



Public-private Partnerships: A Solution for Infrastructure Development in the UK? Case Study of the London Underground Public-private Partnership Project

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ABSTRACT

The article examines the role of public-private partnerships (PPPs) in infrastructure development in the UK through the analysis of the London Underground PPP project implemented in 1997-2008. The study is based on the theory analysis of the development of the concept of PPPs in the UK in the recent decades and the factual and statistical information regarding the events that led to the failure of the London Underground PPP project. The study is motivated by the question why the London Underground PPP project resulted as unsuccessful and if the reasons of failure can be attributed to other PPP infrastructure projects. The findings of the study illustrate the reasons for the failure of the London Underground PPP project and the lessons learned from it. The failure of the PPP project came from the combination of factors, such as poor conditions of infrastructure, lack of financial and risk management systems, poor corporate governance of the private sector company, public sector's inability to manage the contract, and a tied supply chain. The findings have shown that the question of whether such failure can occur in other infrastructure development PPP project still remains open and needs to be closely assessed in each case.

Keywords: Public-private Partnerships, Infrastructure, Transport

JEL Classifications: R4, H7, H1

1. INTRODUCTION

Traditionally, the public sector implements public projects committing taxpayers' money to finance their development. For the past three decades, the demand for infrastructure has steadily been growing, but public funds for current and future needs are limited. This situation led to the acceptance by the government of a growing importance of the private sector in the development of infrastructure projects, and so the public sector began to seek alternative financing methods. One such method is through the use of public-private partnerships (PPPs) mechanism to finance infrastructure projects (Li et al. 2001).

The United Kingdom has been widely recognized as the pioneer and leading nation in delivering transport infrastructure through PPPs, commonly known as PPPs (Siemiatycki, 2011). The UK Government believes that a functioning structure for delivery of high quality sustainable public services can be created by bringing

together the best of the public and private sectors in a partnership (Ghobadian et al., 2004). Since the 1980's, the UK Government remains committed to PPPs as a way of delivering investment into infrastructure projects (Altra Capital, 2012).

However, opinion about the usefulness of PPPs is divided (Ghobadian et al., 2004). It is argued, on the one hand, that PPPs offer an effective alternative to the wholesale privatization of the public services and the public money monopoly. On the other hand, PPP is seen as privatization process that has the power to undermine the idea of public service and the principle of social equity. The public, however, is placing greater demands on the quality of public infrastructure, which requires the government to find new ways of infrastructure delivery.

Latest UK statistics show the importance of PPP mechanisms for infrastructure projects. According to The CityUK report (2014), a total of 725 PPP projects in the UK had reached financial

agreement up to the end of March 2013, with aggregate capital value of £54.2 bn; 22 projects with capital value of £3.5 bn were in the process of being procured. The value of PPP projects reaching financial agreement has been declining in recent years from a peak of £8bn in 2007/8 to £1.8 bn in 2012.

While the UK government is committed to the involvement of the private sector in delivering infrastructure, there are concerns about the design of the PPP model. Reviews of some completed PPP schemes in the UK indicate that not all PPP projects can claim to be successful due to some uncertainties in the PPP implementation process.

This article presents the reader with the overview of the theory of PPP development in the UK and will analyse the PPP project undertaken by the London Underground in the years 1997-2008. This project, even though it was unsuccessful, is important for analysts, as there are as many valuable lessons that can be learned from the failure of a project as from the success of one. The analysis of the lessons learned will be presented in the methodology section.

This work is an introduction into the world of PPP projects, and serves the purpose of encouraging further academic and professional study.

2. CURRENT PPP STUDIES

With the growth of the world's population, the need for public services grows. Communities and cities around the world require more developed, modern, and convenient infrastructure, such as roads and transport networks, schools and hospitals, social housing, and government buildings. In this sense, the UK is not an exception. There is a need for effective and efficient ways to create public infrastructure. However, infrastructure development, especially transport infrastructure, is associated with market imperfections, such as the naturally monopolistic nature of the market and the positive and negative externalities that arise from being part of a network. Government intervention in infrastructure development is essential for the safety and standardization of the industry. Without it, under-provision and over-charging would be likely to occur (Perkins, 2013). In the existing market economies, it has become an economically and politically accepted standard to combine public and private infrastructure provision. At the same time, where private investment is subject to government intervention, there is always a likelihood of governments extracting economic rents from the use of private assets by, for example, collecting fees from the privately created infrastructure. However, PPP contracts provide a legally enforceable framework that can solve this problem with the remuneration of private investment regulated by the contract terms (Perkins, 2013).

