CHARACTERISTICS OF PUBLIC-PRIVATE PARTNERSHIPS IN NORWAY

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ABSTRACT

New ways of working impose new contract models. To prepare for these new ways, there is a need for a precise understanding of the contractual elements. In this paper, we examine and describe Norwegian Public-Private Partnership (PPP) projects. Their characteristics are then compared to the characteristics outlined in literature.

The findings are based on a literature study followed by a case study approach combining analysis of documents gathered from public sector authorities and relevant private sector participants along with a questionnaire.

We find that a narrow view of PPP is used with an overemphasis on the financing aspects which is close to the Private Finance Initiative (PFI) model. The public sector insists on detailed specifications limiting the possibilities of innovation in areas such as Lean Construction. Combined, this could potentially constitute a roadblock for harvesting the real benefits of the PPP approach.

The sheer size, contract period and total costs of the PPP projects are characteristics that justify an own study. The main contribution of this paper is the overview of Norwegian PPP projects and their characteristics.

KEY WORDS

Public-Private Partnership, Private Finance Initiative, PPP, PFI, Contract models

INTRODUCTION

Public-Private Partnership type projects have existed for a long time. An example of this is the French concession contracts, dating back to the seventeenth century. These bear a strong resemblance to modern PPPs (Grimsey and Lewis, 2004).

Contemporary Public-Private Partnerships (PPPs) as a phenomenon is generally conceived to be a product of the "New Public Management" wave that took place globally in the 1980s (Broadbent and Laughlin, 2003). PPPs generally fall into its theoretical (ideological) framework, founded on a conviction that the private market does a better and more efficient job in providing goods than traditional public service delivery (Fussell and Beresford, 2009).

PPPs were first introduced under the heading Private Finance Initiative (PFI) in 1992 under the conservative Major Government in England (Robinson and Scott, 2009). According to HM Treasury (2012) over 700 PFI projects have been

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undertaken in Britain alone. The UK dominates the European PPP market with over two-thirds of the projects from 1990-2009 (Kappeler and Nemoz, 2010).

Some see little difference between PPPs and privatization (Minow, 2003). Others maintain that PPPs are distinctively different as it is a way of harnessing the benefits of privatization, most importantly efficiency and private management skill (Fussell and Beresford, 2009), while retaining public control over how a service is to be delivered (OECD, 2008).

The PFI programme had a clear focus on introducing private capital into the funding of public projects as a means of getting projects off the ground while staying within the public sector borrowing limit. In other words, PFI has been a way of keeping the projects off the public sector balance sheet. This part of the PFI agenda has been almost universally criticized (e.g. Davies and Eustice, 2005; NAO, 2009). The majority of UK PFI projects are off balance sheet, but recent policy changes will shift most PFI projects on to the balance sheet (NAO, 2009).

The term Public-Private Partnerships gained attention when it was adopted under the Labour government. While some regard PFIs as one type of PPP (HM Treasury, 2012), others see them as identical (OECD, 2008). The main differences between PPP and PFI are more public involvement in PPPs, often sharing of capital investment, and focus on collaboration (Van Ham and Koppenjan, 2001; Klijn and Teisman, 2000 and 2005). In PFIs the private sector contractor typically arranges the financing (Allen, 2001). In 2012 HM Treasury launched a new version of the Private Finance Initiative, called Private Finance 2 (PF2), trying to address the main weaknesses of the PFI approach. This model focuses more on collaboration, sharing of investment and transparency (HM Treasury, 2012), making PF2 closer to PPP.

Providing a final definition of PPP is not an easy task, and it is not the objective of this paper. PPP means different things in different countries. In fact, it cannot simply be copied from one country to the next, due to the differences in framework conditions such as culture and policies (Sillars and Kangari, 2004). There is no clearly defined model of PPP (Keppeler and Nemoz, 2010), which makes even the total number of PPP projects difficult to estimate.While PPP may be a concept with no clear consensus regarding its meaning (Hodge and Greve, 2011), it is nonetheless worthwhile to identify some of the main characteristics. This is the undertaking of this paper.

The main questions we address in this paper are:

- What are the characteristics of PPPs in literature?
- What are the characteristics of Norwegian PPP projects?
- How do the characteristics of the Norwegian PPP projects compare to the characteristics described in literature?

