infrastructure investment even with the possibility of using Brazilian PPP. The space left in between these two is taken by PPP projects, which are those that are not self-sustainable, but that can raise considerable income to the contractor with its development.

A further difference peculiarity of the new Brazilian PPP regulation does not cover all PPP format as in Figure 3. Brazilian laws do not allow Services Contract, Management contracts, and lease contracts, for instance (Rocha and Horta 2005), which PPP formats. PPP concept in Brazil has been restricted to basically concession in past fifteen years. And, with the approval or Brazilian PPP regulation, it may also extend to BOT (Build Operate and Transfer), and DBFO (Design Build Finance and Operate), depending on the conditions they are established (Rocha and Horta 2005).

4.2 BRAZILIAN HIGHWAY CONCESSION PROGRAM

The Brazilian Highway Concession Program, Brazilian Concession, has today 36 Concessionaries, where 6 are federal, 29 from the states and 1 municipal. They also operate in a limited number of states in Brazil, mainly in the Southeast, and South region, as it is possible to visualize in the picture below. These southeast and south regions of the country are also the most developed of the country.

Figure 7 – Brazilian Concessions’ map



Source: (ABCR 2005)

The concessionaries together account for about 6% of 10,000 kilometers paved road in the national network (ABCR 2005). During the years of 2000 and 2005, the concession companies have invested in social benefits in the local communities focusing on the idea of citizenship reinforcement, affirms the Brazilian Association of Highways Concession, specifying the investment areas such as culture, education, health, and safety (ABCR 2005).

4.2.1. The Contract of Concession

The concession in Brazil is by itself a contract between the public and private sector, in which the first gives to the second the responsibility to provide goods or services to the community. This contract has a limited time, and addresses the obligation of quality of the services to be provided by the SPC to the public sector. In Brazil concession can be federal, state or municipal, whereas is their responsibility to establish the contract of concession.

The first concessions that were launched in Brazil were composed of five different passages, and were federal concession. Their contracts were signed in at 1995, and operation started in 1996 and 1997, explains Marcia Soares. Further, she also points that these concession have evolved over time on bidding characteristic, and the evaluation of the best propose from the private sector. When this first *package* of concession was launched, the winner of each passage was granted by the minimum bid. Whereas, in the concession realized in the state of Parana not long ago, explains Marcia Soares, the chosen winner were those that proposed to “adopt” a further and larger passage to look after for the fix value offered by the government. She furthers explain that in the new program of concession that is to be release, and which its tender has being delay several times, the contract of concession is expected to promote further innovative on the choice of the best proposition in what is related with conservation and maintenance.

Below lays the summary⁴ of the Brazilian Concession contract obligations (Valente 2005):

- The execution of operation services, monitoring, conservation, maintenance and improvement, and matching their actions to their target.
- Elaboration of an executive program chronogram throughout the concession period.
- Implementation of works and services
- User emergency services and environmental protection

⁴ These summaries follow those of Mr. Valente who is the Secretary of National Transport Politics

I have underlined the items “user emergency services” and “environmental protection” because I have perceived them as the base the interviews interpretation of environment and social benefits on concessions.

4.2.2. Benefits upon the Pillars of Sustainable Development

4.2.2.1 Economic Pillar

The improvement of road infrastructure is a clear driver of development, given that it fosters employment and helps to create incentives for the production of goods that are dependent on transportation. Most of the interviews understand as the biggest benefit the concession program brings to the region is the highway overall improvement. Cesar Sass, Marcia Soares, as others, reason similarly that this benefit is important by pointing that public sector alone has being incapable of keep the quality of the highway. In which this quality means the services such as medical/mechanical assistance, conservation and maintenance, plus extension construction work on the passage. The users, Marcia Soares says, are generally satisfied with the concession work, services, and its existence, although when she was researching academically the toll-price expectation of the user versus their satisfaction with the concessionary service, she found the price user pay on the toll is still perceived by them as too high.

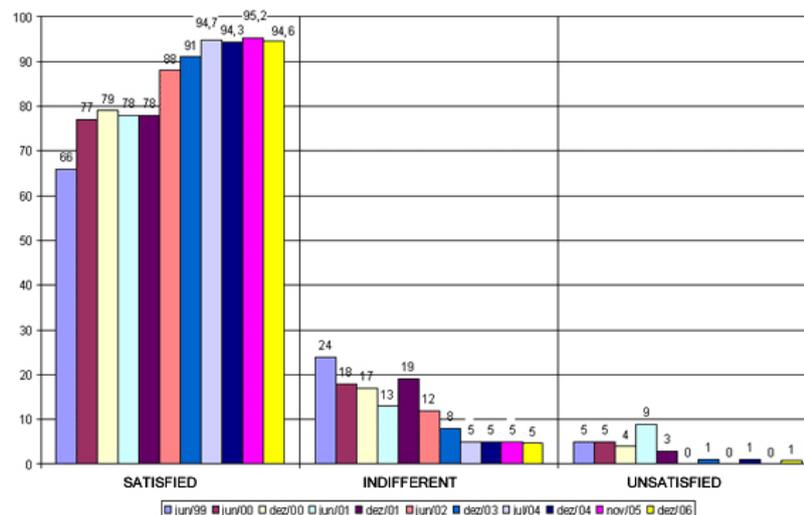
User satisfaction

In general, the services provided by the concessionaries, such as infrastructure investments, user services, and the security promotions make the concession program, overall, a better option than not having it. However, an important issue is the user perception of the quality of the service provided. And, although the innumerable research has been performed since 1995 by the concessionaries about the satisfaction of their users countrywide, their methodology differs from one to the next (Carvalho;Neto et al. 2003). The state of Sao Paulo, which is not only the wealthier state of Brazil, but also developed most of highway concession, was the only state I have found that provide at its website the statistics compiled of all its user satisfaction in all of its concessionaries. Notwithstanding that the number of concessionaires in Sao Paulo correspond to about one third of the concession, the statistics give us at least a good sign the user of concession are satisfied with it.