As PPPs have become an important tool to deliver infrastructure, they have been the focus of intense interest across a wide range of academic disciplines, such as public administration, project management, law, finance, accounting, and political economy (Siemiatycki, 2011).

Various articles and books have categorized different types of partnership arrangements and financing approaches. These works identify the respective roles and allocations of risks between the public and private sector partners; measuring whether PPPs are cost-effective and deliver value for taxpayers' money; and examining the diverse economic, social, environmental, and political implications of delivering infrastructure through PPPs (Wall and Connolly, 2009).

The literature covers debates on the definition of a PPP (Ball, 2011). Whereas academic literature provides a broader, scholarly definition of PPPs (Savas, 2000), in the UK Her Majesty's Treasury defines a PPP as "an arrangement typified by joint working between the public and private sectors" (Connolly and Wall, 2011). The successful operation of this arrangement requires a genuine partnership with the private sector (Ghobadian et al., 2004). The common idea of these definitions is that the term "PPP" incorporates long-term projects between the public and private sectors. Savas (2000) argues that this collaboration exists on different levels: Country and local levels. As it will be argued further in the dissertation, the successful operation of this commitment requires a genuine partnership with the private sector (Ghobadian et al., 2004).

2.1. PPPs: Essential Features

PPPs involve temporary private ownership of public assets. The process is delivered through concessions that in general have the objective to build, operate and then eventually transfer infrastructure to the government (Perkins, 2013). The structure of PPPs varies from contract to contract; however, according to the work of Perkins (2013), there are two main features that distinguish PPPs from the conventional procurement mechanism.

First, PPPs create different cash flows to effect public procurement. They do not require any public expenditure at the beginning stage of the construction. The compensation to the private partner is paid later through direct tolls on users of the infrastructure or payments from the budget in periodic instalments (annuities or availability payments), or a combination of both over the lifetime of the concession. Therefore, the benefit for the government lies in both the alternative supply of initial capital, and the delayed repayment of costs.

Second, in the PPP model, a single PPP contract with the private partner replaces a multitude of direct contracts between the government agencies responsible for the development of infrastructure with various suppliers and constructors involved in a traditional public procurement scheme.

In terms of large infrastructure projects, a complex infrastructure PPP is defined as "a long-term contract between the public and private sectors where mutual benefits are sought and where ultimately the private sector provides operating services or puts private finance at risk" (Williams, 2010).

In order to understand the different forms of PPPs and to understand the specificities of the PPP scheme, it is necessary to analyse the general existing PPP schemes (Table 1).

Table 1: Specificities of the PPP schemes

Types of PPP schemes	Scheme meaning
BOO	The private sector designs, builds, owns, develops, operates and manages an asset with no obligation to transfer ownership to the government
BDO	
DCMF	
BBO	The private sector buys or leases an existing asset from the government, renovates, modernises, and/or expands it, and then operates the asset, again with no obligation to transfer ownership back to the government
LDO	
Wrap-around addition	
BOT	
BOOT	The private sector designs and builds an asset, operates it, and then transfers it to the government when the operating contract ends, or at some other pre-specified time. The private partner may subsequently rent or lease the asset from the government
BROT	
BLOT	
BTO	

Source: Ter-Minassian, 2004. PPP: Public-private partnership, BOO: Build-own-operate, BDO: Build-develop-operate, DCMF: Design-construct-manage-finance, BBO: Buy-build-operate, LDO: Lease-develop-operate, BOT: Build-operate-transfer, BOOT: Build-own-operate-transfer, BROT: Build-rent-own-transfer, BLOT: Build-lease-operate-transfer, BTO: Build-transfer-operate

There are advantages of PPPs as opposed to other forms of infrastructure development. PPPs allow the government to be actively engaged in developing policy initiatives that are addressed by the partnership (Faulkner: Ghobadian et al., 2004. p. 66). PPPs provide ways in which the private sector can complement the government work and resources with the PPP responding to the changing demands by drawing on either sector as appropriate. They also encourage a valuable transfer of skills and experience between the two sectors.

The UK government justifies its PPP policy in two-ways (Shaoul, 2002):

- Partnerships provide the mechanism for delivering the funding that the public budget could not afford (given EU rules), and as such they are the only way of improving public services;
- Partnerships deliver greater value for money over the life of the projects because the private sector assumes some of the financial risks and costs that the public sector would otherwise carry, unless the private company fails in the process.

