

Public-Private Partnerships: What Can The United States Learn From Europe?

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Project delivery in the construction industry has evolved greatly over the past 35 years, forcing construction firms to embrace new procurement methods as a means of obtaining more work. One of the latest alternative forms of construction procurement is public-private partnerships (PPP). Unlike traditional methods, PPPs have allowed contractors to control an asset's entire lifecycle; from finance to maintaining the asset post-construction. This paper aims to understand European construction firms' individual experiences involving PPPs, in order to ascertain the viability of PPP use in the United States. Interviews were conducted with a range of European construction professionals, using a *focused-interview* technique. The main PPP themes that triangulated from the interviewees were the: (1) use of private-sector capital and capabilities, (2) investment aspect of the projects, (3) expensive process, (4) risk transfer and assumption, and (5) importance of facilities management.

Key Words: Public-private partnership (PPP), Private Finance Initiative (PFI), project delivery, procurement, concession

Introduction

Between 1990 and 2009, more than 1,300 public-private partnership contracts were closed in the European Union, representing more than €250 billion in capital values alone, as demonstrated by Figure 1. While this alternative form of procurement is still in its infancy in relation to such traditional methods as design-bid-build, PPPs have seen their use expand in recent years.

While public-private partnerships can contain a multitude of services, The Green Paper on Public-Private Partnerships and Community Law on Public Contracts and Concessions (Commission, 2004) characterized PPPs as having the following four elements:

- Relatively long relationships, involving collaboration between the public and the private-sector on different aspects of a planned project.
- The funding of the projects is constructed by complex arrangements between the various private financiers.
- The economic operator, or private-sector, participates in all stages in the project, including, design, construction, implementation, and funding. The public-sector focuses on defining the objectives of the asset in regards to the public interest, quality of services provided and pricing policy, as well as monitoring for compliance of these objectives.
- The risks commonly accepted by the public-sector, in traditional procurement methods, are transferred to the private-sector. The exact distribution of risk is determined on a project by project basis according to the abilities of the public and private-sector to assess, control and cope with this risk.

From roads, to highways, to schools, governments have used this alternative project delivery method as a means of providing needed projects for the public-sector's use. However, departing from the normal procurement model, governments have relied on PPPs to avoid the capital outlays necessary in traditional procurement methods. In addition, governments have employed PPPs to allow the private sector to maintain these large public-sector investments for given periods of time. Europe has been at the forefront of this project delivery trend, providing a roadmap for other countries to follow on the road to efficient project delivery.

Table 1

European PPPs and Countries' Shares from 1990-2009 (Kappeler and Nemoz, 2010)

| European PPPs Per Year | | | Countries' Share of European PPPs, 1990-2009 | | |
|------------------------|--------------------|-----------------------------------|--|---------------|------------------------|
| Year | Number of Projects | Value of Projects (In € Millions) | Country | % of Projects | % of Value of Projects |
| 1990 | 2 | 1386.6 | Austria | 0.2 | 0.5 |
| 1991 | 1 | 73 | Belgium | 0.9 | 1.3 |
| 1992 | 3 | 610 | Bulgaria | 0.1 | 0.1 |
| 1993 | 1 | 454 | Cyprus | 0.2 | 0.3 |
| 1994 | 3 | 1148.4 | Czech Republic | 0.2 | 0.3 |
| 1995 | 12 | 3264.9 | Denmark | 0.1 | 0 |
| 1996 | 26 | 8488.2 | Germany | 4.9 | 4.1 |
| 1997 | 33 | 5278 | Greece | 1 | 5.5 |
| 1998 | 66 | 19972.4 | Finland | 0.1 | 0.3 |
| 1999 | 77 | 9602.6 | France | 5.4 | 5.3 |
| 2000 | 97 | 15018.5 | Hungary | 0.7 | 2.3 |
| 2001 | 79 | 13315.3 | Ireland | 1.3 | 1.6 |
| 2002 | 82 | 17436.2 | Italy | 2.4 | 3.3 |
| 2003 | 90 | 17357.1 | Latvia | 0.1 | 0 |
| 2004 | 125 | 16879.9 | Morocco | 0.1 | 0 |
| 2005 | 130 | 26794.3 | Netherlands | 1.2 | 1.8 |
| 2006 | 144 | 27129.2 | Poland | 0.4 | 1.7 |
| 2007 | 136 | 29597.9 | Portugal | 3.1 | 7 |
| 2008 | 115 | 24198 | Romania | 0.1 | 0 |
| 2009 | 118 | 15740.4 | Spain | 10.1 | 11.4 |
| Total | 1340 | 253744.9 | Sweden | 0.1 | 0.2 |
| | | | Slovakia | 0.1 | 0.5 |
| | | | Slovenia | 0.1 | 0 |
| | | | United Kingdom | 67.1 | 52.5 |
| | | | Total | 100 | 100 |