Marcia Soares, furthers point the high level of satisfaction of the user is common all over the country.

The transport Agency of the State of Sao Paulo, which is responsible for the control, inspection, and management of the concession, published in December 2006, its eleventh user-satisfaction survey. It showed that program reached a 94.6% satisfaction level, as shown by the yellow bar in the graphic below, in which 89% of their users consider the private initiative a better option than the public management of the roads. Below, the graphic gives a picture of how users have become increasingly satisfied with the concessionaries in last years.

Figure 8 – User satisfaction with the 12 Concessionaries from the State of Sao Paulo (percentage)



Source (adapted): ARTESP User satisfaction research – Nov. 2006 (ARTESP 2006)

Also, in the graphic, it is possible to see the increasing number of satisfied users over the period of concession, where the number of indifferent and unsatisfied decreases, therefore showing that, in general users have welcomed the participation of the private sector into the highway business.

Employment

The direct job the concessionaire generates with construction, but mainly with maintenance, is an important driver of economic development, especially when the road highway crosses municipality

that lack opportunity for work. However, the discussion of employment due to these highway concessions is raised, there are several studies on indirect employment, although none with a systematic methodology (ABCR 2005).

4.2.2.2. Social Pillar

Concerning the social pillar of sustainability, Moises Basílio and Marcia Soares express their concern on the necessity that concessionaries have to work close with municipalities the highway cross. Further, Moises Basilio, said that the concession in which he works is constantly investing time and money in the communities that surround the highway. He says that there are some socially problematic areas to deal with, which demand from them a high level of social responsibility. Marcia Soares, points that many of the communities that surround the road are lack basic health assistance, and that often they have to help them. She mentions that, due to high cost and distance it is from underprivileged to have access to maternities, they were very often going to the road and calling the emergency vehicles, in which ethically the concession would assist them to have a child free of charge at their Unit for Intensive Care. However, she added that the issue starts to happen more often, that it finally reached the media. Consequently, the municipalities not to sink even more their reputation have invested in more hospital services to control the problem.

Another very important benefit cited by almost all the interviews is the traffic education. They usually have programs aim at educating the children about traffic from their early age, and advancing in the citizenship reinforcement. EcoSul says Moises Basilio is doing a work on this sphere, when he exemplifying the orchid sellers' problematic, who were used to have their commerce on the highway asphalt for decades. On some passages or roads, there are important florist cultivation spots and mostly the underprivileged and uneducated people fail to see the threat of selling flowers on the highway, risking their own lives as well as those of the drivers, he added. Their action today is that instead of just reporting these people to the highway police, they have opted for an initiative that has given a greater return says Moises Basilio: to talk with and educate these people. Finally, he added that the idea seems to raise the awareness of the dangers of such activities and, at the same time, help them to find an income alternative in the area.

Furthermore, Moises Basílio, Marcia Soares, Cesar Sass, are also very emphatic on the need the concessionaries have for good dialogue with the surrounding communities. They point out that,

due to the high revenues concessionaires raise if compared with their budget, the surrounding municipalities expect from them a high level of engagement in their social activities. And, this happen in all the concessionaries accessed. The committed might mobilize its employees level, in which beneficent campaign are sponsored by the concessionary. As the example sweater campaign commented by Karina Cunha, in which CONCEPA concessionary collected and distribute sweater during the winter.

The municipality tax

Within the objective of the concession programs lays the development of the municipalities that surround the roads. In the Brazilian concession program, one of the main drives of the development of these municipalities is the tax that the concessionaires collect due the road operation and maintenance activity. The municipality tax on services applies to the concessionaires. The 2003 Federal Law, Number 116, regulates that 5% of the concessionaries' turnover must be shared proportionally with the municipalities that surround the road. Due to this tax, which comes from tolls, innumerable schools, crèches, health centers, public sport centers and social infrastructure projects have been development. In the Sao Paulo State during the year of 2001, highlights Carvalho et al, the taxes collected by its municipalities from the toll roads, have accounted for an average of 8% of all its revenues. Even though the economic impact of the revenues generated by the toll road is already high, it can reach exorbitant levels, like in the municipalities with low economic activity. An example is Itupeva where the contribution from the concessionaire reached the share of 79% of the municipality total revenue (AMBranco 2002). (Carvalho;Neto et al. 2003)

Safety and accidents

Safety promotion, which can be characterized by the accident risk level decrease, is understood as one of the main quality indices of road services. I have interpreted it as a concern that is close to the junction of social and environmental pillars of sustainable development. The road contract of concession establishes the reduction level of accidents, and the time period in which it must be reached. The issue of safety is so important that in all the interviews I have carried, the interviewee would coin the figures of accident reduction or programs to reduce the accident level. This figures

often reach high level such as 40% reduction, says Rogerio Sa, citing the magnitude of figures that the holding he works with have reaching in one of its concessionaires.

The concessionaires in the state of Sao Paulo base their services on a series of principles, in which the safety of user is more important than the traffic flow and travel speed (Carvalho;Neto et al. 2003). Mr. Pires, from Colinas concessionaire, specialized in safety issues, described to me that one of his key roles was to stimulate and discuss the issue of safety in the roads.

An interesting and common approach toward accident-reduction within its complexity is the dismantling of the problem in three fields: road, vehicle, and driver. Although the concessionaire can directly influence the first two with physical road improvements, traffic operation, and emergency services, the last factor can just be tackled by the use of education campaigns. In the field of traffic education, the concessionaires in Brazil have implemented several programs to educate school children in the surrounding municipalities about safety and how to couple it with the danger of living nearby highways, to give medical and sexual education to truck drivers, non-alcohol abuse campaigns have been used, among other actions. (Carvalho;Neto et al. 2003).