There are, however, critical issues with the PPP projects. There is tension between promoting the use of such partnerships and guaranteeing that the mechanism is only used in ways that meet the objectives of greater efficiency and value for money. The government needs to take into account the ever-existing incentives of the private sector to make profit as well as delivering a public good, as provided by any PPP contract.

2.2. The Development and the Current State of PPPs in the UK

The PPP concept evolved in the UK gradually due to the previous government initiatives. The experts in the field of PPP (IFSL, 2003) divide the process of the evolution of the PPP into three most significant stages.

The first stage is privatisation, which involves initiating or placing the ownership and operation of the whole business in the private sector. The privatisation process was launched in the early 1980, and it first appeared in the telecommunications sector.

Privatisation was followed by competitive tendering, the second stage, which appeared in the mid-1980s as a way of

reducing costs of providing ancillary services that support “core” public service delivery. It also created a mixed economy of suppliers to the public sector. Private sector operators, that were awarded contracts, were chosen among the ones that were better able to provide the required service more efficiently. Because of this, the private sector became heavily involved in the provision of such services as refuse collection, cleaning and catering.

The emergence of PFI was the third stage in this process. Private finance initiative (PFI), incorporated within the PPP, provided that the contracts were awarded to private sector suppliers for a long service contract that involves the provision of assets and therefore a commitment of capital. Thus, the development of PPP means that in practice there are a number of procurement options ranging from conventional procurement through to a full privatisation.

The transformation of state-owned enterprises through corporatisation and privatisation allowed the private sector service providers to become important partners in the public service delivery system. As Hughes (1994) notes, since the 1980’s, the reform movement in public management has become a global phenomenon.

In the UK, the use of private capital to finance public sector projects in general was not common prior to 1989, as the UK Government did not feel secure pursuing such initiatives (Ghobadian et al., 2004). The position of the UK government was determined by the Ryrie rules, written in 1982 that established the criteria under which private finance could be introduced into nationalised industries (Ghobadian et al., 2004). According to the Ryrie rules, private finance could only be used if: (1) There were no favourable risk terms, such as government guarantee; (2) projects yielded benefits in terms of improved efficiency and profit commensurate with the cost of raising risk capital; (3) that the use of private finance could not be additional to public finance.

The PPPs in the UK in the form as it exists today started in 1992 with PFI (Altra Capital, 2012), following the abolition in 1989 of the rules that had previously severely restricted the use

of private capital for the funding of public assets (IFSL, 2003). The PFI, implemented for the first time in the UK in 1992 by the conservative government of John Major, represented a departure from the Ryrie rules as it allowed private finance, which would be additional to public finance (House of Commons, 2011).

In the existing literature, there is an ongoing debate as to whether PPP and PFI are substitutable concepts. Some authors argue that in the UK, PFI is used interchangeably with PPP (Perkins, 2013). According to Perkins (2013), PFI initially referred to a policy to increase the scope for private financing of capital projects. However, what distinguishes PFI projects from other forms of private financing schemes, such as the PPP, is that the private sector contractor arranges finance for the project as well as construction and operation.

Yescombe (2007) also puts PFI and PPP in the same category. In his work he writes that “finance for public infrastructure was especially developed through the UK’s PFI from the early 1990s; such projects are now usually known as PPP.” Thus, in this author’s view the two concepts have the same meaning.

A different view of the PPP-PFI relationship can be inferred from the work of Ghobadian et al. (2004). In his chapter, Faulkner (Ghobadian et al., 2004, p. 65) argues that there is a significant distinction between PPPs and PFI, even though often in articles and conferences they are presented as interchangeable. Faulkner says that a true PPP is not a variant form of contracting out, when PFI often is. PPP’s are particularly effective in areas of strategic significance, because of the flexibility, sustainability and information sharing inherent in their operation.

PPP’s represent a broader form of contractual arrangements between the financial organization and organizations responsible for the construction and for the operation of infrastructure. PPP contracts provide a regulatory mechanism for the whole PPP project, starting with the formation of the SPV company and finishing with the full operation of infrastructure for the period of years specified in the contract, which is usually between 20 and 30 years. PFI is a different mechanism. PFI schemes are used for delivering public services through the use of private entities, whereas PFI’s represent an outsourcing mechanism, PPP’s provide a contractual basis for the development of infrastructure without the risk of privatization as the ownership rights for the created infrastructure are retained by the public sector.

