The Portuguese Experience with Public-Private Partnerships

Miranda Sarmento, J.; Renneboog, L.D.R.

Publication date:
2014

Citation for published version (APA):
Miranda Sarmento, J., & Renneboog, L. D. R. (2014). *The Portuguese Experience with Public-Private Partnerships*. (CentER Discussion Paper; Vol. 2014-005). Finance.

CentER

Discussion Paper

No. 2014-005

THE PORTUGUESE EXPERIENCE WITH PUBLIC-PRIVATE PARTNERSHIPS

By

Joaquim Miranda Sarmento, Luc Renneboog

14 January, 2014

ISSN 0924-7815
ISSN 2213-9532

TILBURG UNIVERSITY

The Portuguese Experience with Public-Private Partnerships

Joaquim Miranda Sarmento[1]

University of Lisbon

and

Luc Renneboog[2]

Tilburg University

Abstract:

This paper documents the Portuguese experience in Public-Private Partnerships (PPPs). Since 1993, Portugal has been using PPPs intensively, mainly for highway construction and in the health sector. This has enabled the country to close the infrastructure gap and avoid the budget constraints at the moment of the investment. Doubts about whether PPPs represent value-for-money have emerged. There are several reasons why PPP were unsuccessful: (i) the concentration PPP projects was very high over a limited time span and the public sector was not prepared nor had the ability to manage and control the contracts, (ii) the incentive to resort to PPPs was mainly to avoid budget constraints, but not to use of public resources better by taking advantage of private sector efficiency, (iii) the risk allocation between the private and public sector was flawed because the private sector bore too little risk and payments from the public to the private sector were considerably above the investment cost.
The current and future annual payments from the state to the private sector are a substantial burden in the current times of austerity and budget consolidation. As the country had to ask the troika (IMF, ECB, and European Commission) for a financial rescue from, PPP renegotiations are ongoing to reduce public payments.

Keywords: Public-Private Partnerships; Procurement, Project finance, Road construction, Portugal

JEL Codes: H54, H57

[1] ISEG, Rua Miguel Lupi, 20, 1250 Lisboa, jsarmento@iseg.utl.pt
[2] CentER and Tilec, Tilburg University, POBox 90153, 5000 LE Tilburg, the Netherlands, phone: 0031 13 466 8210; Luc.Renneboog@uvt.nl

The Portuguese Experience with Public-Private Partnerships

Introduction

Over recent decades, Portugal has experienced an impressive economic development. This was particularly the case since it has entered the European Community (later European Union—EU) in 1986: the country's economic and social indicators have risen from a level indicating underdevelopment level to a level moving towards the European average (since the expansion of the EU in 2004) . Portugal has made a great effort over the past 25 years to close the wide infrastructure gap. In several areas (such as education, health, water and sanitation), but particularly in transport (highways, bridges) Portugal has developed a high infrastructural density. Until the mid-1990s, traditional procurement represented most of these investments, but then Public–Private Partnerships (PPPs) emerged as an important mechanism.

The purpose of this chapter is to describe the Portuguese experience in PPPs, to discuss how the PPP program was organized, and to address the motives behind the decision to use a PPP.

As one of the leading countries using PPPs, the Portuguese experience is impressive, relevant, and worthy of study. However, there has been little discussion and research, with just a small number of studies published.

How and why were PPPs used in Portugal

Three decades ago, the infrastructure gap in Portugal was visible in almost all the infrastructure areas (including transport, health, education, energy, and water and sanitation). The government adopted different strategies for each sector. Health and education relied mostly on direct public investment, partly also financed with EU funds (although the use of PPP to build hospitals also occurred in recent years). In water and sanitation, ports, and energy, the model relied on private investments, which were combined with concessions to the private sector, while the end-users paid tariffs or tolls for the service. No public funds were involved, neither in the construction nor the operation stage. The public sector invested directly (involving also EU funds) in public urban transport and railways (with only two exceptions). In transport, the use of PPPs was mainly concentrated on highways and bridges.

Portugal has intensively used PPPs to build an extensive highway network. This network has increased by 700% between 1990 and 2007, similar to Ireland (+900%) and Greece (+500%) (Cruz, 2011). By 2012, Portugal had constructed 2,700 km of highways aiming at reaching 4,000 km by 2014. This places Portugal among the countries with the highest density of highways in Europe[3]. According to the European Investment Bank (EIB), Portugal was responsible for 3% of a total of 1,340 PPP projects in Europe and 7% of a total of €254 billion of investment. As Portugal only accounts for around 1% of Europe's GDP, further calculations by (Sarmento & Reis, 2012) show that Portugal leads in the use of PPPs across Europe.

Why did the government choose PPPs to build most of the highway network? The first highways were built (at the end of the 1980s and beginning of the 1990s) by a state-owned enterprise called BRISA (that was privatized in the late 1990s) and had sufficient traffic to be financially viable. However, by the end of the 1990s, the highways that were still at the project stage had insufficient traffic to be profitable. Therefore, the option to allow the private sector to build these highways was not present. These investments would require exclusive financing by public funds, or a PPP scheme in which payments to private companies were made mainly (or exclusively) by the public sector. Two other factors drove the decision to adopt PPPs: Portugal was entering the Euro Zone, and was facing a public deficit of 3% of the GDP by 1999[4]. Second, reallocation of EU funds to other fields reduces the funds available for the Portuguese road infrastructure. Hence, PPPs emerged mainly because of budget constraints, although the public sector was also expecting that the private sector would improve the quality and efficiency of the infrastructure.

Portugal launched two waves of PPPs in the road sector: The first wave consisted of the so-called SCUTs[5] highways, with seven different PPPs, contracted between 1999 and 2001. The SCUTs extend over a total of 930 km of highways, funded originally with shadow tolls, with the central government public budget stepping in to pay the private consortia in lieu of the users. After a few isolated projects between 2002 and 2006, the second wave of road PPPs was launched between 2007 and 2009 with the Portuguese government asking for public bids for seven new highway projects under the supervision of the national public roads concessionaire, Estradas de Portugal (EP). EP is

[3] Portugal accounts for a density of 28.4 km/1,000 km^2 versus the European average density of 15 km/1,000 km^2 according to (Cruz, 2011)

[4] Although Portugal achieved this 3% deficit by 1999 (with PPPs investment contributing significantly to the balance sheet), excessive deficits after 2001 to the time of writing restricted the choice of public investment methods because of poor national budget conditions.