CHARACTERISTICS OF PPPS IN LITERATURE

This section aims to provide an overview of the characteristics described in literature. It will go through key elements such as scope, risk, finance and tender. As PPP is an umbrella-term, there are many different PPP business models. PFIs tend to use variations of the Design, Build, Finance and Operate model (Grimsey and Lewis, 2004). The contractor bears the responsibility for the asset's design, construction, financing and operation. Which services that are included in operation differs from

project to project (Grimsey and Lewis, 2004). Some characteristics are shared amongst most PPP projects. The scope of PPP projects tend to be large, complex and of long duration. PPPs could be seen as a form of bundling (Hart, 2003), where different aspects of a project which traditionally have been separated are bundled into one or a few contracts. The average cost of a PFI project in UK is EUR 92 million (GBP 76 million) (HM Treasury, 2012). In fact, the minimum size requirement for a project being labelled a PFI project is EUR 24 million (GBP 20 million) (HM Treasury, 2003)[1]. The contract length is typically 25 years or more and normally has to be long to be characterised as PPP (EC, 2004). The rationale for long contracts is to incentivise a whole-of-life cycle approach to ensure that value is delivered throughout the life of the contract (Grimsey and Lewis, 2004).

Focus on risk is a common feature of most PPP projects. Risk is more explicitly handled in PPP projects (Hodge and Greve, 2011). Since PPPs are often privately funded, the risks are to a larger degree transferred from public to private sector. The purpose of risk transfer and risk sharing in PPP projects is allocating risk to the party best equipped to manage it (e.g. OECD, 2008; Davies and Eustice, 2005). This does not mean all risk should necessarily be transferred to the private sector, but only the part which the private party is best able to cope with and should be evaluated from project to project (European Commission, 2004). The risk born by the end user is normally not taken into account when talking about risk allocation in PPP projects (Li et al, 2005)

The risks that are normally borne by the private sector are the risks associated with design, construction, operation and maintenance (Corner, 2006). This follows from the purpose of PPPs, which is to deliver a service rather than an asset. In transferring the maintenance and operational risks to the private partner it has incentives to make the right investments in the early stages of the project which should make it less expensive in the long term. This secures the quality of the project throughout its lifetime (Davies and Eustice, 2005).

According to Li et al. (2005) site availability and political risks are typically risks which should remain with the public sector. Inflation risk and residual value risk should be considered for sharing, while force majeure risks should be shared on most projects. Demand risk is usually retained with the public sector, but in a considerable part of the transport PPPs demand risk is transferred to the private sector (Keppeler and Nemoz, 2010).

One of the key characteristics that differentiate PPPs from other forms of procurement is that payment is linked to performance, availability and service outcomes for many years after the construction of the asset is completed. To achieve this private finance is usually part of a PPP project (Davies and Eustice, 2005). A typical PPP project has an annuity payment profile which starts when the service is up and running (Davies and Eustice, 2005). Theoretically, there should be a single payment structure linked to the service outcomes, but in practice, this is often not the case. In order to minimize credit risk, lenders often demand a separate payment stream to secure their investment (Robinson and Scott, 2009). In a PPP tender process,

[1] This might be the source of a selection bias regarding PFI in UK, as there might be projects which in all other aspects then their size are a PFI.

the public sector specifies what sort of services is to be delivered and to what quality (EC, 2004). This is contrary to traditional procurement models, which are often based on detailed input specifications concerning how an asset is to be constructed. Output-based specifications make the public sector thoroughly assess what sort of benefits they want out of the project from the beginning (Davies and Eustice, 2005). The main reasoning behind this is to encourage the private sector to figure out innovative solutions to public sector needs (NAO, 2009).

Average time from announcement to contract in the UK is 34 months (NAO, 2007), though there are large differences internationally. KPMG (2010) report of tender processes averaging less than 20 months in Canada and Australia. Since the tender process is often long and expensive the numbers of bidders are expected to be lower compared to traditional tender (NAO, 2009). In a PPP project the number of bidders typically runs from 2 – 5.

In Europe Competitive Dialogue is the most common tender procedure for PPPs. Since 2006 every PFI project is now tendered using Competitive Dialogue. Negotiated Procedure was the method used before 2006 (NAO, 2009).