It is necessary to note that the idea for cooperation between the government and private sector for public infrastructure projects is not a new concept. For example, the English road system was renewed in the 18th and early 19th centuries using private sector funding based on toll revenues; the railway, water, sewage, gas, electricity and telephone industries were developed in the 19th and early 20th centuries with private-sector investment debt raised through bond issues (Yescombe, 2013). One might say that in the earlier years such private building of infrastructure was not initiated or contracted by the government, nor was it owned or leased by it thus we cannot speak about the evolution of PPPs since the 18th-19th century. As such, this type

of private investment was not what we now know as the PPP, but nonetheless private financing of the infrastructure necessary for social needs shows the beginning of the idea of cooperation between the government and the private sector to build new infrastructure. Thus, the development of PPPs, or rather the idea of PPPs, in Britain was not an overnight process, as it is the case in most emerging market countries, but an evolutionary way (Altra Capital, 2012).

PPP in infrastructure development involves financing, construction and servicing of various infrastructure projects, including new schools, hospitals, prisons, roads and railways (McKenzie, 2012). The HM Treasury closely monitors the current financial situation in the PPP schemes. Every year the government publishes a report with statistical data regarding the PPP projects being implemented. According to the HM Treasury report (2013), the data shows that there were 725 projects registered of which 665 projects were operational. In 2012, the number of projects amounted to 717, with 648 being operational; in 2011, the numbers were 698 and 632 correspondingly. Judging from these statistics, the number of projects, both current and operational, is steadily growing, and showing that the importance of PPP projects for the government is continuously rising. In 2012 the UK government launched a new model, called PF2, through the issue of a new policy document “A new approach to PPPs” (Buisson, 2013). The obligations of the private sector under this revised model are seen as the following:

- Integrate design, build and maintenance to achieve a whole-life solution;
- Establish the best solution to meet output-based requirements by the public sector client and deliver services on a no-service, no-fee basis, based on detailed payment mechanism;
- Obtain the majority of finance from the private sector and perform rigorous due-diligence to mitigate the risk of project default, where the compensation risk profile remains unaltered.

In the early 1990s there were implemented just a few significant PPP projects, including a large contract of £4 billion for the Channel Tunnel Rail Link (CTRL) in 1996 of which the government has now sold off its shares, so that it is fully private. Most projects have been signed since 1997, typically at least 70 each year with the total value of deals, excluding the Channel Tunnel and London Underground, in the range of £2.5 billion to £5 billion each year. Overall, PPP/PFI activity has accounted for about 15% of public sector capital investment from 1996 to 2003, with the remainder carried out through conventional forms of procurement (IFSL, 2003). It was mentioned above that the CTRL project was not included in the total number of funds spent on infrastructure projects each year. This is due to the fact that the CTRL project alone accumulated grants totalling £1.7 billion for the construction of the link and its use by the domestic train services (Butcher, 2011). The CTRL project that at first started as a PFI agreement in 1996 later announced that it had failed to find the necessary money for the project and in 1998 the government announced a rescue for the project via PPP (Butcher, 2011). Even though the PPP scheme did not involve a material increase in the direct grants to be paid to London

and Continental Railways (or LCR) in participation with the consortium, but it did involve a radical restructuring of the project and the role of the LCR. The proposed PPP model was thought to be beneficial because “the government believed that, in a real PPP, not only costs, but benefits are shared. The government are sharing the risk, so it is only right that the taxpayer should share the benefits” (Butcher, 2011. p. 5).

3. PPP APPROACH METHODOLOGY

Working out the right investigative methodology for the study of a PPP project, especially as complex as the London Underground PPP project, is one of the most important aspects of this paper as it has a direct effect on the research results and conclusions. It is essential to note that the paper studies a social science question, which requires the use of a combination of different qualitative research methods.

The research method to be used for the analysis of the London Underground PPP project is the inductive method, which represents the accumulation of pre-prepared secondary information on a topic and its gradual analysis in order to arrive at conclusions. According to this empirical method of study, the researcher analyses the data from a variety of gathered material. The well-known early English philosopher Francis Bacon (1561-1626) contributed greatly to the development of this method. He compared an empirical researcher with a bee that first collects the necessary material from the flowers and later makes honey from it. In the study of PPP projects, it is necessary to find facts in the secondary sources and then to analyse and combine them, like the Bacon’s bee, to make a conclusion about what place the PPP mechanism occupies in the present economic and political situation in the UK as a way of funding infrastructure development projects. Thus, this method represents a transition from particular facts to more abstract facts, and so from simple facts to the general conclusions.