While PPPs have been used prior, 1992 brought the first government regulations to PPPs in Europe. The United Kingdom introduced the Private Finance Initiative in 1992 in order to provide a regulatory framework to PPPs. The Private Finance Initiative “entailed transferring the risks associated with public service projects to the private sector in part or in full. Where a private sector contractor is judged best able to deal with risk, such as construction risk, then these responsibilities should be transferred to the private sector contractor” (Allen, 2001, p. 3). The Private Finance Initiative was enacted to reduce liability on the government’s behalf, effectively allowing the government to act as a tenant in the private sector’s development if, and only if, the government decided ceding control to the private sector was in their best interest. Since the enactment of the Private Finance Initiative in 1992, the United Kingdom has led Europe’s push for PPPs, comprising 67.1 percent of all European PPPs since 1990 as seen in Figure 1. Because of this expansive portfolio of PPPs, the United Kingdom is still today seen as the world’s foremost authority on PPPs. Many different European countries today have followed in the United Kingdom’s footsteps in instituting PPP legislation to facilitate the private-sector’s involvement in public assets. From Italy to Germany, governments are aiming to maximize the value of public-sector funding and private-sector skills with public-private partnerships.

Rationale for the Study

As was noted previously, public-private partnerships have been utilized by public-sectors all over the world as an alternative project delivery method. However, the United States government has found itself lagging behind its counterparts in other parts of the world in regards to PPPs. Even as construction and delivery methods have evolved, the United States has been apprehensive to introduce PPPs on a wide scale. While PPPs have yet to be both fully understood and applied by the United States, current factors show the need for a new means of delivery for government-funded projects. With the advent of the global financial crisis in 2007, the United States has seen its tax-bases shrink in comparison to years’ prior. With this loss of taxpayer revenue, the United States government is actively looking for alternative means of delivering public projects without the large capital expenditures associated

with government-financed projects (Bradford, 2010). This newfound penchant for thriftiness by the United States government provides a niche for new self-financing capable project delivery methods.

To further compound the United States government's reluctance to divert large amounts of capital to construction projects, the crumbling nature of the country's infrastructure has created an exceedingly large demand for new roads and bridges. For example, in New York, estimates show 5,521 of the state's 17,400 state and local highway bridges are currently deficient with that number anticipated to increase by 3,000 in the next 10 years (Reynolds, 2011). In addition, a study by the Maryland Blue Ribbon Commission on Transportation Funding found that the state needs an additional \$870 million annually to address current transportation funding needs (Maryland, 2012). While these figures only show two states' transportation funding and construction needs, they provide examples of where the infusion of private-sector funding could be used in lieu of traditional methods to upgrade the nation's infrastructure.