HM Treasury (2003) warn against small PPP/PFI projects. This concern is mainly based on the long and often expensive tendering process, which could hinder value for money (VFM) in smaller projects. The Treasury found that there were little difference in the transaction cost and tender time regardless of project size. This is the rationale behind the EUR 24 million rule.

To determine whether to use PPP on a particular project the public sector could use a Public Sector Comparator (PSC). This is a method of assessing what the project would cost using a traditional procurement model. It is a hypothetical model which explicitly prices the risk of the project into the assessment (Grimsey and Lewis, 2004).

Assembled, these elements – scope, risk, finance and tender – constitute a framework that could facilitate more efficient planning and construction principles such as *Lean Construction*, as the possibilities for the private contractors to construct an asset more optimized for this process are greater given the design freedom of PPP projects (Leiringer, 2001). PPPs should also provide the private contractor with ample possibilities for implementing lean principles as planning, design, construction and maintenance are bundled together (Hart, 2003). The main idea is in fact that the project can be optimized as a whole rather than just optimising the parts. Lean Construction has the same core principle as PPP, notably Value for Money (Koskela et al., 2002). Traditional Design-Bid-Build (DBB) tendering has several problems, especially in terms of encouraging collaboration (Schöttle and Gehbauer, 2013). Koskela et al. (2013) argue for including the design stage in waste analysis, making PPP tendering an interesting research area for Lean Construction. Lean techniques such as pull planning is challenging to implement in traditional DBB tenders as the contractual ties between the construction and design teams are non-existent (Refinato and da CL Alves, 2012). PPP research has not had much focus on Lean Construction, but we think the PPP concept and its design freedom is a good arena for implementing lean principles. Given the fact that Lean and PPP share concepts such as Value for Money, this should provide fruitful opportunities for research of Lean Construction in PPPs. The expectation is higher in PPPs (Hodge and Greve, 2011) as the PPP tender process encompasses both the selection of contractor and the asset- and service design (NAO, 2009).

Not all sectors are suited for PPP. There has to be a clearly defined service delivery and easily defined performance measures (OECD, 2008). The most common sectors for PPP are transport, schools and hospitals (OECD, 2008). Several other sectors have experience with PPP, notably environment, recreation and defence (Keppeler and Nemoz, 2010).

The most well-known Norwegian publications on Public-Private Partnerships are KPMGs "Utredning av samfunnsøkonomiske konsekvenser ved bruk av Offentlig Privat Samarbeid (OPS)" and "Kartlegging og utredning av former for offentlig privat samarbeid (OPS)", Berg and Edvardsen "Livsløp/OPS-kontraktene Persbråten videregående skole og Høybråten grunnskole" and Eriksen et al. "Evaluering av OPS i vegsektoren". KPMG (2003a and 2003b) look at the economic implications of the PPP model and gives an overview of different forms of PPPs, Berg and Edvardsen (2009) examines two PPP projects in the school sector and Eriksen et al. (2007) evaluate the three Norwegian PPP road projects.

The most important characteristics seem to be large and complex projects, risk transfer and allocation, payment based on performance measures through the life of the project and design freedom.

RESEARCH METHOD

The research was carried out in three steps. First a literature study was conducted to provide an overview of the characteristics as described in literature. Different types of literature have been used, from academic journal articles to more "mainstream" official documents, in order to obtain a picture of how PPP is understood both in academia and in the official bodies such as HM Treasury. Secondly, for the characterizations of the Norwegian PPP projects, we gathered public sector documents and past case study research. The public sector documents are mainly the tender instructions and political decision documents. These lay out the basic risk allocation principles, competition form and contract lengths. Past case study reports (Eriksen et al., 2007; Vallestad, 2006; Berg and Edvardsen, 2009) gave a good insight into some of the projects. Finally, a questionnaire was used to get a more complete overview. The majority of the questions were designed in order to establish objective facts as far as possible, thereby leaving a low possibility of error due to subjective biases. The questions where subjective influence could occur were included mainly to give a pointer for possible future research. Where participants needed clarification on the questions, email was used to ensure verifiability. The question falls in to four main groups; project scope, risk allocation, tender process and financing.