[5] SCUTS stands for "sem custos para o utilizador", meaning that there is no costs to users (as government pays a shadow toll)

an entirely state-owned company that became the concession grantor, which explains why these roads are referred to as “sub-concessions”.

The health sector has also turned to PPP schemes in recent years. Since 2002, Portugal use an innovative PPP scheme to build of four new hospitals (Braga, Cascais, Loures and Vila Franca de Xira).Yet, these PPPs were complex and subject to controversy as each hospital has two different PPPs: (i) The first one deals with for the construction and management of the hospital facilities under a 30-year contract with an availability payment (PPP payment is a fixed annual rent, as long as the hospital is in condition to be used by the second PPP) whereas (ii) the second one takes care of the clinical services under a 10-year contract with payment based on production. The reason why this model is consider as innovator and complex is that in the international experience PPPs only apply to the construction and management of the infrastructure, and not to medical services (Basílio, 2011). More detailed information on these PPPs can be found in Table 2.

Doubts about the efficiency and value for money of PPPs have been raised in Portugal (Sarmento, 2010). Several Court of Audit reports questioned whether public payments were overvalued when compared with the value of the assets and services provided by these PPPs projects[6]. Given the size of the public payments for assets and services, several researchers have concluded that PPPs were used mainly to put public investment outside the perimeter of the public budgets (Marques & Berg, 2010; Sarmento, 2010; Sarmento & Reis, 2012). In 2011, Portugal was forced to ask for financial rescue from the troika (EU, ECB and IMF). As we will see, the memorandum of understanding of the financial rescue packages included several measures regarding PPPs.

Usually, the use of PPPs is based on the argument that without PPPs constructing those assets rapidly would not have been possible, due to budgetary constraints (Monteiro, 2005). Besides, the PPP construction creates a guarantee to public sector that these highways will be maintained for at least 30 years. It seems that on the highways constructed and maintained in PPP projects, accident rates have dropped by more than 50% in the last 15 years. In addition, supports of PPP argue that these investments had reduced the regional asymmetries (although there is no clear evidence of that).

The policy framework

[6] Tribunal de Contas (2003), Relatório de auditoria às concessões rodoviárias em regime de portagem SCUT (Relatório de Auditoria n.º 14/03 – 2.ª Secção); Tribunal de Contas (2005), Relatório de auditoria aos Encargos do Estado com PPP: concessões rodoviárias e ferroviárias (Relatório de Auditoria n.º 33/05 – 2.ª Secção); Tribunal de Contas (2005), Relatório de auditoria às concessões rodoviárias em regime de portagem SCUT – follow-up (Relatório de Auditoria n.º 34/2005 – 2.ª Secção); Tribunal de Contas (2007), Relatório de auditoria aos Encargos do Estado com PPP: concessões rodoviárias e ferroviárias – follow-up (Relatório de Auditoria n.º 04/07 – 2.ª Secção).

According to the Portuguese legislation, a PPP is defined as a long-term contractual agreement with a private entity that assumes the responsibility to build and maintain infrastructure or a service while being compensated by the public sector (but excludes projects with less than €25 million investment and less than 3 years for development). This definition is close to the EU definition of a contractual PPP (Commission, 2004). However, at a regional and local level, authorities have been using institutional PPPs by creating specific companies of which the majority of the capital is public, to develop PPP projects. It is important to distinguish between PPPs and concessions: in the Portuguese context, a concession does not involve any public funds as it transfers the assets to the private sector but it is not a privatization either because the period over which the private sector is allowed to exploit those assets is finite. In this chapter, we limit ourselves to analysing PPPs at the central government level.

The financial conditions of PPPs

Until Portugal's entry into the Euro Zone in 1999, the domestic financial market was limited and less developed than that in other European countries. There was little experience with project finance and credit could only be attracted for relatively short maturities (most of the loans had a maturity of not longer than 3 years). Domestic banks dominate the financial market and major international banks were just starting to see the Portuguese market as an attractive investment opportunity. In this context, the European Investment Bank (EIB) was an essential tool to finance these large projects. That bank did not only offer loans at a lower interest rate when compared with the market at that time, but also loans with longer maturities. The EIB also provided expertise and rendered international credibility to the PPP program. It was an important factor in encouraging international banks to participate in PPPs in Portugal.

Table 1 summarizes the financial data for the 35 PPP projects in Portugal. Overall, debt represents around 70% of the total investment, which is typical of this type of project. The EIB accounted for 34% of the total debt (and even more so for the older projects).

[Insert Table 1 about here]

Credit risk was considered low (mainly because the government retains the traffic risk), and therefore spreads are 1%-2% above Euribor in almost all projects. Additionally, the debt service cover ratios (DSCR)[7] are low: 1.1–1.3. To cover the interest rate risk, most PPPs signed swap contracts to fix interest rates over the loans' maturities, which amount to around 20–25 years.

However, the 2008 financial crisis had a significant impact in the access of credit for the PPP programs in Portugal. While half of the commercial bank credit was coming from foreign banks for projects at the end of 1990s and beginning of 2000s, domestic banks, particularly the state-owned bank ("Caixa Geral de Depósitos", financed almost completely the 2007–2009 projects.

As banks play a fundamental role in the financing of PPPs, their influence is significant in the design phase and the concept of the projects. However, banks only accept to lend with high leverage, low spreads and low DSCR and long maturities, because they assess that projects had low risk. In most PPPs, bank intervention allocated traffic risk to the public sector. In other cases, such as the Fertagus railway, the banks' participation led to a traffic band system to protect the PPP in case of low traffic.