4.2.2.3. Environment Pillar

The ABCR says that since the Brazilian highway concessionaires started, in 1996, most of them have also begun to increase their actions to help the environment (ABCR 2005), therefore guiding their action towards environment development. Marcia Soares clarifies that concessionaires today, in her view, put more effort in their voluntary initiatives for the environment than what is required as compensatory action for renewing their license. She cites voluntary programs of reforestation, on tunnel for sylvan fauna, as other alternatives that more often are becoming voluntary. The ABCR also points out several initiatives from the concessionaires in the area of environment, from programs for monitoring biological diversity, to a program to improve air quality by identifying violations of the regulations that limit polluting gases.

Moises Basílio, said the concessionaires do more than what is asked in the contract. He cited the project that ECOSUL is developing to use a special kind of asphalt: asphalt rubber. He claims that asphalt rubber is good for the environment as it uses phase-out materials, is more adherent and has a better appearance than the usual asphalt. The rubber asphalt is already in use in CON CER.

Mr. Maron, which works in a smaller concession than these two federal concessions, blames their relatively small turnover for not using the technology.

The asphalt rubber, costing approximately 20% more than the average asphalt, has social and ecological advantages that can be fostered if the government finds the incentive to give a fiscal deduction, cites Mr. Valente (Valente and Regina 2007). He claims that such an initiative can promote new industries in the field, more jobs, and consequently raise the demand for old rubber tires that are often discarded in inappropriate places, such as rivers and lagoons. It would also contribute to reducing insect proliferation; insects that procreate in the older tires filled with water and that are disease transmitters. Further, he claims that if asphalt demand could be reduced, since it uses crushed rubber that improves the road durability.

4.2.3 Awards on benefits

After discussion the UK PPP initiatives with Rogerio Sa, who works in a holding company that owns highways concessionaires in Brazil, he confirms to me that that in Brazil contracting by taking into account governance or reputation as in figure 5 is not a reality. He explains that, both in Brazilian PPP as Brazilian Concession, and as far as he is aware, the preferred bidder is chosen by the smallest bid for a given project or contract, or proposing the smallest toll price for a passage. Although, he says that, if the climate change issues stay as shining as it is now in the media, it will not take long until something new comes apart. He further cited, how committed their holding is with cooperative governance, and comment on the awards they have been recently granted.

In its 2005 report ABCR has listed 26 awards (appendix 2), in which 4 were granted by social recognition, 3 for environmental, and 16 for quality and safety recognition. Three awards were ranked as top of mind, and are not linked with sustainability. Out of the 36 concession companies the ABCR represents, 14 were awarded some sort of recognition that is linked with sustainability.

Assuming that the sustainability initiative is linked with the idea of quality and responsibility, an award in the field can have a substantial influence in a tender negotiation if corporate social responsibility gets to contribute to a business competence. The award by itself is nonetheless given as a symbol of excellence in what one does, contributing to the bidder reputation as a sign of responsibility. Further, it can also be seen as a merit of achievement, which, in most of

the cases in PPP, it is likely to take form in better design, material used, technology implemented, and so on.

4.3. THE FIRST BRAZILIAN HIGHWAY PPP

The state of Minas Gerais has detached from the others states for being a vanguard state in the use of PPP. It was the first state to create an instrument to legislate over the broad PPP subject, a year before the federal regulation. Minas Gerais has in the recently months settled a contract with the preferred bidder on the first Brazilian PPP in highways in the country, the MG-050. This is the first Brazilian PPP on highway in Brazil.

However, although a PPP by name, there are many constrains in Brazilian regulation that differs it from the UK's benchmarked model. The most evident, a part from the limit format, might be that concern on how the bidders are selected to develop a project. In Brazil, the private sector consortium is chosen based on the lowest cost option. As Marco Aurelio explains, although the government PPP unit wishes to go further and assess a project bid through a wider approach than lowest cost, this is not possible yet due to the current constrains of the Concession Federal Law. He also said that one of the reasons the law is so meticulously driven by the lowest cost option for the selection of the preferred bidder is the long distrustful relationship between public and private parties in the country. Even though, Marco Aurelio is optimistic about the new generation of professionals in Brazil, believing that the business culture is slowly changing in the country, and has consequently more permissible laws and procurement procedures ought to take place in the near future in order to get closer to value for money ideals on the bidding level.

Payment indexing

An interesting finding of Brazilian PPP in the state of Minas Gerais PPP's is how payment to the private sector is indexed. The system the state developed is named QID (Set of indicators of accomplishments - *Quadro Indicadores de Desempenho*), the index not only takes into account financial and operational development, but also the social and environmental targets of the road concession by PPP (Prosdocimi 2006). It relies on 10% social indicators, 10% environmental indicators, 70% operational indicators, and 10% financial indicators.

In the QID, the operational index stands for the services that are related to the highway operation, such as engineering services, the pavement condition, traffic safety and signs on the road, as user services and the flux of vehicles. The environment index is related to the operation of the highway with regards to what concerns the politics of environment preservation and initiatives of pollution control, hazard load traffic, noise level, illegal deforestation and the prevention of environmental accidents. The financing index is linked with cost managements, investment optimization, and so on. And, finally, the social index is related to the operation of the road concerning the adequate user and surrounding municipalities' habitants' relationships. (Prosdocimi 2006)

4.4 THE CONCESSIONARIES PERCEPTION ON BENEFITS

4.4.1 PPP x Concession engagement on social and environmental benefits

Through the questionnaire, I enquired the same five concessionaire works, if they expect the Brazilian PPP to be *less*, *more*, or *equally* engaged as the Brazilian concession in actions towards cohesion in the social and environment aspects of the highway. The idea was to grasp their perception and expectation on PPP arrangement upon non-economical benefits.

Figure 9 – Expectation of Brazilian PPP engagement in social and environment sustainability in relation to Brazilian Concessions

	Less	Equally	More
Marcia		X	
Pedro			X
Vera		X	
Cesar		X	
Andreas			X

The result was that none of them believe that in a PPP arrangement, the engagement from them would be lower than in the concession, but maybe more. This is shown above in Figure 9.