The mix of approaches for information gathering are used for confirmation purposes and to make it possible to answer a number of questions, even on the less accessible projects where information was difficult to obtain. The main weakness of the study thus consists in the possible bias on some of the subjective questions. Equally, since there are over 400 municipalities in Norway, it is difficult to be certain whether or not all Norwegian PPP projects are accounted for. Project cost is also a factor with a margin of error, as there are different ways of measuring project costs, especially in PPPs. The purpose of the project cost assessment in this paper is not to measure performance, but to get an idea of the project size. The project cost should therefore only be used as an indication of scope, not an accurate account of the costs.

The main criterion for being a part of this study was that the stakeholders acknowledged the project as being a PPP, and that the construction phase was completed by 2014. Construction completion date might seem arbitrary, but the possibilities of changes in e.g. risk allocation are typically larger for projects in their earlier phases. Projects like parking houses where market failure is not an issue, and resembles regular privatization, have not been taken in to our list.

CHARECTERISTICS OF NORWEGIAN PPP PROJECTS

Public-Private Partnership was first introduced to Norway in 1998 for the use on possible pilot projects in the transportation sector. In 2001 the decision was made to conduct three road projects as "Offentlig-Privat Samarbeid" (OPS) (Eriksen et al., 2007). OPS directly translate to Public-Private Cooperation[1].

In this section we characterize the Norwegian PPP projects and compare them to the characteristics outlined in the literature. It is divided in four parts - project scope, risk allocation, tender process and finance.

Table 1: Project scope

Project	Sector	Project Cost (million EUR)	Contract period	Construction completed
Aquarama	Recreation	120	60+20	2013
Arendal Brannstasjon	Fire department	18	25+10	2013
Asak skole	Education	14	25+15	2011
Bogstad skole	Education		25	2005
Bråset bo- og omsorgssenter	Healthcare	37	20+10+10 / terminated	2004
Campus Grimstad	Education	53	30	2010
E18 Grimstad - Kristiansand	Transportation	425	25	2009
E39 Klett - Bårdshaug	Transportation	184	25	2005
E39 Lyngdal - Flekkefjord	Transportation	168	25	2006
Eidsvoll tinghus	Court	0,6 p.a.	20	2004
Florø Politihus	Police	9		2008
Follo politihus	Police	13	20	2008
Follo tinghus	Court	5	20	2006
Gjestad sykehjem og Gystadmyr bo-	Healthcare	20	20+5+5	2002
Gjøvik Tinghus	Court	7	20	2008
Glåmdal tingrett	Court	0,3 p.a.	20	2006
Hamar Politihus	Police	15	20+5+5	2009
Haugaland tingrett	Court	0,7 p.a.	20	2008
Hønefoss tinghus	Court	6	20	2007
Høybråten videregående skole	Education	23	25	2008
IKA Kongsberg	Archive	10	25	2014
Jæren tingrett	Court	0,6 p.a.	20	2006
Larvik brannstasjon	Fire department	5	25 / terminated	2000
Midtåsen sykehjem	Healthcare	23	20+10	2004
Nordre Vestfold tingrett	Court	0,4 p.a.	20	2005
Nødetatene i Lunner og Gran	Police	12	25+10 / 15+10	2013
Persbråten videregående skole	Education	31	25	2007
Politiets data- og materielltjeneste	Police	12	30+10	2010
Politihuset i Trondheim	Police	26	20+5+5	2004
Politihuset Østfold	Police	21	15	2014
Søreide ungdomsskole	Education	25	25	2014

[1] Cooperation seems like a strange term to use, as almost every construction project in Norway is delivered with some form of cooperation between the public and private sector

The sectors in which PPPs are found within the Norwegian context are mainly education, transportation, healthcare, police and court. These are common sectors for PPP projects. There are no PPP hospitals in Norway. Contract length ranges from 20 to 60 years with most projects close to 25. This is quite similar to the typical PPP projects described in literature.

The size of Norwegian PPP contracts ranges from EUR 5 million to 0.43 billion. Most non-transport projects costs between EUR 5 and 30 million. Interestingly, over 50 % of Norwegian PPP projects have a project cost of less than EUR 24 million, which is under the criteria for being counted as a PFI project in the UK (HM Treasury, 2003), and only five projects are larger than EUR 40 million. PPPs are usually only recommended for large and complex projects (HM Treasury, 2003). This raises the question about transactions costs. Are the transactions costs of Norwegian PPP projects different from PPP projects elsewhere? Are we using PPP on the wrong projects?