The institutional framework

The first PPP law (decree-law 86/2003), established the general regime of a PPP: the definition, concept, preparation, bid, adjudication, changes, audit and global monitoring[8]. The PPP law was amended in 2006 (decree-law 141/2006), with the goal to promote a better cooperation between the Ministry of Finance and the sectorial ministries, and improve the mechanisms of controlling the use of public resources in PPPs. Additionally, it introduced the obligation (which was not followed, due to a political decision, in the road sector PPPs between 2007 and 2009) for the inclusion of a public sector comparator (PSC)[9]. Finally, it changed several dispositions regarding the risk allocation and the renegotiation process. The last amendment in 2012 (decree-law 111/2012) focused on centralizing the PPP process in the Ministry of Finance in order to increase the transparency and control over PPPs, and at the same time expand the

[7] The level of debt that can be raised for a project is based primarily on its projected ability to pay interest and repay loan principal instalments, with a comfortable margin of safety. To assess this margin of safety, lenders calculate cover ratios, namely the DSCR (Yescombe, 2011). The DSCR represents the ability of the project to assure the debt service. The DSCR is equal to the interest payments plus debt amortization as a percentage of free cash flow. In order to reduce the credit risk senior lenders require a Minimum DSCR in each project.
[8] Along with this law, a 6% discount rate was fixed to evaluate public investments.
[9] According to Sarmento (2010) the PSC is based on estimates of full costs, revenues and risks, set out in cash flow terms, discounted at the public sector rate to determine the net present value (NPV), and after that compared with the discounted value of payments (along with risks and costs retained by the public sector) to the private supplier. The public sector comparator is therefore the financial difference between the two procurement options for the same project (Grimsey and Lewis, 2005).

central government's powers over regional and local PPPs. Most of these changes follow the measures agreed by the troika program. A variety of other laws complements the main PPP legal framework: budgetary law[10] (concerning public expenditure), code of public contracts[11], and the road[12] and the health[13] sector legal frameworks.

Before making a decision to develop a public investment through traditional procurement or PPP, the Portuguese government is obliged to create a task force to study and analyse the project. The task-force report is a necessary starting point for the launching of a PPP as it comprises the main characteristics of the technical, legal and financial issues for each project.

The procurement process for PPPs in Portugal follows several stages. The process starts with the opening of a tender procedure which contains the following information and conditions: PPP contracting procedures and specifications, analysis of the options that determine the configuration of the project, project descriptions and financing, demonstration of the public interest to justify the choice of using a PPP, demonstration of affordability of costs and risks, and an environmental impact statement (Verhoest et al., 2013). Given that the PPP involves vast amounts of investment, it is mandatory to make an international announcement and publish the tender in the *Official Journal of the European Community*. After receiving the bidders' proposals, the government make a first evaluation. The evaluation criteria are of a technical and financial nature. In most of the projects, the criteria are: (i) minimizing the public financial input (around 30% of the final award classification), (ii) the technical quality of the proposal (in terms of conception, project, construction and exploration, worth around 50% of the classification) and (iii) the service quality and security.

The best-qualified bidders are shortlisted and a round of negotiations starts. At the end of the negotiation process, two bidders are allowed to present their best and final offer. After a final evaluation of these proposals, the Finance Minister and the Sector Minister make a joint decision on the winning proposal. The ultimate stage is the signing of the PPP contract between the government and the private party. As there is no contract template, each PPP agreement is tailor-made contract based on the tender specifications.

In the 35 Portuguese PPPs, we have found a variety of payment mechanisms (see Table 2 for a description by project). In the road sector, there are some PPPs with payment based on levying tolls whereby the private party bears all the traffic risks[14]. But in all the other road projects, the payments to the private sector are based on availability, and

[10] Law 91/2001, last changed by the Law 37/2013
[11] Law 18/2008
[12] Decree-law 380/2007
[13] Decree-law 185/2002
[14] Brisa, Oeste, Lusoponte, Douro Litoral e Litoral Centro.

the toll revenue goes to the public sector[15]. In the two railway PPPs, their revenues depend on the tolls. As for the health sector, as we have seen, for each hospital there are two PPPs: one responsible to build and maintain the infrastructure, being paid by availability. The other PPP is responsible for the medical services. In this second PPP, payments are made according to the clinical production, but with an annual cap on public payments. Prices for each clinical service or act are according to a price system equal to the one used for national health service hospitals.

Another important issue in the contractual and governance framework is the contract renegotiations. We found a total of 254 renegotiation events from 1995 to 2012 (see Table 2). This abnormally high frequency of renegotiations raises the question whether they should be considered as a natural part of a long-term contract or they are an undesirable feature that reduces PPPs' efficiency and value for money. In Portugal, PPP renegotiations (also called financial rescue agreements – FRAs), occur when a specific event preview in the contract occurs and affects the financial conditions of the PPP Normally, the contract conditions include: unilateral changes from public sector (this is, decisions from government, without private sector agreement, that change the contract or the concession terms, including changes in the project or contract, in price tolls and specific sector legislation), *force majeure* events, archaeological findings, expropriations of land necessary to build the infrastructure (particularly relevant in highways), administrative delays or changes in the environmental requirements. In some PPPs, despite the allocation of demand risk to the private sector, there is a minimum traffic guarantee. Usually a traffic band system is setup, whereby the concessioner has the right to ask for a FRA if traffic is below the lower band. This was the case for the Fertagus railway during its first years of operation.

Some changes in conditions are foreseen in the contract (for instance, tariff adjustments to inflation), are hence not reasons for renegotiations. Only when substantial departures occur from the situation on which the original contract is based, then the contract can be amended legally following renegotiations.

The PPPs' organizational structure

[15] This decision has a single purpose: to make EP have commercial revenues, order to be able to be consider outside the perimeter of consolidation of the state budgeting... That way, by ensuring that EP starts collecting so-called "market revenues" and stops being funded exclusively through direct contributions from the state budget. With "market revenues", the government is allowed, under EU public accounting rules (ESA95), to leave EP out of the consolidation perimeter of the government, which will significantly ease deficit calculations for the Portuguese government

The PPP stakeholders are both the public and private sectors. The former comprises, besides the government (the Ministry of Finance and the Ministries of e.g. Transport or Health), also the sector regulators[16], the Ministry's of Finance internal audit committee (IGF) and the Court of Audits. In the road sector, EP, as mentioned previously, holds the concession for the national road network and manages all PPP contracts. On the private side, the main stakeholders are the sponsors and the lenders. In the road sector, most sponsors are construction companies[17], reflecting the vertical integration of this business. Most of the capital come from Portuguese companies, but foreign companies (mainly Spanish) have also participated. Table 2 shows the percentage of capital owned by foreign shareholders, as well as how much capital is owned by construction companies, banks, or other parties.