In order to advance on their perception of the possibilities for benefit enhancement, I have structured questions according to and based on previous interviews, in which the interviewees have cited aspects that could incentive the concessionaries involvement in delivering further benefits. Therefore, I have asked them to enumerate which of the following aspects they believe to have the larger potential to leverage innovation in the environment perspective, and create the incentive for social initiatives in the concession. (a) Competition during the bidding; (b) The recognition of social and environment action by the government, with payment indexing; (c) The recognition of social and environment action by society. The idea of this question was also to find out how embedded the idea of competition was for concessionaries in Brazil.

Figure 10 – Ranking of incentives that could foster social and environment benefits

	Competition (a)	Government Recognition (b)	Society Recognition (c)
Marcia	+2	+1	+3
Pedro	+1	+3	+2
Vera	+1	+3	+2
Cesar	+1	+3	+2
Andreas	+3	+1	+1
Total	+8	+11	+10
Average	+1,6	+2,2	+2

I have given the following points distribution to see the interviews priorities: most important (+3); important (+2); less important (+1). Competition was the least valued of them, and government and society recognition were both seem as more important.

4.4.2 Stages of the PPP arrangements

In order to carry a further data collection based on questionnaire and seeking the concessionaries perception of benefits enhancement; I found it first useful to divide the process of a PPP into stages and phases. For that, I have used my pre-knowledge of the commercial phases of a general arrangement, besides confirming the phase's coherence as by observing the PPP Unit of Minas Gerais process. So to divide the process of PPP into two big stages: The *PPP Development* and the

Construction and Operation. The *PPP Development* is the first stage of PPP, in which it consists of the *PPP identification*, followed by *assessment and definition*, *bid development* and *negotiation phases*. The meaning of it is that it is through this timeline that the entire PPP arrangement evolves from zero and ends on the responsibility transference as agreed upon by parties of the private sector. This is followed by the other stage which I named *Construction and Operation* and that has two sub-phases with the same name. Below the first stage is in black, and the second in blue. This model suits well the highway infrastructure development in Brazil.

Figure 11 – Illustration of phases’ sequence in PPP arrangements

Identification -> Assessment and definition -> Bid development -> Negotiation -> Construction -> Operational and Maintenance

4.4.3 Benefits incorporation

Based on this sequence of phases I have asked concessionaries workers from different fields to answer questionnaires, in which the phase’s division above was proposed, and which they had to point the phases in which they perceive as those with more space for the incorporation of the benefits in what concern the pillars of sustainability (social, environmental, and economical). Before sending the questionnaire I have briefly explain them the pillars’ ideas when interviewing on these benefits in the previous section.

Figure 12 – Phases openness and opportunities place for further benefits incorporation

Phases	Andreas	Marcia	Vera	Cesar	Pedro
Identification	Less	More	More	More	More
Assessment and definition	More	Less	More	More	More
Bid development	More	More	More	Less	More
Negotiation	Less	More	Less	Less	Less
Construction	More	Less	Less	Less	Less
Operational and Maintenance	More	More	Less	More	More

In Brazilian concession, the five people who work at the concessionaire saw the *identification phase*, *assessment and definition phase*, and *bid development*, as the phases that have more openness for incorporation of the benefits upon the pillars' ideas of development. The *identification phase* is also the phase in which the VfM is identified, not by competition in itself, but by a technical study of economic and operational advantages to of the proposition to the state (Athayde;Gusmão et al. 2006). Pedro Lancastro commented in the interview that the *identification phase* as is one of the main phases in which the benefits on the pillars of sustainable development takes place due to ANTT professional and experienced staff the government is developing. He argues that they have learned a lot during more than a decade on how to identify the project, therefore making this phase crucial for incorporation of benefits.

It is on the *assessment and definition* phase of the PPP development that the public sector consolidates all the data and indexes it is planning to use in procurement. Therefore, it is on this phase that the contract elaborated, and where the compliance mechanisms are created. The negotiation between private and public sector takes place in negotiation phase. The *negotiation phase* was not perceived to have as much possibility for benefits-enhancement as the others. In the *construction and operation stages*, the *operation and maintenance phase* was perceived as to have more openness for incorporation of the pillars.

It also show that although the constrained *bid development* phase is in Brazil to what concern Concession laws limitations, the participant believe that it is in this phase the private sector proposition can and have been a door for considerable incorporation of benefits accountability of all the pillars of sustainable development. This is not only visible on the small questionnaire, but was also clear during the interviews when the interviewees continuously emphasized their perception of the government constant improvement on elaborating the rules for further concessions.

5. DISCUSSION

This discussion is carried out in three stages. In the first, the benefits of Brazilian Concession towards sustainable development are clarified when reorganized and discussed. Then, in the second part, the possibilities for benefit enhancement throughout the arrangement are analyzed by its two parties (public and private), in which a special attention is given to competition. This part closely deals benefits through a micro-benefits perspective, which is further described, whereas the last is carried out closer to the idea of macro-benefits. Also, the last part discusses the subtle but identified enhancement Brazilian PPP brought to PPP in Brazil.

5.1. TWO LINES OF BENEFITS IN BRAZILIAN CONCESSIONS

When organizing the benefits brought by Brazilian Concession in the previous section, I found that they could be encapsulated in two lines of benefits: macro and micro-benefits. The following separation was proposed in order to facilitate the task of identifying their drivers. The macro-micro dichotomy was inspired in the concept of macro and microeconomic. In the macro-benefits, the study encapsulates ideas that relate the behavior of benefits as a whole in highway development, while in micro-benefit the benefits are treated closely to practice, as to bring into to light possible strategies that could lift the bottom lines of business. However, this terminology use does not imply that benefits exclusively belong to one or other line of benefits, but that the benefits I found can be illustrate through two different perspectives.