Table 2: Risk allocation

Project	Construction risk	Design risk	O & M risk	Policy and regulation risk	Inflation risk
Aquarama	Private	Private	Private	Shared	Shared
Arendal Brannstasjon	Private	Private	Public	Private	Shared
Asak skole	Private	Private	Private	Public	Shared
Bogstad skole	Private	Private	Shared	Private	Shared
Bråset bo- og omsorgssenter	Private	Private	Private		Public
Campus Grimstad	Private	Private	Private	Private	Shared
E18 Grimstad - Kristiansand	Private	Private	Private	Public	Public
E39 Klett - Bårdshaug	Private	Private	Private	Public	Public
E39 Lyngdal - Flekkefjord	Private	Private	Private	Public	Public
Eidsvoll tinghus	Private	Private	Private	Private	
Florø Politihus					
Follo politihus	Private	Private	Shared	Private	Public
Follo tinghus	Private	Private	Private	Private	
Gjestad sykehjem og Gystadmyr bo-	Private	Private	Private		Public
Gjøvik Tinghus	Private	Private	Private	Private	
Glåmdal tingrett	Private	Private	Private	Private	
Hamar Politihus	Private	Private	Shared	Private	Shared
Haugaland tingrett	Private	Private	Private	Private	
Hønefoss tinghus	Private	Private	Private	Private	
Høybråten videregående skole	Private	Shared	Shared	Public	Shared
IKA Kongsberg	Private	Private	Private	Public	Shared
Jæren tingrett	Private	Private	Private	Private	
Larvik brannstasjon	Private	Private	Public	Shared	Public
Midtåsen sykehjem					
Nordre Vestfold tingrett	Private	Private	Private	Private	
Nødetatene i Lunner og Gran	Private	Private	Private	Shared	Shared
Persbråten videregående skole	Private	Shared	Shared	Public	Shared
Politiets data- og materielltjeneste	Private	Private	Private	Public	Shared
Politihuset i Trondheim	Private	Private	Public	Prvate	Shared
Politihuset Østfold	Private	Private	Private	Private	Shared
Søreide ungdomsskole	Private	Private	Private	Public	Private

The risk allocation found in the projects examined is highly similar to the recommendations in literature. Risk regarding design, construction, operation and maintenance are usually transferred to the private sector. The risk for policy and regulation often lies with the public sector, as the literature recommends, but there are several examples of the private sector also taking on some of the policy and

regulatory risk. The risk for inflation is shared in most projects, with the public sector taking the largest share. This aligns with the recommendations found in the literature, as inflation is a factor over which the private sector has no control. Demand risk, which probably represents a higher risk than the construction and design risk, is borne by the public sector in most projects, which is expected given the type of Norwegian PPP projects. Only Aquarama is reported to share the demand risk.

Table 3: Tender process

Project	Procurement method	Recieved bids	Procurement time (months)	Output-based specification	Level of detail in specification
Aquarama	Negotiated procedure	2	23	Yes	Low
Arendal Brannstasjon	Open procedure	2	11	Yes	Medium
Asak skole	Negotiated procedure	3	11	Yes	High
Bogstad skole	Negotiated procedure	1		Yes	Low
Bråset bo- og omsorgssenter	Negotiated procedure	3	13	Yes	Medium
Campus Grimstad	Negotiated procedure	2	12	Yes	Low
E18 Grimstad - Kristiansand	Negotiated procedure	3	16	Yes	Medium
E39 Klett - Bårdshaug	Negotiated procedure		18	Yes	Medium
E39 Lyngdal - Flekkefjord	Negotiated procedure	4	18	Yes	Medium
Eidsvoll tinghus	Negotiated procedure		12	Yes	High
Florø Politihus					
Follo politihus	Negotiated procedure	4	8	Yes	High
Follo tinghus	Negotiated procedure		12	Yes	High
Gjestad sykehjem og Gystadmyr bo-	Negotiated procedure	6	12	Yes	Medium
Gjøvik Tinghus	Negotiated procedure		12	Yes	High
Glåmdal tingrett	Negotiated procedure		12	Yes	High
Hamar Politihus	Negotiated procedure	3	9	Yes	Medium
Haugaland tingrett	Negotiated procedure		12	Yes	High
Hønefoss tinghus	Negotiated procedure	1	12	Yes	High
Høybråten videregående skole	Negotiated procedure	5	20	Yes	High
IKA Kongsberg	Negotiated procedure	2	7	Yes	Medium
Jæren tingrett	Negotiated procedure		12	Yes	High
Larvik brannstasjon		3		Yes	High
Midtåsen sykehjem					
Nordre Vestfold tingrett	Negotiated procedure		12	Yes	High
Nødetatene i Lunner og Gran	Negotiated procedure	3	12	Yes	Medium
Persbråten videregående skole	Negotiated procedure	5	20	Yes	High
Politiets data- og materielltjeneste	Negotiated procedure	4	11	Yes	Medium
Politihuset i Trondheim	Negotiated procedure	3	18	Yes	Medium
Politihuset Østfold	Restricted procedure	4	10	Yes	High
Søreide ungdomsskole	Negotiated procedure	3	7	Yes	Low