In the health sector, three groups prevail: Mello owns two hospitals (Braga and Vila Franca), and "ES Saúde" (Loures) and HPP (Cascais) own one each. All these companies were Portuguese at the moment of the bidding (since then, HPP has been acquired by a Brazilian group).

As the intensive use of PPPs may have ease the burden in the public budget during the investment stage (as they are an "off balance-sheet operation), the future payments to the private sector represents a heavy financial burden for the public sector. Additionally, it is important to dwell on the rapid pace with which these contracts were set up. The novelty of the experience, added to the fact that the governments were not prepared for the level of complexity some of these contracts entailed. In addition, until 2003 there was no proper legal framework, which led the Ministry of Finance to take a rather passive stance in relation to PPPs.

Until 2012, the managerial and legal competence related to PPP was divided between the minister of finance and line ministers. At the minister of finance two entities interview in the PPP process: Parpública and DGTF ("Direcção Geral do Tesouro e Finanças" – General Directory of Treasury and Finance). Parpública (a public sector holding company), was given the mission to advise, promote, and evaluate PPPs and develop of public services with higher quality and efficiency. It is also the entity responsible for technical support of the Ministry of Finance in PPP procedures. DGTF also falls under the authority of the Ministry of Finance and its purpose is to monitor PPPs and focus on the long-term budget impact and fiscal (budgetary) sustainability. The ministries of transport and health also have their PPP units.

The existence of this several units leads to a dispersion of resources and a lack of coordination in the public sector. Therefore, and following the best international

[16] IMT for transport (formerly INIR for roads) and ERS for health.
[17] The main construction groups operating in Portugal are Mota-Engil, Soares da Costa, Edifer, Teixeira Duarte, Somague, Tecnovia and Ferrovial, which provide most of the roads PPPs capital

practices (OECD,2010), by 2012, a centralized PPP unit (UTAP) created in the Ministry of Finance and absorbed all the above separate entities.

The use of PPPs

Thirty-five PPP projects were launched in four sectors: roads (22), railway (2), health (10) and security (1). Figure 1 shows the numbers of PPPs launched by year. A total of €20 billion was invested between 1995 and 2014 with the road sector accounting for almost 94% of this investment and railways and health representing 3% each. By 2014, no new projects are currently undergoing. The future payments due by the state to honour these contracts are estimated to represent an annual effort of a little above 0.5% of GDP until 2030, but between 2014 and 2020, these payments will amount to 1% of GDP (

Figure 2). Using the 6% legal discount rate that is used by public sector to evaluate projects, the payments for 2014 and beyond have a net present value of €20 billion, representing around 12% of the current Portuguese GDP (see Table 2).

Insert

Figure 2 about here

In each PPP, the private sector builds the assets but the legal owner is the public sector. The PPP asset is the concession contract, recognized in the private company balance sheet as an intangible asset. For this purpose, Portugal follows international accounting standards, mainly the IFRIC 12 - Service Concession Arrangements.

Types of PPP

In Portugal, a legal distinction exists between a concession and a PPP. The concession model is used in sectors such as water and sanitation, energy, ports, and airports), and follows very closely to the classification provided by the World Bank: "*A private entity takes over the management of a state-owned enterprise for a given period during which it also assumes significant investment risk.*" No public funds are invested. In contrast, PPPs are based on investments of public funds during the operation period but not during the construction and investment stages. PPPs in Portugal have been used in greenfield projects, with private sector assuming responsibility for the design, building, financing and operational stages (referred in literature as a "DBFO" model. At the end of the PPP period, the asset has a residual value of zero for the private sector as they have been written off, and are then transferred to the public sector.

The main changes in the PPP process

Before 2008, Portugal experienced for a decade with yearly budget deficits of around 5% of the GDP resulting from significant increases in public spending without economic growth. The 2008 financial crisis led to a fast budgetary deterioration. At the time, the Portuguese government launched the "sub-concession" highway wave, arguing that public investment was a response to the crisis. However, the domestic bank system was weak while foreign investments in large-scale projects dwindled (EPEC, 2009).

By 2011, following the sovereign debt crisis in Europe, and the bailout of Greece and Ireland by the troika, Portugal need to ask for a financial assistance program. There were several items regarding PPPs in the memorandum of understanding signed between the Portuguese government and the troika. First, there should be a "re-budgeting" to preclude the use of PPPs as an off-budget alternative for public investment, and the Portuguese government should account for the PPP liabilities in the public debt[18]. PPPs are thus to be reclassified as a government responsibility and monitored on the public budget execution monthly report [19]. Second, there was an increase in the monitoring of PPPs contracts by means of a comprehensive audit and a risk assessment to strengthen its legal and institutional framework [20]. Third, a renegotiation of these PPPs to reduce the public payments started in 2013. As the road sector represents three-quarters of the total budget effort on PPPs, solutions to reduce the future public payments related to PPPs will necessarily have to address contracts in this sector. Currently, early 2014, these negotiations are not yet concluded, and focus on either on the roads already in operation and the ones still in construction. For the first ones, there will be a reduction in the maintenance services, in the debt costs, and in the private profitability. As for the private sector, the main benefit comes from reducing the net working capital for the debt service cover ratios (with the banks agreement). This will provide liquidity to the owners (most of them construction companies facing financial difficulties). For the roads in construction, opening in 2014, there was already a reduction in the investment. The Portuguese government expects to reduce around 30% of the payments during the life of the contract.

Future developments

Despite the enormous effort over the last 20 years to close the infrastructure gap, Portugal still needs to continue to invest in some areas, such as health, water, and sanitation or railways. As tight budgetary restrictions will last for at least another decade, governments will continue to use PPPs. In Portuguese-speaking countries (Brazil, Angola or Mozambique), the Portuguese experience could be an interesting example to improve upon (Basílio, 2011).

Considering some failures of some of the PPPs in Portugal, it is necessary for the public sector to improve the procurement framework along with the public administration's capacity to address the complexity of these contracts (Curristine, Park, & Emery, 2008) (IMF, 2008). In addition, the budgetary process of PPPs needs to be more reliable and

[18] From the MoU: "The general government perimeter will cover the State, Other public bodies and entities, Social Security, SOEs and PPPs reclassified within the general government and local and regional administrations".