Background

Reasoning for PPP Utilization

Differing from traditional procurement methods, public-private partnerships are normally arranged so that investors and contractors fund, build, and maintain a project on behalf of a municipality (Bradford, 2010). The public-sector aims for three main goals in PPPs; "the mobilization of private sector funds, technologies, and managerial skills; the transfer to the private-sector risks that can be best managed by them, including design and construction risks, operating risks, revenue stream risks, and risks of technological obsolescence; better value for money such as enhanced services at lower costs than can be obtained by a traditional public procurement routes" (Zhang, 2006, p. 108). These assets are constructed and managed by the private-sector, then leased back to the procuring authorities. This *hands-off* approach of delivering projects by governments has come about from a variety of reasons.

Perhaps the most commonly-cited reasoning for the use of PPPs is the lack of the capital expenditures necessary to provide infrastructure. In many localities, governments have been disinclined to either assuming debt or raising taxes to provide the funding necessary for infrastructure improvements (Siemiatycki, 2010). This stance once meant that needed projects could not commence due to funding requirements. With the advent of PPPs and their private-sector financing, governments began to see the delivery method as a means of providing assets without having to amass large amounts of capital prior to construction of the projects (Commission, 2004). In addition, in the United Kingdom only 20 percent of the government's long-term PPP payment liabilities are required to be recorded as debt on the government's balance sheet (U.K. House of Commons, 2012). This again allows procuring authorities to circumvent the normal capital requirements to deliver public-sector assets.

Additional reasoning for the arrival of PPPs has been the public-sector's poor reputation for delivering projects efficiently. Many large European projects have experienced underestimated costs and construction times, leading to overly expensive assets being delivered much later than scheduled (Siemiatycki, 2010). In an effort to correct this trend, PPPs have been employed to allow the private-sector to control the entire project delivery timeline; from design, through construction, and into the maintenance stage of an asset's useable life. This has allowed governments to shift from the role of direct operator to organizer and controller (Commission, 2004). The common reasoning for the private-sector's continuous involvement, and public-sector's lack of persistent participation, is that projects will be better managed when the private-sector is liable for has substantial amounts of capital (Siemiatycki, 2010). Speaking to this point, a 2003 United Kingdom study found that in contrast to traditionally procured projects, PPP projects were delivered on-time in 76 percent of projects versus traditional methods' 30 percent. The same study also found that PPP projects were delivered on-budget in 78 percent of projects in comparison to the traditional delivery methods' 27 percent (Russell, Tawiah and De Zoysa, 2006).

PPP Concerns

Public-private partnerships have seen their fair share of criticism over the years. Previous studies by the United Kingdom's House of Commons have found that PPPs are commonly criticized for the value-for-money ideal, the inflexibility of the contracts, and the expensive procurement process (U.K. House of Commons, 2012). Because these issues tend to increase the overall costs of PPPs, governments are looking at the entire PPP process to ensure the greater costs are warranted.

One source of criticism in PPPs is the contractors selling of PPP assets post-construction and the returns gained from these transactions. These contractors shoulder the risk of a lengthy and expensive bid process, in addition to construction risks, and sell their shares in the special-purpose vehicle once the asset is delivered and deemed usable by the public-sector (U.K. House of Commons, 2012). However, many of these contractors are still retained to provide the facilities management as a new subcontractor of the SPV. While contractors can certainly lose money on these transactions, the assumption of risk generally provides ample returns on initial investments for construction contractors. United Kingdom-based Carillion testified that, while losing money on some PPPs, on average PPPs generate a return on investment greater than 15 percent for the construction contractor. One example of this return on investment was the Queen Alexandra Hospital, delivered under PPP procurement methods, where Carillion was able to sell their initial investment of £12 million for £31 million within a few years of completion of construction (U.K. House of Commons, 2012). Examples of returns on investment such as Carillion's have made many governments reconsider whether PPPs are the greatest use of public funds.

The structure and amount of the contractors vying for these projects has been another point of criticism in Europe. Again speaking to the complexity of these projects, only a small number of large contractors have the economies of scale and financial capabilities to deliver these projects (Siemiatycki, 2010). Another common argument against PPPs is that since the special-purpose vehicles are comprised of the same parties (architects, designers, contractors, suppliers, etc.) found in traditional project delivery methods, the opportunity for cost savings are slim due to the additional costs of financing in PPPs (Russell et al., 2006).