5.1.1 Macro-benefits

The macro-benefits capture the benefits that came from the introduction of Brazilian Concession as a procurement option. Therefore, this line comprehends the broad arguments and following perceptions on the advantages of using concession in face of the business as usual traditional procurement. The main argument found on Brazilian highway, and fits the idea of macro-benefit, is that by leaving the responsibility of financing and running some highways to the private sector, the Brazilian government would be able to focus on the maintenance of other poorly cared roads, or

even to invest in education and health sectors. Further, it would mean a new access source to capital. Whereas, the idea is that benefits on the three pillars would be levered with the transference to private sector of about all the risks of running a highway.

The macro-benefits embraces those benefits delivered “indirectly” by the business, as the taxing illustration of social benefit enhancement. The tax benefit example, described in the previous section as a social benefit, is also an indirect driver of social benefit. It is not the concessionaires that are benefiting the surrounding communities, but the government that chose to transfer money to them on their recent legislation. Therefore, in practical terms, this legislation that creates a tax on highway concessions to be collected by the municipalities is at the end benefiting these municipalities on behalf of others public entities. As a matter of fact, the concessionaires are also benefiting on this legislation as business, insofar as it does not damage them. If the cost of extra taxation exceeds the limit agreed, it will be transferred to users or absorbed by the public sector. Consequently, the concessionaires can promote their image with the community as a regional financier. Or further on, it may even diminish vandalism and attract desirable employees to their business. Insofar as it can be ascertained, the taxation benefit promotes the region as it increases the public budget to be spent on social benefits.

The rate of jobs created, as the user’s satisfaction level, are also benefits that are indirectly linked with concept of Brazilian Concessions. These benefits are triggered by the concessionaires as they make use of the revenues raised from users to run the business. Therefore implying that they are macro-benefits as they relate the whole idea of developing an infrastructure together with private sector, and are different from what distinguish it from micro-benefits, in which benefits are explicitly related with services delivered by the concessionaires.

5.1.2. Micro-benefits

The micro-benefits incorporate the benefits that are directly delivered by concessionaires. This micro-line is divided in two distinctive groups. At group “A” benefits are contracted by the public sector. While group “B” benefits consist of those delivered by concessionaires that were neither contracted nor reimburse by the public sector. At group “B” the benefits should go beyond what

was agreed by the parties and must be carried voluntarily by the concessionaire, and could be interpreted as corporate social responsibility⁵ (CSR).

The groups

At group “A” I have framed the services the concessions are contracted to deliver in their benefits formats. They comprehend, beneath others, the maintenance of the road, the implementation of works and services, environmental protection, as also a range of services provide to user not found in Brazilian highways before, as medical and mechanical assistance. Besides, it also embraces those benefits derived from these contracts.

An example is the increasing level of attention giving to environment on highway. The government requires that any business that considerably affect the environment needs to periodically renew its environmental license. As in Brazil the concessionaries are responsible for the highway maintenance and operation during a long period, the environment license is an issue that must be solved. In Brazilian Concession, environmental risks are usually allocated to the private sector, which means that concessionaries are responsible for updating the highways environmental programs.

I have left the group “B” for the benefits that were carried voluntarily by the concessionaries, meaning that their actions were contributing to level the business bottom line up without the need for such driving actions. Examples are beneficent programs carried by concessionaries, for instance, a sweater campaign cited in the previous section.

The watershed

The unclarity of many benefiting action’s drivers was the watershed in the separation of these two groups. Although, the concessionaries claimed to have sponsored a vast number of benefits, their nature as mandatory or voluntarily driven were not clearly transmitted. Their driver routine lacked transparency on its reason to be. Examples of these unclear benefits are traffic education, relocation of illegal commerce over the asphalt, tunnel for animal, beneath other social and

⁵ The UK Government sees CSR as: “...the voluntary actions that business can take, over and above compliance with minimum legal requirements, to address both its own competitive interests and the interests of wider society” (CSR.gov.uk 2007)

environmental benefits. They reason to be delivered were often imprecise when stated on reports and studies, or even when inquired in interviews, on whether their trigger was a voluntary action or if what was a requirement the concessionary had to comply. Insofar as I can ascertain most these actions that turned into benefits were closely linked with what Milton Friedman called a cloak of the doctrine of social responsibility: "...actions that are justified on other grounds rather than a reason for those action."(Friedman 1970). For instance, traffic education is often part of the environment programs required on the environment impact assessment. The same happen with the tunnel for animal, as commented in the previous section, in which some concessionaries have already incorporate the tunnel construction voluntarily as they have judged it environmentally necessary, or maybe, eminently required in a environment program in a medium term.

A further example on this driver's unclearness, and cited on the previous section, was the rubber asphalt, in which traditional asphalt is replaced for the more eco-friendly material. This was also a benefit often cited by the interviewees. Along with, it is arguably an innovation with transparent environment and social advantage. On the other side, its long-term economical return can be sounding. The Asphalt Rubber Technological Service⁶, a specialized organization in recycled scrap tires in rubberized asphalt, classifies the benefits of rubberized as (ARTS 2007):

- Reduces Reflective Cracking in Asphalt Overlays
- Reduces Maintenance Costs
- Improves Resistance to Cracking in New Pavements
- Improves Resistance to Rutting in New Pavements
- Increases Pavement Life
- Improves Skid Resistance
- Decreases Noise Levels
- Beneficially Uses 500-2,000 scrap tires per lane mile

Therefore, depending on the logistic, power of bargain, as other factors, the use of rubber asphalt can be profitable. Although, it was the rubber asphalt's environmental and social appeal that got most of attention by tax deduction defenders, in order to stimulate concessionaries use of rubber

⁶ The Asphalt Rubber Technology Service is a partnership between South Carolina's Department of Health and Environmental Control, Clemson University and the City of Clemson. (<http://www.ces.clemson.edu/arts/index.html>)

asphalt. However, the economical outputs ought to be serious considered, if such tax deduction idea are to be carried over, given that rubber asphalt can substantially diminish the maintenance cost of the concessionary. Nevertheless, if the government is prepared to evaluate the private sector innovative ideas with reasonableness and transparency, and not indulge in misleading arguments to the point of look with favor on a particular group, the recognition and clarification of environment and social benefits by private sector are positive actions to society wellbeing. Moreover, further recognition ought to stimulate other researches on elucidating how social and environmentally friendly a proposition could be, therefore encouraging further improvement its respective pillars.