In order to analyse the acquired facts and reach conclusions, the method of critical analysis can also be used. This method is referred to in the work of Carey (2013), and it is an important tool through which the study can reach the necessary conclusions. The use of this method was essential to make conclusions about the reasons for the collapse of the London Underground PPP project and the lessons learned from it.

3.1. London Underground PPP: Structure and Financial Context

The history of the London Underground shows that the Underground system has experienced serious problems with management and funding throughout its development and that is one of the reasons why in the end of the 90’s the government started looking for ways to organize the system in a better way.

The main reason that the British government presented for the implementation of the PPP scheme was the inability of the London Underground, as a public agency, to deliver long-term infrastructure improvements (Williams, 2010). In the time before the PPP was implemented, the government evaluated the budget

for infrastructure projects every year, making often damaging cuts for infrastructure renewal projects. These budget cuts did not allow the London Underground to develop major long-term renewal, rehabilitation efforts. As a result, this caused the Underground infrastructure to deteriorate.

In his analysis, Williams (2010) proposes reasons why the government decided to implement the PPP scheme in the London Underground, which are justified and sufficient in terms of this work. Thus such reasons are:

- To provide a stable funding environment where the private sector obtains long-term funding;
- To give the private sector project management an interest in the projects for the long period of 30 years;
- To allow the London Underground to control only the operation of the trains and not the maintenance of the underground infrastructure;
- To deliver projects in a more efficient manner than past methods of project delivery used by the London Underground.

Under the government’s model of the London Underground PPP, the three successful bidders were to receive annual payments from the taxpayer in order to promote, maintain and improve the tracks and signals in working order. A nationalized monopoly company continued to run the trains (Ghobadian et al., 2004). The main players involved in the Metronet contracts were the Department for Transport, Greater London Authority, TfL, London Underground, senior debt providers and the consortium behind Metronet - Bombardier, WS Atkins, EDF Energy, Thames Water, and Balfour Beatty (House of Commons, 2010).

In February of 2002, the Secretary of State for Transport announced approval of a decision by the board of London Regional Transport to enter into three PPPs for the London Underground infrastructure (National Audit Office [NAO] report, 2004). The operation of the trains was to remain a public sector responsibility together with the responsibility of managing the PPPs themselves. London Underground evaluated the net present value¹ of spending under the three PPPs over 30 years at £15,700 million (with a value of £9,700 million over the first 7.5 years) (NAO report, 2004). At the same time, the public sector was to make service charge payments to the private sector partners, tube lines and Metronet, delivering specified contract outputs.

The government has said that the PPP contracts will only go ahead if they can satisfy two criteria (Shaoul, 2002). The contracts must maintain or improve the current safety standards; and they must provide superior value for money when compared to an alternative, publicly funded infrastructure operation. This requires clear criteria on the government’s part.

What needs to be taken into consideration is that, according to Shaoul (2002), the London Underground is a state-owned enterprise with a very unusual financial regime. Unlike the former nationalized industries, it has no interest, dividend or

¹ The discount rate used by London Underground, in line with Treasury’s guidance, was 6%.

tax obligations and no statutory requirement to make a return on capital employed. Hence, it spends all of what remains of its income from fares and grants, after paying for purchases and labour, on capital maintenance. Prior to the introduction of the PPP as a new financial mechanism, the underground made a loss of £20 million, which resulted from the additional costs of restructuring to run as four separate divisions in readiness for the PPP (Shaoul, 2002).

The significance of this loss is that it showed that the new funding regime and the required reorganization proved to be more expensive than the existing regime. Therefore, without subsidies, grants, higher fares or increased labour productivity, London Underground would not be able to afford any extra charges to cover the cost of the PPP (Shaoul, 2002).

As the result of these discussions, London Underground entered into three separate PPP agreements between the years 2002 and 2003. There were the following agreements: (1) With underground lines for maintenance and renewal of the Jubilee, Piccadilly and Northern lines; (2) with Metronet Rail BCV for the maintenance and renewal of the Bakerloo, Central, Victoria and Waterloo and city lines; (3) with Metronet Rail sub-surface lines (SSL), which is responsible for the maintenance and renewal of the "SSL:" The Circle, District, Hammersmith and City, Metropolitan and East London lines (House of Commons, 2008). Thus, the PPP structure provided for the three contractors, collectively known as the Metronet, to perform maintenance work for the London Underground for the period of 30 years.