The number of competitors in Norwegian PPP projects range from 2 – 6 contractors. The dominant procurement method used is *Negotiated Procedure*. This is different from the method commonly used in European PPPs, *Competitive Dialogue.* The tender process ranges from 7 to 24 months. This is shorter than typical PPP projects described in literature. This could be a result of the procurement method, as Competitive Dialogue is seen to have a negative effect on procurement time (EPEC, 2010). It is important to point out the time it takes to actually announce the competition can be different in the two procurement models. If the specification level is high, more work is typically carried out in the pre-announcement phase.

All projects use output-based specifications, but the level of detail indicated is usually medium to high. This could make the contractors possibilities of innovation in areas such as Lean Construction limited. It may be that the use of Competitive

Dialogue along with lesser detailed specification could encourage innovation in management, construction principles and technical solutions. Here, the private contractor could, in dialogue with the public sector, use their expertise to design a project to be more efficiently built and maintained resulting in less waste. This aspect ought to be studied in more detail, as it is possibly the most important aspect of a PPP project. Only a few projects reported to have a low level of detail in the specification.

A public sector comparator (PSC) has not been reported used in any of the projects. The transportation projects have made a calculation of what the project would cost using traditional procurement, but not a comprehensive PSC. The literature recommends the use of a PSC as a tool to ensure PPP is the right model, and only use PPP when it is clear that it delivers Value for Money.

Table 4: Finance

Project	Finance	Balance sheet	Payment profile	Performance measures	Seperate or single payment stream.
Aquarama	Shared	Shared	Annuity	Access/quality	N / A
Arendal Brannstasjon	Private	Private	Annuity	Regular leasing contract	Finacial Lease
Asak skole	Private	Private	Annuity	Access/quality	seperate
Bogstad skole	Private	Private	Annuity		
Bråset bo- og omsorgssenter	Private	Private	Annuity		
Campus Grimstad	Private	Private	Annuity	None	Seperate
E18 Grimstad - Kristiansand	Private	Private	Annuity	Access/quality/road safety	Single
E39 Klett - Bårdshaug	Private	Private	de-escelating	Access/quality/road safety	Single
E39 Lyngdal - Flekkefjord	Private	Private	Annuity	Access/quality/road safety	Single
Eidsvoll tinghus	Private	Private	Annuity		Finacial Lease
Florø Politihus					
Follo politihus	Private	Private	Annuity	Regular leasing contract	Finacial Lease
Follo tinghus	Private	Private	Annuity		Finacial Lease
Gjestad sykehjem og Gystadmyr bo-	Private	Private			
Gjøvik Tinghus	Private	Private	Annuity		Finacial Lease
Glåmdal tingrett	Private	Private	Annuity		Finacial Lease
Hamar Politihus	Private	Private	Annuity	Regular leasing contract	
Haugaland tingrett	Private	Private	Annuity		Finacial Lease
Hønefoss tinghus	Private	Private	Annuity		Finacial Lease
Høybråten videregående skole	Private		Annuity	Access/quality/functional	Seperate
IKA Kongsberg	Private	Public	Annuity	Access/quality	Seperate
Jæren tingrett	Private	Private	Annuity		Finacial Lease
Larvik brannstasjon	Private	Private	Annuity	Regular leasing contract	Finacial Lease
Midtåsen sykehjem					
Nordre Vestfold tingrett	Private	Private	Annuity		Finacial Lease
Nødetatene i Lunner og Gran	Private	Private	Annuity	Access/quality	Separate
Persbråten videregående skole	Private		Annuity	Access/quality/functional	Separate
Politiets data- og materielltjeneste	Private	Private	Annuity	Access/quality	Separate
Politihuset i Trondheim	Private	Private	Annuity	Regular leasing contract	
Politihuset Østfold	Private	Private	Annuity	Access	Separate
Søreide ungdomsskole	Private	Private	Annuity		Seperate