5.2 ENHANCING BENEFITS FROM PUBLIC AND PRIVATE SECTOR PERSPECTIVE

When the concessionaries workers were asked to identify the phases they perceive to be more opened for benefits incorporation, there was not one phase in which they unanimously agreed to be more or less prepared for it, as show in figure 9. However, they saw more openness at the beginning and end of the arrangement process than in its middle, as shown in the figure below.

Figure 13 – Phases more likely to incorporate further benefits ^(a)

Phases name number of <i>more</i> ^(b)	1	2	3	4	5
Identification					
Assessment and definition					
Bid development					
Negotiation					
Construction					
Operational and Maintenance					

(a) According to questionnaire in appendix 1. (b) In questionnaire illustrate in figure 9, every “more” answered was illustrated in grey and arranged from left to right, whereas the “less” followed in white.

Below, the figure 14 incorporates the phases of PPP arrangement from figure 13 with the parties that influence them: public and/or private. From the left hand side to the right, the phases are organized in relation to the time they occur.

Figure 14 – PPP arrangement with party of influence

PPP Development				Construction / Operation	
Identification	Assessment and definition	Bid Development	Negotiation	Construction	Operation and Maintenance
<i>Mostly public</i>	<i>Public</i>	<i>Private</i>	<i>Public and Private</i>	<i>Private</i>	<i>Private</i>

If the phases that are more likely to incorporate further benefits, in the figure 13, are matched together with the figure 14, it shows that it is the public sector that is likely contributes to benefits incorporation at the beginning of the procurement, and the private sector at the end. The Bid development phase is an exception, which is closer to the beginning of the arrangement, and is influenced by the private party.

Public sector possibilities

If the benefits ought to be enhanced by the public sector expertise alone, the focus should take place at the phases in beginning of the arrangement. There, it is only Group “B” benefits that can be embraced. Therefore, the public sector has two options: whether to demand more benefits from the private sector by contract; and, or to secure that those agreed are followed by strictly compliance methods. The demand of more benefits, as services, from the private sector than what is usually contracted should increase the cost to user and/or government. And, given the enormous gap between the quality of services and maintenance from a public road, and the private managed in Brazil, the demand of more services would only increase this gap. To roughly conclude that to demand more from private sector is not a simple solution. On the other hand, to secure that services contracted are delivered as planed by the use of compliance methods seems more like a public government goal than an option to choose from.

The case of Minas Gerais is an example of public sector efforts to secure compliance in all three pillars of sustainable development. That is what its payment indexing shows by adding both social and environmental indicators together with financial and operational.

Private sector possibilities

As for the private sector, if it ought to raise the bottom line of infrastructure works by enhancing benefits, it could take place in two different time spaces of the arrangement. First, before the SPC is created, as a competitor consortium that seeks to win the bid and develop a project closer to the sustainable development ideas. And, second, it can take place during the construction, operation and maintenance, after a certain group is chosen the preferred bidder.

In Brazil, the second option seem more relevant than the first, because in the first competition is the main driver of benefits that lift the bottom lines. However, the way competition forces are regulated in Brazil seems far from adapted to make the most of private forces to enhance benefits towards sustainable development. In Brazil, competition only exists on the best price offer or lowest cost option, and not on the best product or project, for instance. This reality is different from the UK's, in which the design of project and the reputation of the bidder together account for about 60% of the weight that the price, as shown in figure 5. Further, conquering awards on quality of services delivered, although relevant in both time spaces, it is still in Brazil more relevant during the operation of highway, as a sign of efficient and mission accomplished.

These regulation constrains on lowest cost option could have reflected on the perception of concessionaries workers' on practical attitudes that enhance benefits in Brazilian PPP process. This is illustrated at a questionnaire's question result in which the concessionaries' workers had to rank beneath three aspects, those they perceive to have the largest potential to leverage innovation in the environment perspective, and create the incentive for social initiatives in the concession. The result shows that they left *competition* at the rank's bottom. Yet, they ranked at the top *government and social recognition*, which as driver of benefits. This would take place during the operation and maintenance work as shown at figure xx. Likewise, this low consideration for competition also reflects the lack of attention given to driver of benefits in *Bid development* phase and *Negotiation phase* that although are also phases influenced by the private sector; they are not the concessionaries workers' field of expertise.

If benefits were fostered by the private sector before the SPC was created, through competition that embraced the pillars of sustainable development, these would be micro-benefits from group "B". At this case, it would be private sector would to differentiate from other

competitor that would enhance the bottom line of a project. As for the micro-benefits coming from group “B” during the stage of construction, operation and maintenance, in Brazil today I found that they were whether beneficent campaign, or bolder action on social and environment pillars, which although mainly driven by environment program, they were executed with soundings professionalism, and not only as *box to be ticked*. The awards and public recognition are signs of competent work delivered.

5.3. BRAZILIAN PPP's PUSH

Through the confrontation of what I have placed on the findings section about Brazilian PPP and Brazilian Concession, I found that they are similarly structured, as they are both PPP and types of concession. The main difference I have encountered was that Brazilian PPP regulation allows projects that cannot pay itself purely on their own revenue to be conducted as concession, hence counting on government money transference to exist. Therefore the simple acknowledged that Brazilian PPP should expand the number of concession is far from enough to guaranty that all the pillars of sustainable development would be levered up. However, what the regulation of Brazilian PPP in Brazil effectively does is to expand the limits of concession, besides allowing other compliance mechanisms to exist. It is this possibility to create compliance mechanism that seems the key in helping the public sector to secure that risks transferred to the private sector are properly managed. Therefore, it also makes it possible to extend it to risks that are directly related with leveraging the bottom line benefits on the pillars of sustainable development.