3.2. The Failure of the London Underground PPP Project

It is argued in the literature (Hallikeri, 2012; Williams, 2010) that the failure of the London Underground PPP project should have been anticipated. From the first stages of the project implementation, there were various uncertainties about it.

In 2002, the Commissioner of Transport for London, Bon Kiley (a former Director of the New York subway), said that the PPP contracts were "by far the most complex contractual arrangements ever attempted to be applied to an urban mass transport system" and that "they were difficult to decipher even for experienced transport lawyers and financial experts" (Butcher, 2012). In such circumstances, it is understandable that the PPP did not survive for a long time. The contracts were even submitted for judicial review on the government's proposed PPP because the procurement was unlawful as the contracts had not been properly procured, the best deal had not been obtained from the private sector and the contracts could not satisfy the government's own value for money test (Butcher, 2012). Later the application for judicial review by the Mayor and TfL had been withdrawn, as the parties had no standing to complain to the high court.

In 2007, two of the three contractors (Metronet BCV and Metronet SSL) went into administration when they could no longer meet their spending obligations (House of Commons, 2010). The total cost of the Metronet collapse to the taxpayer is estimated around £1.75 billion (House of Commons, 2010).

Metronet had overspent its budget for refurbishment and renovations and the creditors refused additional loans. The failure of the Metronet itself as the private sector company in the PPP agreement and thus of the PPP project can be 'blamed' on the following reasons (House of Commons, 2010):

- Metronet's poor corporate governance and leadership;
- Metronet's shareholders also acting as suppliers in a tied supply chain with management structures which gave power to the suppliers, rather than the management of the business;
- London Underground's limited ability to manage the contract in a way that prevented costs from escalating;
- The inability of the PPP arbiter to initiate an extraordinary review of the PPP agreement with Metronet when it was clear that the Infracore was experiencing difficulties, but before it entered into administration.

According to the TfL, PPP may be suitable in circumstances where "the public sector can define its long-term needs and wants a single integrator of the delivery of that service." The TfL also pointed out that projects that were the "least successful were all bespoke." The TfL suggest a reason for the project failure: "Looking at things like roads or new railways, where once you have designed where the transport scheme is going to go, you fundamentally are not going to change it." Those have been successful examples of PPPs. However, where things are closely involved with the operations of transport and are too closely intertwined with the day-to-day operations, for example, the London Underground PPP, it is much more difficult to predict how the project is going to develop in the long-term (House of Commons, 2010).

This shows that the reasons behind the failure varied from corporate governance problems that the company experienced, to legal and financial reasons that prevented Metronet from preparing a contract that would anticipate all the possible risks that could arise in the process of project implementation. In the report by the Comptroller and Auditor General (House of Commons, 2010) it is stated that "the company did not put in place the financial management systems, the risk management systems" that would enable the shareholders to make a big return on this deal. This also supports the above stated idea that one of the PPP project failure reasons is the poor governance of the Metronet.

As reported earlier, the total cost of the Metronet collapse was £1.75 billion. Of that figure, Metronet's parent companies - Atkins, Balfour Beatty, Bombardier, EDF energy, and Thames Water - were liable for only £70 million each. However, the taxpayer had to pay for 95% of Metronet's debt obligations, which is equivalent to £1.7 billion. The NAO concluded that realistically the direct loss to the taxpayer was in the range of £170-£410 million. The remaining loss was "an unanticipated upfront cost to the taxpayer and an equivalent to paying off the mortgage early" (House of Commons, 2010), i.e., the taxpayer had shouldered part of the risk contrary to the express intentions of the scheme.

Thus at the same time, the shareholders were able to reap the rewards of contracts while absorbing much of the risk in theory

only. In reality, responsibility for most of the cost over-run fell to the public sector. Metronet delivered only 40% of the station upgrades it was contracted to do in the first 3 years, while the cost of the work spiralled to 375% of the anticipated price.

Gerry Doherty, general secretary of the Transport Salaried Staffs Association said that “Metronet pulled off an astonishing two-card trick under this disastrous PPP deal. They picked up all the profit and left the travelling public with all the risks” (Professional Engineering, 2008).