[19] From the MoU: "Enhance the existing monthly reporting on budgetary execution on a cash basis for the general government, including on a consolidated basis. The monthly reporting perimeter currently includes the State, Other public bodies and entities, Social Security, regional and local governments and it will be progressively expanded to include all SOEs and PPPs reclassified within the general government and local governments".

[20] From the MoU: "Publish a comprehensive report on fiscal risks each year as part of the budget, starting with the 2012 budget. The report should outline general fiscal risks and specific contingent liabilities to which the Government may be exposed, including those arising from Public-Private Partnerships (PPPs), SOEs and explicit guarantees to the banks".

transparent. Decisions will have to be based on Value for Money, and not on the off-balance sheet temptation. It is necessary to have a complete and robust public sector comparator and a review on the risk allocation process. Increasing public sector strength in the renegotiations is also a critical issue.

Research on Portuguese PPPs

Few studies have been conducted so far on the Portuguese PPP experience. Two studies cover the renegotiation experience: one at the central government level (Cruz e Marques, 2013a) and the other at a local level (Cruz & Marques, 2013b). The budgetary risks that can arise from Portuguese PPPs are analysed by (Monteiro, 2005). Because of the budgetary constraints created by the PPP public payments, an innovative solution was proposed by (Sarmento & Reis, 2012), namely that the government should buy the contracts. The studies on the SCUTS were conducted by (Basílio, 2011) and (Sarmento, 2010); the former on efficiency and the latter on the (lack of) value for money by means of a public sector comparator simulation.

Because of the high number of projects, PPP research in Portugal is expected to grow in future. Especially the abnormal frequency of renegotiations deserves more interest as does the PPPs' efficiency relative to other forms of public procurement. In particular for the health sector, contract analysis, accountability, risk analysis ought to be examined in order to generate policy recommendations. An international comparison with other countries, particularly those also in a difficult budgetary situation with a high use of PPPs (such as Greece, Ireland or Spain) is warranted.

Conclusions

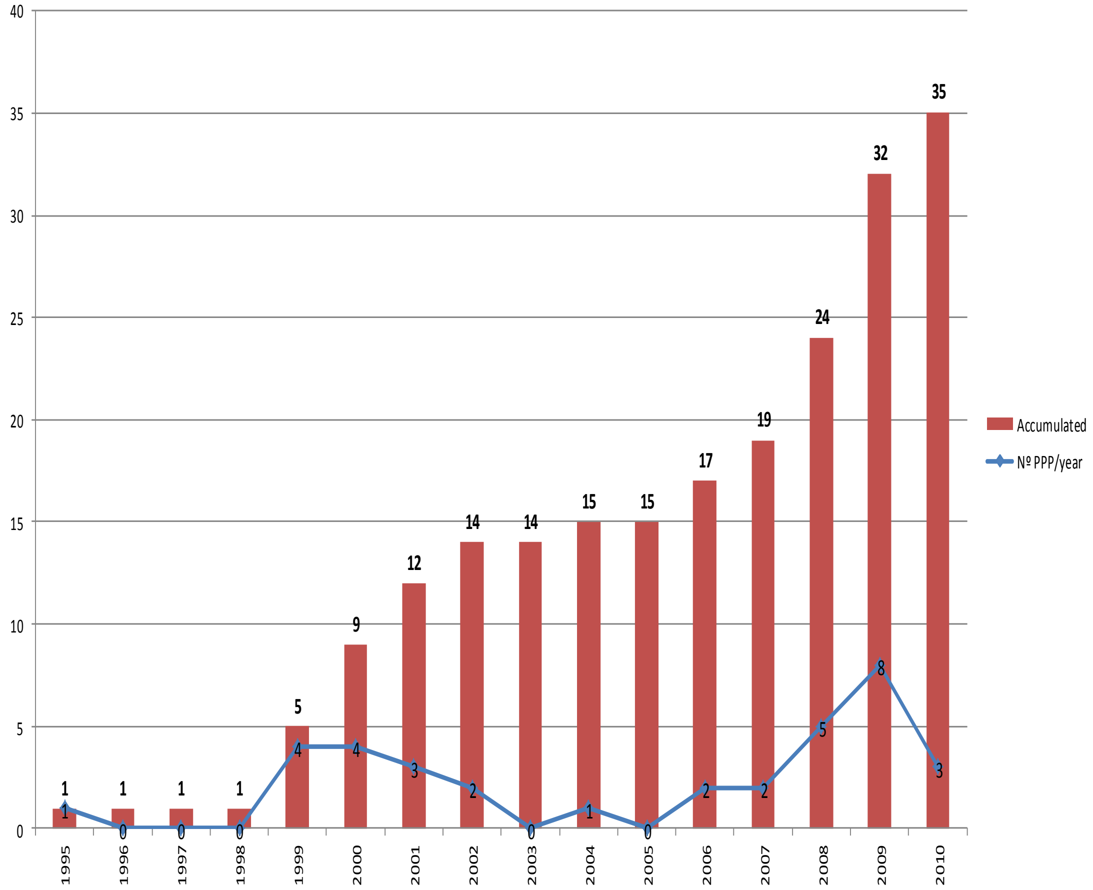
The Portuguese experience with PPPs in terms of value for money, affordability, and accountability, is mixed. For one side, the use of PPPs have allow for an intensive infrastructure programme in transports, along with an increase in the quality and security of the road network. Also, as traditional procurement is usually subject to cost deviations, the use of PPPs have overcome that problem. On the opposite, the use of PPPs has led to strong opposition by the public opinion and some economic and political sectors, which have put a burden on the further development of new PPPs. Has the PPP phenomenon reached its end in Portugal? Probably not. The budgetary constraint will remain binding for at least another decade, which makes PPP the only alternative for large infrastructure investments. As an example, it is likely that a PPP scheme will be used to build the new “East area Lisbon hospital”.