This new mechanisms' potential is again well illustrated in Minas Gerais' PPP example. It can gives public sector the power to improve its compliance power over the private sector by directing indexing their periodic payment with indicator it judges important. For instance, in Brazilian Concession the main instrument to keep the standard of the services and benefits provided has been contract, which set services levels target, and the toll tariff concessionaries charges the user that does not embrace social and environment risks indicator on it. While in Brazilian PPP, the public sector has in its hand, the possibility to add with more simplicity an indexing toll that gather social and environment risk as indicator, and which can be adapted to future circumstance during the period of concession. Therefore, PPP in Brazil is enhancing one of the mechanisms of the two possible manners a risk can be explicitly transferred; the payment mechanism used the private

sector⁷. Thus, this is like saying that the introduction of Brazilian PPP is improving the country way of transferring risks from public to private sector, insofar as they are now passive of more elaborated compliance mechanism.

Risks matrix

In order to optimally secure the influence of the mentioned compliance mechanism, it is important that a risk matrix is carried out in the beginning of a PPP arrangement. And, even efficiently it would be this mechanism would be if the form of concession (see figure 3) its PPP arrangement would take were chosen after an elaborated study on the risk characteristic, as the possibilities for public sector to use the available compliance mechanism. Therefore, a furthering contributing to set optimum risks transference allocation to parties. In this case risks such as sustainability risk, environmental risk, beneath other risk could be more assessed closely to monetary and political risk, for instance.

However, such wide-ranging matrix would not be as valuable one might expect in Brazil given that there are not many option of PPP to correspond to a possible risk optimum allocation. As described in the previous section, Brazil has a very limited range of PPP arrangement, if it is to be compared with UK, for instance. Or, in other words, the public sector, due to Brazilian regulation and legal constrains, cannot elaborate a PPP arrangement that it might find to be the most favorable allocation of risk and responsibilities.

⁷ According to Nisar, there are two ways risk can be explicitly shared in a PFI/PPP contract. First, through payment mechanism, and second through specific contract terms. (Nisar 2007)

6. CONCLUSION

Public and Private Partnership's arrangements in Brazil comprehend both the recently regulated Brazilian PPP, and the developed Brazilian Concession program. Brazilian PPP came to extend the potential of concession arrangements, as it also makes other arrangements possible to exist. Therefore, with the regulation of Brazilian PPP, the government will have more arrangement's options to choose from when developing an infrastructure project. Consequently, this will contribute to improve the allocation of services between public and private sector. Nevertheless, the study found that in the essence of Brazilian PPP is the will of improving the actual concession model by allowing the public sector to decide if a non-sustainable financial infrastructure project should make use of the private sector expertise. Therefore, Brazilian PPP program extends what Brazilian Concession was limited to do, which is to embrace these non-sustainable projects. Although, it does not regulate many possible and known PPP arrangements, which could be of the government interest to have in its hand.

The study further found that Brazilian Concession is generally bringing benefits to sustainable development throughout its operation and maintenance, whether the focus is on social, environmental or economical aspects. Within the most highlighted benefits relating to the pillars of sustainability are as follows. Regarding the social pillar of sustainability, it raises the taxes collected by the municipality allowing the communities to invest it in further infrastructure projects like health centers, schools, and crèches, for instances. Regarding the economic pillar of sustainability, they improve the quality of the highways, making it possible for the surrounding areas to development. Finally, as for the environmental pillar, there was the concessionaries need to mitigate environmental damages as it meticulously fulfilling this as other Environmental Impact Assessment requirements. It is undeniable that these benefits, brought by the entrance of the private sector as concessions have improved the quality of infrastructure by doing services that before were expected but not properly performed by the public sector.

As for these benefits driver, the study found that they are more linked with the concessionaire keeping its business running profitably, attending evident social demands, and

environment regulations, than of it will of seeking to enhance the infrastructure benefits upon the pillars of sustainable development. Therefore, although some benefits on the environmental and social pillar of sustainability were brought by corporate social responsibility, these benefits were not many, or only too few if compared with those brought by contract between public and private sector, and by forced business regulation. This is not only understandable, but also expectable from concessionaries, as its executives ought to seek a balance in between making as much money as possible, and in conduct its activities in accordance with contract, rules, and society's perception of what is ethically fair.

However, it is true that the private sector could stimulate other researches on elucidating how social and environmentally friendly a project proposition could get to be, therefore encouraging improvements from the beginning of the project that could lift its bottom line up. Furthermore, it was in this line that this study discussed the possibility for a PPP in Brazil to enhance benefits by the use of private sector innovative forces, as reported in UK's PFI/PPP, to conclude that in Brazil this does not happen due to regulation constrain in its tender negotiation. These findings, although limited and deserving further research, indicates that due to culture of business between public and private parties in general, Brazilians have created strong social and political ties that hinder a more open bidding process in terms of complicity and trust within parties.

Finally, this study found that Brazilian PPP could increase PPP services' compliance level on services transferred to private sector, which implies that the government has more control on these arrangements than on ordinary Brazilian Concession. Therefore, indicating that Brazilian regulation creates an incentive, or a path, to better control the responsibilities and risks it transfer to private sector. As the Minas Gerais highway example's shows, an indexing on the payment mechanism from public to private sector was created to not only to certify that a given performance is reached, but also to encourage better performances from the private sector. At this same example, a risk such as the environmental risk of the project was transferred to the private sector, and an indicator was placed at this indexing tool. The same happened with risk on the other pillars. Therefore, although far from exhausted the subject, the studies concludes that the initiatives towards sustainability induced by Brazilian PPP are evolving upon a scheme of compliance with governmental regulations, and not much on bid competition.