3.3. Failure Analysis

The problem of this project failure is to understand why Metronet so drastically miscalculated the price of the station upgrade works, and why the company was allowed to undertake such an important PPP project it managed to turn into “disastrous PPP deal,” as mentioned above. The fact is that prior to 2007 Metronet began having difficulties in running the project. It was earlier identified that the company was having internal problems; however, the reason for the Metronet failure and later the PPP project failure is not solely due to the poor work of Metronet, but in the inexperience in dealing with such complexity in project and the contract itself.

This is what is argued in the academic literature (Williams, 2010). The agreement combined different stages of creation, development and maintenance of infrastructure, and a completely different stage of the provision of services. Each of these stages requires a different set of goals. Whereas the goals of a new construction project are well defined and can be controlled on all stages, the goals of a complex infrastructure maintenance and service provision contract are open-ended and there are various projects spread over 30-year period. Unlike many other PPP projects in infrastructure development, the London Underground PPP was not created for a single project with clearly defined objectives; rather it was created to conduct various activities with products spread over time and location, increasing the PPP complexity “The PPP contracts were novel and complex” (NAO report, 2009). The report by the Comptroller and Auditor General on the failure of Metronet provides a statement by Mr. Devereux, permanent secretary for the Department for Transport (House of Commons, 2010). In his witness statement, he says:

“We are talking about a particular complicated investment and upgrade programme in tunnels where there is a great deal of uncertainty as to what is in there. Previous attempts to do this have produced very, very substantial cost overruns. We have tried something different this time...”

Another problem noted by Williams (2010) is that even though the operation of the London Underground was based on “non-integrated” approach with separation of responsibilities for the operation and maintenance, there were disputes between the London Underground and the PPPs concerning line closures for access to tunnels and stations for construction work. The NAO report (2009) states that ambiguities in the contract made disagreements on scope inevitable. On the stations

programme there was no clear definition of what is understood as “modernization,” “refurbishment,” or “enhanced refurbishment.” Differences in interpretations led to a number of disputes between London Underground and Metronet.

The project has encountered the problem of contract incompleteness. The legal theory describes certain mechanisms that function when a contract is concluded in a situation of uncertainty. Williams (2010) shows the difference between economically efficient contracts and incomplete contracts. Contracts have ex-ante and ex-post efficiencies which are in tension when parties contract under uncertainties. An inefficient contract has ex-post inefficiencies because they oblige an exchange to happen regardless of the ultimate benefit that the parties will achieve. A solution to this problem of ex-ante and ex-post efficiency is setting up a complete contingent contract, which is able to specify obligations in each potentially possible state of the world and is enforceable according to its terms. In practice, however, many contracts are incomplete as there is not enough information or possibility to predict future events at the time of the signing. In the House of Commons report (2010), it is stated that the Department for Transport “considered the PPP contracts to be a particularly complicated investment and upgrade programme with a great deal of uncertainty as to the extent of the work that needed to be done.”

This situation of contract incompleteness occurred for the London Underground PPP. London Underground was aware that the condition of less accessible infrastructure and facilities could not be known fully before the signing of the contract. The NAO report (2004) states that the “uncertainty meant that bidders sought protection from the consequences of adverse conditions exceeding prudent levels of contingency.” In addition, the PPP contracts did not transfer sufficient risk to the private PPPs. Many aspects of the London Underground PPP contracts reduce the risks that the private consortiums bear. In a question addressed by Mr. Devereux (House of Commons, 2010), the problem of transferring insufficient risk is raised:

“We now bring in business and we are bringing in big companies which are supposed to take the risk and you rushed to take it from their shoulders.”

“Actually it was because a lot of greedy people wanted to make money out of being suppliers and do the contract in the first place”

The answers to these statements did not provide sufficient information as to why only a limited amount of risk was put on the private sector, and the taxpayers had to bear the most of it.

The failure of project contract analysis explains that there were certain problems at the initial stages of the implementation of the PPP contract that later led to the collapse of the project. The Comptroller and the Auditors found that the actions taken by the DfT were insufficient, that too much trust was put into the investor, which was liable for only £500 million in case of the contract failure (House of Commons, 2010). Thus, there were two fundamental reasons for Metronet collapse: (1) Tied supply chain arrangement that failed due to poor corporate governance

and subcontracting; (2) the high level of government guarantees of the private sector debt (Hallikeri, 2012). The Department for Transport failed to foresee the problems that would arise from concluding a highly complicated contract with a company that “was not run well” (House of Commons, 2010). It underestimated the interest of the shareholders in the company functioning above their own profits. From the mentioned report by the Comptroller and Auditor General, it is clear that the Department for Transport failed to see the questionable structure of Metronet that allowed the centre to have control over the individual companies that were contracted to the delivery of works and did not perform duly its supervisory role.