Methodology

Yin (2009) states that a *focused interview*, in which a person is interviewed for a short period of time – an hour for example, will allow the researcher to have guided conversations rather than structured queries, such as a survey. The interviews may be open-ended and assume a conversational manner, but the researcher typically follows a set list of questions (Yin, 2009). Therefore, the research design for this project was based upon 2-hr interviews with members of European construction firms who had experience in PPP projects (see Table 1). Also, Table 2 lists the questions used during the various interviews. Furthermore, in order to protect the identity of the persons used in this research, false names have been used when making reference to a participant's direct quotes in the data analysis section of this paper (Fine, 1990).

Table 2

Interviewees' Title & Company Affiliation:

- Person A, Framework Director - Balfour Beatty Construction Limited
- Person B, Finance and Commercial Director - Aspire Defence Limited
- Person C, Head of Projects, Construction, and Infrastructure - Rosenblatt Solicitors
- Person D, Asset Manager, Investments Division - Costain Engineering and Construction Limited
- Person E, Director of Assets Management, Investments Division - Costain Engineering and Construction Limited
- Person F, Program Director, Chairman - Skanska Infrastructure Development, Czech PPP Association
- Person G, Project Manager, PPP & Major Projects Division - COLAS SA

Table 3

Interview Questions:

1. Would you discuss your experience in public-private partnerships as they relate to the past, present, and future?

2. What percentage of your company's volume of work is tied to PPP projects?
3. Why did your company enter into the PPP market?
4. Why were these projects delivered via PPP?
5. How are the financing and investment portions of these projects normally constructed for your company's PPPs?
6. What is the procurement process normally comprised of for your company in PPPs?
7. How do bid-related costs relate to other delivery methods?
8. How often, or why, have joint-ventures been utilized in your company's past involvement in PPPs?
9. What are some risks and liabilities that are commonly seen in PPPs?
10. As a construction contractor, how are you involved in PPPs after the construction phase?
11. How would you explain the sentiment that PPPs are generally more expensive than traditional procurement methods?
12. In your opinion, what is the future of PPPs in your specific country?

Analysis of Interviews

The purpose of conducting interviews with European construction contractors was to better understand their experiences and roles in public-private partnerships in Europe. In analyzing the responses of each respective interviewee, commonalities arose in their various answers to the set questions. The main issues presented throughout the responses by the interviewees were: (1) the use of private-sector capital and capabilities in PPPs, (2) the investment aspect of the projects, (3) the expensive proposition of PPPs for contractors, (4) risks assumed in PPPs, and (5) the importance of facilities management in PPPs.

In discussing the advantages of PPPs for the public-sector, the interviewees pointed to PPPs' ability to allow governments to *procure assets without the significant capital expenditures* necessary in traditional project delivery methods. As Person A attested, "If the government doesn't have capital money to spend, (PPP) is a good way of getting what you want now and paying for it over 25 years." In a similar remark, Person G commented that PPPs are advantageous because they allow the public-sector to, "make regular payments for large assets rather than assuming large debt." Responses such as these validated much of the literature review in regards to the financial advantage of public-sector utilization of PPPs.

Another advantage of PPPs that interviewees cited was PPPs' reliance on *private-sector efficiencies*. Whereas traditional delivery methods procure different entities to finance, design, construct, and maintain an asset, PPPs' reliance on a single consortium to provide all these services was argued as inherently efficient by the interviewees. Person G commented that, "The idea is that you can benefit from putting together someone on not only the construction, but also the maintenance... You optimize the whole, long term process." This sentiment is echoed in much of the literature concerning PPPs, with many authors contending that PPPs are more economical than traditional procurement methods because the private-sector is allowed to control the entire project supply-chain.