In the majority of the Norwegian PPP projects the private party finances the project and receives revenues through an annuity-based payment scheme. This scheme is based on access and quality measurements, which is typical for PPP projects and especially PFI projects.

The payment streams are usually split in two - financial lease and maintenance/operation. Theoretically a PPP project ought only to have one payment stream, but this is a characteristic where theory and practice often differs (Robinson and Scott, 2009). In most Norwegian PPP projects the financial lease capital stream is fixed and not possible for the public sector to retain if the private part is not able to

deliver the expected quality. Since the operation and maintenance contract is just a small part of the total payment stream, typically 20 %, one could ask the question – how much risk has actually been transferred?

Most projects are on the private sector balance sheet, which could lead to perverse incentives regarding what projects are initialized. A de-escalating payment stream have the benefit of not incentivising PPP project start-up as much for the financing aspects, since the public sector pays more at the start than at the end of the contract. Interestingly, only one project is reported to have a de-escalating payment stream.

"Aquarama" has an interesting finance scheme, and in several ways resembles PF2/PPP more than PFI. The core idea in this project was that commercial businesses, such as a hotel, were to subsidise the public services, making them more affordable. The public owns the public service areas and the private sector owns the commercial areas as well as having the responsibility of maintaining the whole complex. If this project were to be realised through a traditional model, it would probably look a lot different, and we think this project showcase the potential of fruitful partnerships.

CONCLUSION

The literature indicates that the most important aspects of a PPP project is a large enough scope to outweigh the transaction costs, appropriate risk allocation with real risk transfer, payment linked to service quality over the life of the project and design freedom. The Norwegian PPP projects tell another story.

Norwegian PPP projects are often small, which could impact value for money as the transaction costs could outweigh the benefits. Given the locked payment stream in most of the projects, the public sector still holds the majority of the risks. We are surprised to see that the public sector authorities does not have more sanctioning options if the projects do not live up to specified quality.

The only projects we find who closely resembles the core principles in literature regarding actual risk transfer and payment linked to performance measures are the three transportation projects. These do not, however, have the design freedom necessary to harvest all the proposed benefits of the PPP approach.

A less detailed specification might be the most important factor, as this gives the private sector more room to innovate. In our opinion, Competitive Dialog should also be considered as an alternative to Negotiated Procedure as a tool for harnessing the skills and experience from both sectors, and encourage innovative solutions and processes such as Lean Construction. PPP and Lean Construction share the same core principle, Value for Money, but in order to achieve this the private sector has to be given the opportunity. The public sector cannot expect more innovative solutions and more efficient construction if the private sector is too constrained in the design phase.

Given these facts, it might be premature to measure the performance of the PPP model as a whole in Norway, given that the full potential has not been tested. If the public sector initiates more PPP projects, it should consider carefully what benefits it wants out of the model, and adjust the approach accordingly. Maybe the public sector should look more at PPP/PF2, with more focus on dialogue, collaboration and possibly joint financing schemes rather than try to copy the UK PFI approach. The literature suggests a more diverse approach than we find in the Norwegian projects. In any case, on whatever approach is chosen, the design freedom has to be prioritized. If

not it has the potential of just being an expensive, complicated, way of traditional contracting out.

FUTURE RESEARCH

We gathered more data than we were able to analyse in this paper. It therefore serves as a first step, clearing the ground for further research in specific areas. The tender and the decision-making process as well as the financial and risk sharing aspects will be studied in more detail as part of a PhD process.

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