3.4. Lessons Learned

One of the most important questions to consider when analysing the development and the failure of a project, especially a project that had such a huge social impact as the London Underground PPP project, is that of the lessons learned as a result of the failure. In the case of the London Underground PPP, it is important to see what the government has learned as the taxpayers money was at stake, and how that knowledge can be used in the future to protect the taxpayer from such outcomes.

The lessons learned by the Department for Transport, as it is evident from the report by the Comptroller and Auditor General on the failure of Metronet (House of Commons, 2010) and the oral evidence taken before the committee of Public Accounts, were the following:

Firstly, the signed contract did not include provisions that allowed direct control over the taxpayer cash flow into the company. “The contract should have included provisions that had it been the case that when the Arbiter concluded something was amiss, something could have happened to the taxpayers’ cash flow into the company” (House of Commons, 2010).

Secondly, it is the overestimated reliance of the government on private sector money being at risk. In the case of the London Underground PPP, such trust in the private sector proved to be insufficient. The evidence shows that according to the contract, the private companies only had 5% of their money at risk or £190 million of the total contract value. It is argued in the report by the Comptroller and Auditor General, such risk proved too small for the private companies to take any serious action to prevent the bankruptcy and the failure to perform upon the responsibilities agreed to in the contract. In complex PPP contracts, it is necessary to spread the risk evenly between the parties, in this case the private company and the taxpayer. It does not seem effective to place 95% of the risk on the government with only the small portion of 5% on the private sector. That is not the idea of the PPP mechanism, which is aimed at protecting the taxpayer money by lifting the burden of financing the development of infrastructure from the government and at the same time providing guarantees to the private companies for a return on their investment.

The PPP contract needed to provide for a financial management system and risk management system to be put in place that would

ensure that the shareholders receive return on their investment. The management systems can provide more control over the spending of the money. Another form of control that should have been provided for in the contract concerns the Arbiter responsibilities. According to the report by the Comptroller and Auditor General (House of Commons, 2010), the London Underground PPP contract did not give the Arbiter the right to make observations about the performance of the parties in the contract and to inform the parties straight away.

Another lesson that was valuable to the government as well as the private sector, was that before the contract was signed a full evaluation of the conditions of the London Underground infrastructure should have been made. As stated in the report, “... it turned out to be more expensive to do some of this work than any party had imagined. It was in the nature of work in the Underground that it is an uncertain environment. When you take back 150-year-old tiles it is not immediately clear what is behind it” (House of Commons, 2010). It was essential for this project to specify in the contract the most accurate analysis of the infrastructure conditions. The uncertainty that was left in the contract resulted in huge overspending by Metronet and in the following bankruptcy of the company.

Mentioned above are only some of the lessons learned by the government from the implementation of the London Underground PPP contract. These lessons learned are valuable for the public sector as well as the private sector. As it was presented in the analysis, most of the problems that occurred due to the contract faults could have been foreseen if the necessary amount of care was taken when drafting the contract.

The question of whether this failure will occur with other PPP projects in infrastructure development remains open. There is always a need to analyse the whole variety of risks and factors prior to the implementation of the project. The London Underground project was more difficult in terms of predicting the infrastructure conditions and providing the adequate risk management system, however, such problems can be present in other projects as well. The lessons learned from the London Underground failure can help create a system of assessment of risks for other complicated and uncertain projects.

4. CONCLUSION

This paper gives an overview of the development of PPPs in the UK and a brief analysis of the London Underground PPP project. The aim of this work was to analyse the effectiveness of the PPP mechanism implementation in infrastructure development in the UK and to analyse the case of the London Underground PPP project, initiated by the Department for Transport and implemented in 1997-2008. Although the project resulted in a failure, it presented valuable information for the analysis of the development of the project at different stages, of the reasons of failure and the lessons learned from the failure. It proved to be a valuable case study, and the knowledge acquired from it can be used for further elaboration on the subject of PPP regulation and/or implementation or for professional development.

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