PPP as Investments and the Expense of Bidding

Construction is a volatile industry and construction firms are constantly searching for the next project to keep cash-flows positive and employees busy. Unlike traditional project delivery methods, the interviewees commented that PPPs can stabilize this unpredictability because of their *function as investments*. As Person A maintained, "Contracting is quite volatile. PPPs are long-term investments so it brings some stability to our overall company." Because contractors have an equity stake in these projects, they see a return over the length of the concession in the form of the unitary payment. This is in stark contrast to traditional delivery methods where contractors are remunerated for their construction performance only. Person D expanded on this sentiment, saying, "It has become

apparent that shareholding in PPPs is an investment that has a value, a long term value that is separate to the construction.” Person E provided another advantage of the investment aspect of PPPs for construction contractors, saying, “We are able to sell our own investment and make some money on that investment and use that money to recirculate into our other jobs.” This is a component of the alternative project delivery method that was rarely found in literature pertaining to PPPs. Many the interviewees commented that, if not aiming to keep the PPP concessions as investments, they routinely seek to sell their stakes in PPPs once the construction phase of the project is completed. By selling their initial investment, the companies capitalize on undertaking the risks associated with construction and use the funds to invest in future work.

While advantages of private-sector efficiencies and the returns on investments made possible by PPPs were touted by many interviewees, disadvantages of PPPs also were a common topic of conversation. More specifically, the *expensive nature of preparing PPP bids* was discussed at length. While all the interviewees touted the PPP procurement process as transparent and fair, many noted that the long-nature of the complex procurement led to substantial costs. “It is quite an open process, but because it is quite complicated it adds to bidders’ costs,” remarked Person C. The complication of PPP bids comes from the multitude of services rendered by the special-purpose vehicles; financing, design, construction, and maintenance. These various industries all require various advisors and thus inflate the costs assumed when constructing a proposal for a particular PPP. One set of advisors that is particularly expensive is the legal industry. Person D explains,

A large part is the legal costs. You have to employ your lawyers to go through the negotiation process, check the contract, check for any variations, and then you have to pay for the banks because the banks employ lawyers, and then your client employs lawyers.

These sentiments validated much of the information found in literature reviews where many studies found that PPPs were indeed far more expensive to bid than traditionally procured projects because of the complexity of PPP schemes.

Risk and Service

The *transfer and assumption of risk* by construction firms was by far the most common topic during the interviews. Risk abounds in PPPs, from financing to asset management. For example, Person A stated that financing had been risky in the PPP sector the past few years because of banks’ inability to lend money. Person B discussed the use of joint-ventures to shield each construction contractor from an inordinate amount of risk due to the massive scale of his particular project. While these are two examples of risks encountered in PPPs, the greatest risk in PPPs is the liability of the unknown. Person D contended,

Not all the risks of PPPs are known yet because the market is not completely mature. Thirty years is a difficult period to plan.

Because PPPs involve concessions for multiple decades, it is incredibly hard for construction firms to plan for the expenses involved with an asset’s lifecycle over that time. In addition to a building’s own changes over the lengthy period of time, the uses and inhabitants of a facility can evolve over time as well. This also affects the maintenance and upkeep costs involved with PPPs, again creating an unknown risk that construction firms must assume.

A topic not highly stressed in literature pertaining to PPPs is the *service aspect* of the delivery method. While many look at PPPs as simply another means of delivering public-sector infrastructure, numerous individuals overlook the services rendered by the private-sector in these concessions. To illustrate this point, Person E said, “If you look at the unitary payment... the capital costs reflect about 10 percent of the unitary payment. The majority of other costs are made up of service delivery.” This point was made by other interviewees as well, each trying to note the importance of the service phase of the project and its difference from traditional delivery methods. Some literature sources commented that PPPs are analogous to mortgages, where the user pays a lender for the cost of the facility plus interest, neglecting the service aspect of the concessions. While the interviewees agreed with this analogy, some expanded on the functions of PPPs to greater explain the role of facilities management in the contracts. Person B explained with an analogy,

We are offering to build you a house, provide the financing for it, provide the cooking and cleaning, if the roof needs replacing we'll do that, and we'll provide a car and driver.