However, it is necessary to understand the reasons for the unsuccessful PPP before continuing its use. We can identify seven main causes for concern about the use of PPPs in Portugal: 1) A high number of projects (and investment) in a short period of time; (2) Does the government possess the necessary management skills to set up and follow up the complex PPP contracts and processes; (3) Is the public management of the tender process sufficiently strict and does the regulation provide a sufficiently strong supportive framework (note that the public sector comparator was only introduced in 2006); (4) Is the use of PPPs sufficiently traded off against other types of public investments (e.g. are PPPs only seen an off-budget operation or do other reasons apply?); (5) Are the financial assumptions in the PPP contract sound and is the subsequent budgetary control sufficient strict? ; (6) Is the risk appraisal and allocation over the public and private sector sufficiently clear? and (7) How come that in a vast majority of the PPPs, the contract terms were renegotiated which has led to a systematic increase in the payments by the public sector (Reis, 2013). The above questions were triggered by problems that have arisen in Portuguese PPPs.

Essentially, three main problems have arisen: First, the basic corporate financial principle of separating the investment decision from the financial decision was not followed in many cases. As there was abundant and relatively cheap credit (until 2008), most investments do not follow economic or social rationality (for example, most of the highways do not have the minimum traffic required for such type of road). Second, most of these PPP contracts do not show value for money. First, the risk allocation to private sector was low (not giving the incentives for private efficiency). Second, given the annual payments for a 30-40 year period, when compared to the cost of the investment and to the public sector comparator, it is possible to conclude that if traditional procurement had been used, it would have been far less expensive, even given the public sector’s tendency to be less efficient (Sarmento, 2010). Third, the budgetary constraints induced by an intensive use of PPPs in a short period of time brings concerns about high repayments by the public sector for a long period. This reduces the fiscal/budgetary space and creates obstacles to the consolidation of public finance, particularly to the reduction of annual budget deficits.

Figure 1 – Number of PPPs

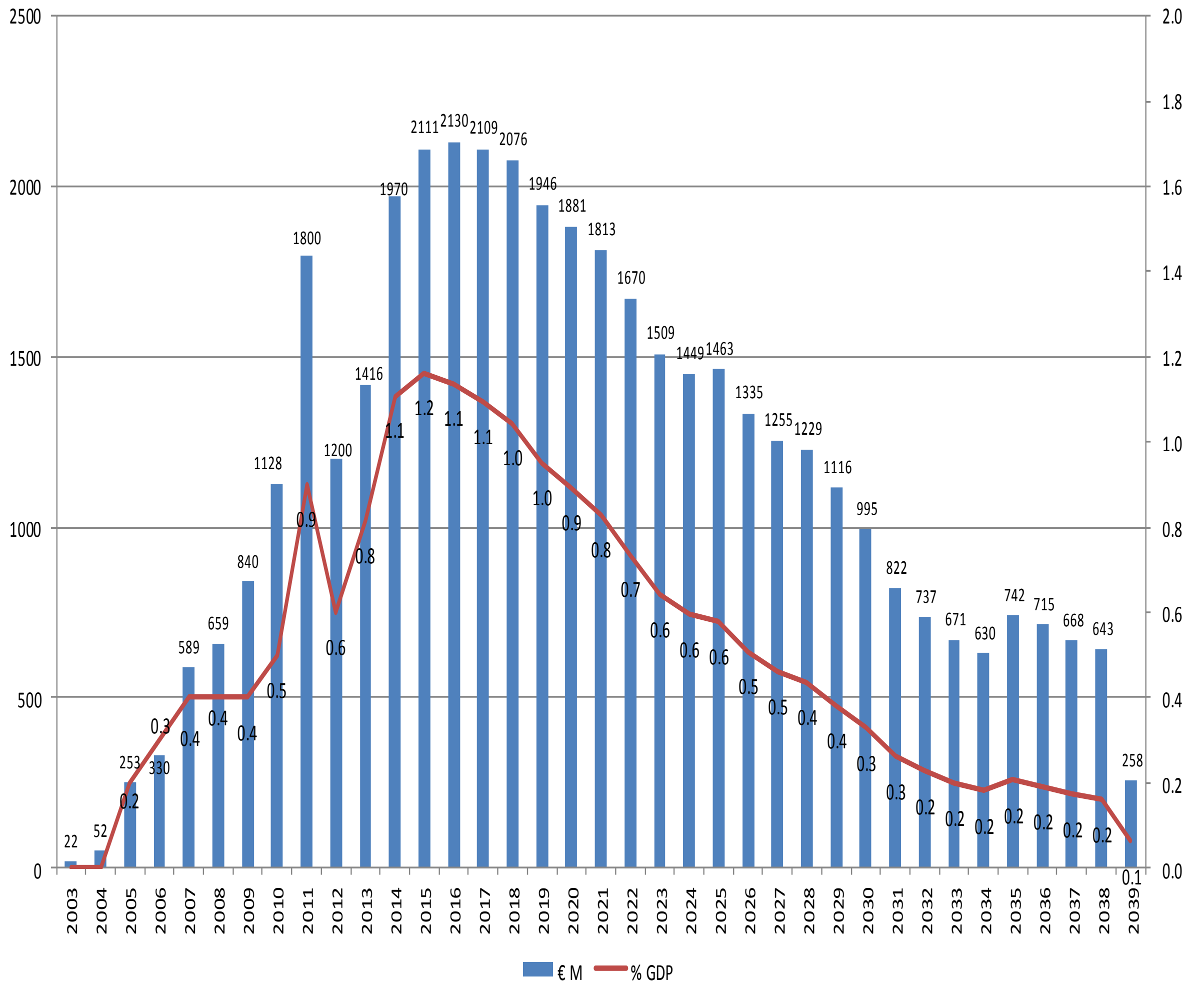
This figure shows the number of PPP launch in each year, along with the accumulated number of projects



Source: own figure, based on Portuguese Ministry of Finance data

Figure 2 – PPP public payments

This figure shows the public payments due by the state to the 35 PPPs, by year, in millions of € (left scale) and % of GDP that this amount represents (right scale)



Source: own figure, based on Portuguese Ministry of Finance data

Table 1- PPP financial data

This table presents financial data for the 35 PPPs in Portugal. Na signifies “not available”.
“Capex” represents the total amount of investment in the project (at current prices). “Total debt” represents the amount of capex finance trough debt. “Debt EIB” represents the amount of debt finance by EIB. All this values are in millions of Euros.
Values for “project IRR” are the ones preview in each PPP case base at the moment of the contract