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APPENDIX 1

Questionário (10 min)

O questionário abaixo tem 4 perguntas que podem ser retornadas por e-mail. Em cinza claro ha um modelo de resposta para cada pergunta.

1. Enumere em grau de importância da maior para o menor, quais aspectos você acredita q tem o maior potencial para aumentar inovações ambientais e iniciativas sociais nas concessões de estradas brasileiras?

- A. Competição entre propostas durante a licitação
- B. O reconhecimento das ações ambientais e sociais das concessionária pelo governo através de contrapartida financeiras.
- C. O reconhecimento da sociedade.

2. Você acredita que as concessões PPP estarão *mais*(A), *menos*(B) ou *igualmente*(C) empenhadas que a atuais concessionárias em elevar as ações na sustentabilidade social e ambiental das estradas?

3. Dentre os períodos de um processo de concessão listados abaixo, marque aqueles em atualmente existe a possibilidade de incremento dos benefícios econômicos, ambientais e sociais? Obs.: Sem a possibilidade de mudança de leis e regras. Coloque (+) para maior e (-) para menor

- A. Identificação de um projeto
- B. Definição do projeto pelo poder publico
- C. Preparação da proposta pela iniciativa privada
- D. Negociação do Projeto em partes
- E. Construção
- F. Operação e Manutenção

4. Resumidamente, cite os benefícios ambientais, sociais e econômicos a sua concessionária realiza?

APPENDIX 2

Concessionaire Awards from ABCR report (ABCR 2005)

CONCESSION HOLDER	AWARD	ACTION/ PROJECT	AWARDED BY
AUTOBAN(CCR)	Biggest and Best Transport and Logistics Prize – Transport Services category	Considered the country's best highway concessionaire for the services and infrastructure offered to the sector	OTM Publishers/Transporte Moderno Magazine
AUTOVIAS (OHL)	Safe Life on the Highways Prize	20% reduction in fatal accidents on its highways	São Paulo State National Transportation Regulatory Agency (Artesp)
	Top of Mind Tribuna & Recall 2005	Concessionaire company best known by users	Tribuna de Ribeirão Preto Newspaper
CLN	Environmental Performance Prize – Environmental Education category	Training Project in Dietary Alternatives and Organic Farming for Families of Bahia	Bahia Industry Federation (FIEB)
	Environmental Bahia Prize – Honorable Mention	Training Project in Dietary Alternatives and Organic Farming for Families of the BA-099 – Coconut Road	Environment and Water Resources Office of the Bahia State Government (SEMARH)
COLINAS	Safe Life on the Highways Prize	Reduction in fatal accidents on its highways	São Paulo State National Transportation Regulatory Agency (Artesp)
CONCEPA	Top of Mind Prize 2005	Best known highway concession company in Paraná	Amanhã magazine
ECOVIA CAMINHO DO MAR	Best & Leaders Prize 2005	Best company in the services sector/concession companies in the Southern Region	Amanhã magazine and Pricewaterhouse Coopers
ECOVIAS DOS IMIGRANTES	Safe Life on the Highways Prize	25% reduction in fatal accidents on its highways	São Paulo State National Transportation Regulatory Agency (Artesp)
	Best of Dinheiro Prize 2005	Best concession company of the transport sector	IstoÉ Dinheiro magazine
INTERVIAS(OHL)	Toll Excellence Award – Social Responsibility category	Intervias School Project	International Bridge, Tunnel and Turnpike Association (IBTTA)
NOVADUTRA(CCR)	Codivap Award Brazil Top Excellence and Quality Prize - Highway Concessionaire category	Helping improve the region's quality of life Excellence in services and products at national level	Vale do Paraíba Integrated Development Consortium (Codivap) National Events and Research Organization (ONEP)

	VIII NTC Transport Suppliers Prize – Highway Concession Company category	Continuous development of products and services offered to transporters	National Association of Cargo Transportation and Logistics (NTC & Logistics)
RENOVIAS	Safe Life on the Highways Prize	10% reduction in fatal accidents on its highways	São Paulo State National Transportation Regulatory Agency (Artesp)
	Top Excellence & Quality	Recognition of quality of services provided to users of its highways	National Events and Research Organization (ONEP)
RODONORTE(CCR)	Top of Mind Paraná 2005	Best known highway concession company in Paraná	Amanhã magazine
SPVIAS	Safe Life on the Highways Prize	16.65% reduction in fatal accidents and 37.5% reduction in victims run over on its highways	São Paulo State National Transportation Regulatory Agency (Artesp)
	Honorable mention in the Fleet Visual Communication and Painting Competition 2005 – Cargo Highway category	Creation of material used for communicating with highway users	Transporte Moderno magazine
VIANORTE	Safe Life on the Highways Prize	20% reduction in fatal accidents on its highways	São Paulo State National Transportation Regulatory Agency (Artesp)
	Brazilian Environmental Benchmarking Prize – Awarded Case category	Archeological Management, Research and Heritage Education Program	Mais Projects
	Dawn Prize 2005	Bom de Nota, Bom de Bola Program	Pro-Sport Sports Association (NGO)
VIAOESTE(CCR)	Safe Life on the Highways Prize	35% reduction in fatal accidents on its highways	São Paulo State National Transportation Regulatory Agency (Artesp)
CCR-COMPANHIA DE CONCESSOES RODOVIARIAS	Environmental Performance Prize – Environmental Education category	Adoption of good practices in corporate governance	Brazilian Institute of Corporate Governance (IBGC)
OHL BRASIL	Safe Life on the Highways Prize	Contribution to the growth of the national economy, improvement in the quality of services provided to the public and evolution of Brazilian engineering	O Empreiteiro magazine
UNIVIAS	Company of the Year in Business Communication – Southern Region.	Set of Communication Actions and Projects aimed at the Public: Santa Claus on the Road, Univias Cool Summer, By Bike? Go Clever, Univias Cool Easter, Right Path Mural, Carona magazine, and other projects.	Brazilian Association of Business Communication (ABERJE)