Explanations such as this were used multiple times to emphasize the importance of facilities management, and more specifically proper upkeep of the assets.

Conclusion

PPPs present themselves as fundamentally efficient; inefficiencies are purged when a single consortium controls an asset's entire existence; from finance to maintenance. Whereas traditional project delivery methods employ a multitude of different parties to eventually produce an asset for the public's use. In PPPs, procuring authorities have single entity to undertake all these tasks. This eliminates numerous unnecessary costs found in traditional methods. PPPs also allow construction contractors to be involved from the onset of design; imparting their knowledge and expertise in regards to the cost, schedule, and constructability of an asset. These efficiencies are multiplied when one realizes that PPPs force construction contractors to construct and maintain an asset properly to be profitable. Because construction contractors have an equity stake in these projects, it is in their best interest to build a functioning asset as cost-effective and quickly as possible to begin receiving the returns on their investment. In addition, clauses in PPP contracts stipulate a standard to which the assets must be kept. Again, it is in contractors' best interests to provide the best facility possibly to remain profitable. In a world of late and over budget government projects, PPPs provide a way to reduce costs and deliver assets on time.

Nevertheless, PPPs are not without disadvantages. While the risks associated with design and lifecycle costs are gladly transferred to the private-sector in PPPs, these transfers come with a price. The transfer of risks is one of the greatest advantages of PPPs; allowing the public-sector to remove some of the most worrisome and costly aspects of project delivery. However, the private-sector undoubtedly increases the costs in their proposals to account for these liabilities. This can create the perception that PPPs are much more expensive than traditional procurement methods, but it is important to realize the unusual liabilities assumed in these schemes.

PPPs, because of their massive scale, also limit the amount of competition seen in regards to the number of bidders. Because these project are so large and so complex, few construction contractors have the financial worth and construction capabilities to undertake such enormous ventures. This has led to a small group of contractors accounting for the vast majority of PPP concessions. It can be argued that this lack of competition has inflated the costs of PPPs, in addition to impeding smaller construction contractors from vying for PPP concessions.

Viability of PPPs in the United States

While the United States is seen as a global power at the forefront of many innovative techniques and concepts, the use of public-private partnerships in construction procurement has lagged behind its European counterparts. In a time where infrastructure is crumbling and debt is growing at alarming rates, PPP is being discussed as a solution to both of these problems. As Rahm Emanuel, the mayor of Chicago recently said, "The model of private financing for public infrastructure is happening all over the world, but not here in America. I can't get from here to there on the old model- it's broken" (Gilroy and Kenny, 2012).

In assessing the feasibility of PPPs in the United States, it became abundantly clear that in order for PPPs to succeed in this country they must start with relatively straightforward projects. Concessions such as schools and hospitals are incredibly intricate propositions that are just now being procured on a wide level in Europe after many years of trial and error. Based on both literature review and data analysis, transportation concessions seem to be the best route to increasing the use of PPPs in the United States. Transportation projects lend themselves to PPP usage due to their *known* qualities; procuring authorities know their needs, contractors comprehend the inputs necessary in constructing the assets, and most importantly contractors understand the costs in maintaining these roads and bridges. In a delivery method where the unknown is one of the greatest risks for construction firms, it is important to develop projects with easily understandable qualities for PPPs to be successful in the United States.

PPPs are actually already in use in U.S. transportation construction projects. As of October 2010, thirty transportation PPPs were in use in the United States (Rall, Reed, and Farber, 2010). However, the use of PPPs in

these thirty projects is but a drop in the pool of the overall transportation budget. While this is a step in the correct direction, a greater rollout of PPP projects is needed for constituents to understand the benefits of this alternative project delivery method, as well as the public-sector benefiting from greater private-sector involvement and efficiencies. The appetite for new means of acquiring work will be there for construction contractors, it is up to the public-sector to embrace PPPs as a new, economical means of delivering public assets.

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