PPP	Year	Capex	Total Debt	Debt %	Debt EIB	EIB debt as % of total Debt	EIB interest rates	EIB debt maturity	Debt commercial banks	Debt spreads	Debt maturity	DSCR	Project IRR
Lusoponte	1995	897	448	50	150	33	11.60	5	298	7.55 (a)	21	1.40	11.20
Norte	1999	1.570	947	60	450	48	6.10	25	497	1.20	28	1.43	8.81
Oeste	1999	415	289	70	80	28	4.90	21	209	0.50	15	1.25	10.6
Brisa	2000	4.096	2,395	58	698	29	Eur + 1.50	20	1.697	n.a	n.a	n.a	n.a
Litoral Centro	2004	587	526	90	263	50	5.10	24	263	1.20	24	1.59	n.a
Scut da Beira Interior	1999	774	747	97	359	48	6.40	25	388	1.00	20	1.30	7.35
Scut da Costa de Prata	2000	492	400	81	190	48	6.50	25	210	1.20	25	1.42	8.43
Scut do Algarve	2000	295	232	79	130	56	6.75	25	102	1.30	23	1.70	9.08
Scut Interior Norte	2000	726	649	89	324	50	Eur+0.15	30	325	1.30	30	1.39	9.59
Scut das Beiras Litoral-Alta	2001	1.020	920	90	470	51	6.19	26	450	1.25	24	1.39	10.45
Scut Norte Litoral	2001	317	156	49	---	0	-----	----	156	1.35	25	2.10	8.78
Scut Grande Porto	2002	763	580	76	300	52	5.80	27	280	1.20	27	1.37	9.33
Grande Lisboa	2007	256	172	67	105	61	Eur + 2.0	25	67	1.00	27	1.52	6.39
Douro Litoral	2007	1.200	1,090	91	350	32	Eur + 2.0	24	740	1.10	24	1.23	5.92
AE Transmontana	2008	784	575	73	289	50	Eur + 0.4	27	286	1.60	27	1.28	6.71
Douro Interior	2008	800	753	94	---	0	-----	----	753	1.50	27	1.20	7.59
Tunel do Marão	2008	940	288	69	52	18	Eur + 0.4	27	68	1.00	27	1.37	6.69
Baixo Alentejo	2009	561	390	70	200	51	Eur + 0.9	27	190	2.00	27	1.45	7.23
Baixo Tejo	2009	437	339	78	---	0	-----	----	339	1.90	28	1.20	15.9
Litoral Oeste	2009	529	500	95	---	0	-----	----	500	2.50	28	1.23	7.23
Algarve Litoral	2009	622	167	27	---	0	-----	----	167	1.60	21	1.46	8.01
Pinhal interior	2010	1.244	1,135	91	300	26	Eur + 1.1	17	835	2.75	17	1.21	9.81
Total road sector	**----**	**18,801**	**13,698**	**73**	**4.710**	**34**	**-----**	**----**	**8,988**	**-----**	**-----**	**----**	**----**

PPP	Year	Capex	Total Debt	Debt %	Debt EIB	EIB debt as % of total Debt	EIB interest rates	EIB debt maturity	Debt commercial banks	Debt spreads	Debt maturity	DSCR	Project IRR
Fertagus	1999	114	104	91	---	0	-----	----	104	0.90	20	1.20	7.80
MST	2002	388	53	14	---	0	-----	----	53	1.38	20	1.05	7.66
Total railway sector	**----**	**502**	**157**	**31**	**0**	0	**----**	**----**	**157**	**-----**	**-----**	**----**	**----**
Hospital de Cascais EGEST	2008	23	18	78	---	0	-----	----	18	0.75	8	1.30	7.91
Hospital de Cascais EGED	2008	74	57	77	---	0	-----	----	57	1.25	26	1.21	5.74
Hospital Braga EGEST	2009	59	10	17	---	0	-----	----	10	1.50	4	1.10	7.91
Hospital Braga EGED	2009	156	105	67	---	0	-----	----	105	1.75	11	1.21	n.a
Hospital Loures EGEST	2009	46	32	70	---	0	-----	----	32	2.75	10	1.10	8.53
Hospital Loures EGED	2009	125	79	63	---	0	-----	----	79	3.00	27	1.20	10.11
Hospital VF Xira EGEST	2010	30	5	17	---	0	-----	----	5	3.50	5	1.05	14.44
Hospital VF Xira EGED	2010	103	73	56	---	0	-----	----	73	4.25	14	1.17	10.69
CA SNS	2006	4	3	75	---	0	-----	----	3.5	1.25	3.5	1.15	13.66
CMFRS	2006	3	2	66	---	0	-----	----	2.5	1.50	4	1.10	11.27
Total health sector	**-------**	**623**	**383**	**59**	**0**	0	**-----**	**----**	**385**	**-----**	**-----**	**----**	**-----**
SIRESP	2006	126	90	71	---	0	-----	----	90	1.50	13	1.10	9.69
TOTAL PPP	**-----**	**20,079**	**14,330**	**71**	**4.710**	**33**	**-----**	**-----**	**7.792**	**-----**	**-----**	**----**	**----**

Source: own table, based on Portuguese Ministry of Finance data

Table 2 – Portuguese PPP data

This table presents the main data for the 35 PPPs in Portugal, regarding the PPP characteristics (year, nº years of concession, km – in roads and railways, nº of beds – in hospitals and the type of payment – tolls, availability or service). It also presents the NPV of public payments (in € millions) based on the PPP contract year and using the 6% legal discount rate. Regarding the PPP shareholders, presented are the nº shareholders, the percentage of capital owned by foreign shareholders, and the percentage of capital owned by construction groups, banks or other type of shareholders.

PPP	Year begin	Nº years	Km	Type of Payment	NPV public payments	Type of Payment	Nº shareholders	% capital owned by foreign shareholders	% capital owned by			Nº renegotiations
									Construction groups	Banks	Other shareholders	
Lusoponte	1995	30	17	Tolls	0	Tolls	9	57	53	0	47	32
Norte	1999	36	175	Tolls	0	Tolls	14	0	80	20	0	12
Oeste	1999	30	85	Tolls	0	Tolls	11	10	80	10	10	11
Brisa	2000	35	1.099	Tolls	0	Tolls	n.a	n.a	n.a	n.a	n.a	7
Litoral Centro	2004	30	92	Tolls	0	Tolls	4	0	0	10	90	18
Scut da Beira Interior	1999	30	174	Availability	946	Availability	6	20	100	0	0	10
Scut da Costa de Prata	2000	30	110	Availability	549	Availability	13	0	82.5	17.5	0	12
Scut do Algarve	2000	30	127	Availability	390	Availability	9	82	100	0	0	11
Scut Interior Norte	2000	30	155	Availability	800	Availability	5	70	100	0	0	5
Scut das Beiras Litoral-Alta	2001	30	173	Availability	1.143	Availability	13	0	82.5	17.5	0	7
Scut Norte Litoral	2001	30	120	Availability	478	Availability	9	79	100	0	0	19
Scut Grande Porto	2002	30	56	Availability	791	Availability	12	0	82.5	17.5	0	7
Grande Lisboa	2007	30	23	Availability	0	Availability	9	0	82.5	17.5	0	10
Douro Litoral	2007	27	129	Availability	0	Availability	5	0	45	0	55	7
AE Transmontana	2008	30	29	Availability	820	Availability	7	47	100	0	0	5
Douro Interior	2008	30	186	Availability	851	Availability	9	0	85	15	0	5
Tunel do Marão	2008	30	242	Availability	432	Availability	5	0	100	0	0	4
Baixo Alentejo	2009	30	345	Availability	645	Availability	8	50	100	0	0	30
Baixo Tejo	2009	30	70	Availability	935	Availability	7	15	25	0	75	6
Litoral Oeste	2009	30	273	Availability	1.144	Availability	4	20	0	0	100	4
Algarve Litoral	2009	30	109	Availability	539	Availability	9	45	100	0	0	2
Pinhal interior	2010	30	520	Availability	1.665	Availability	9	0	80	20	0	9
Total road sector	----	----	**4.310**	----	**12.128**	----	----	----	----	----	----	**233**
Fertagus	1999	11+9	54	Tolls	0	Tolls	5	0	0	0	100	1
MST	2002	30	14	Tolls	53	Tolls	4	21	45	0	55	16
Total railway sector	----	----	**68**	----	**53**	----	----	----	----	----	----	**17**

PPP	Year begin	Nº years	Nº beds	Payment	NPV public payments	Payment	Nº shareholders	% capital owned by foreign shareholders	% capital owned by			Nº renegotiations
									Construction groups	Banks	Other shareholders	
Hospital de Cascais EGEST	2008	10	277	Service	285	Service	1	0	0	100	0	0
Hospital de Cascais EGED	2008	30		Availability	99	Availability	1	0	100	0	0	0
Hospital Braga EGEST	2009	10	705	Service	693	Service	5	0	10	0	90	0
Hospital Braga EGED	2009	30		Availability	137	Availability	7	0	49	0	51	0
Hospital Loures EGEST	2009	10	424	Service	478	Service	3	25	0	0	100	0
Hospital Loures EGED	2009	30		Availability	155	Availability	6	9	66	15	19	0
Hospital VF Xira EGEST	2010	10	280	Service	372	Service	5	0	10	0	90	0
Hospital VF Xira EGED	2010	30		Availability	134	Availability	5	0	34	0	66	0
CA SNS	2006	4+3	n.a	Service	39	Service	1	0	0	100	0	1
CMFRS	2006	7	n.a	Service	33	Service	1	0	0	100	0	0
Total health sector	-------	------	**1.686**	----	**2.425**	----	----	----	----	----	----	**1**
SIRESP	2006	15	-----	Service	307	Service	5	15	0	0	100	3
TOTAL PPP	-----	-----	-----	----	**14.913**	----	----	----	----	----	----	**254**

Source: own table, based on Portuguese Ministry of Finance data

References:

Basílio, M. D. S. B. 2011. *Infrastructure Public-Private Partnerships: Risk factors and agents' participation*. UTL.

Cruz, C., & Marques, R. 2011. *O Estado e as Parcerias Público Privadas*: Edições Silabo.

Cruz, C. O., & Marques, R. C 2013a. Exogenous determinants for renegotiation of public infrastructure concessions. *J Constr Eng Manag, Submitted*.

Cruz, C. O., & Marques, R. C. 2013b. Endogenous determinants for renegotiating concessions: evidence from local infrastructure. *Local Government Studies*, 39(3): 352-374.

Curristine, T., Park, C.-K., & Emery, R. 2008. Budgeting in Portugal. *OECD Journal on Budgeting*, 2008: 3.

EPEC. 2009. European PPP report 2009. In E. P. E. Center (Ed.).

Eurorepan Commission. 2004. Green Paper on public-private partnerships and Community law on public contracts and concessions

Grimsey, D. and M.K. Lewis (2005), “Are Public Private Partnerships Value for Money? Evaluating Alternative Approaches and Comparing Academic and Practitioner Views”, Accounting Forum 29, pp. 345-348.

IMF, R., C B. 2008. Avoiding the Portuguese Trap. In I. S. R. R. f. C. E. a. t. Baltics (Ed.): The Baltic Times.

Marques, R. C., & Berg, S. 2010. *Revisiting the Strengths and Limitations of Regulatory Contracts in Infrastructure Industries*: ASCE.

Monteiro, R. S. 2005. Public-private partnerships: Some lessons from Portugal. *The European Investment Bank Papers*, 10(2): 72-81.

OECD. 2010. Dedicated Public-Private Partnership Units: A Survey of Institutional and Governance Structures: OECD.

Reis, R. F. a. S., Joaquim Miranda 2013. A ascenção e queda das PPP em Portugal, *Parcerias Público Privadas: Experiências, desafios e propostas*: 145-157. Rio de Janeiro: LTC.

Sarmento, J. M. 2010. Do Public-Private Partnerships Create Value for Money for the Public Sector? The Portuguese Experience. *OECD Journal on Budgeting*, 2010(1): 93-119.

Sarmento, J. M., & Reis, R. F. 2012. Buy back PPPs: An arbitrage opportunity. *OECD Journal on Budgeting*, 12(3): 1-14.

Verhoest, K., Carbonara, N., Lember, V., Petersen, O. H., Scherrer, W., & Hurk, V. d. 2013. Public private partnerships in transport: trends & theory, P3T3.