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Tvarnø, Christina D.

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Negotiating Efficient PPP Contracts

By

Christina D. Tvarnø¹

By

The Melbourne PPP Conference 7-9 October 2014

'The Challenge of Governance'

Sub-theme: Long-term contracts as governing tools

Abstract

This paper concerns Public Private Partnership (PPP) contracts in concern to the coming new 2014/24/EU public procurement directive. The new EU public procurement directive gives the public authority the opportunity to negotiate PPPs much more when they are implemented in national law. An opportunity the member states should consider using when procuring a PPP. This paper looks at the negotiation and contracting of a PPP in an economic theoretical and EU public procurement perspective and discusses how to establish an efficient PPP contract under a strong public law doctrine. Governments should consider tendering out PPP projects in the spirit of joint utility because joint utility can increase the concept of *more value for money*; the cornerstone of the PPP concept. This paper discusses the positive gains from negotiation and compares it with the upcoming possibilities in the EU public procurement law. Furthermore, the paper seeks to establish a connection between public law, private law and the efficient PPP contract by drawing upon economic theory and empirical contract data from UK, US and Danish partnering contracts from the construction industry and the aim of contracting joint utility. Joint utility can increase the concept of *more value for money*; the cornerstone of the PPP concept. The paper draws upon existing legal content regarding collaboration and common goals and game theory to explain the benefits from implementing similar clauses in PPP contracts.

Key words: Public private partnership, public procurement, negotiation, game theory, private law, joint utility, UK, Denmark.

¹ Professor (wsr), CBS, Law Department.

Under a presumption of market incentives, public-private partnerships seem to be more appropriate than hierarchical command relationships or adversarial regulatory processes. Nevertheless, successful implementation of public-private partnership depends to a large extent on the development of sound legal procedures, agreements and contracts that clearly define the relationship between government and private firms.²

N. Pongsiri

1. Introduction

This paper discusses efficient PPP contracts in terms of the coming 2014/24/EU public procurement directive with the assumption that a PPP should be similar to the private sector long-term strategic alliances or other long-term collaborative relationships. When negotiating the PPP contract, the parties must seek to obtain utility within the contract clauses. This paper discusses joint utility versus self-optimization in a game theoretical perspective and analyses how local or central governments can optimize the PPP contract by behaving, in order to obtain joint utility, in a PPP contractual relationship.

For decades Public-Private Partnerships (PPPs) have been used around the world in many different variations in different countries. The EU Member States have had very different perceptions on how to establish efficient PPP projects. Some with success while others, such as, for example, Denmark, have spent the last decade discussing whether or not it was possible to procure PPP under the EU public procurement law.

The private market uses strategic alliances to increase quality and decrease cost, and, therefore, has increased the value for money for decades.³ The motivation behind a strategic alliance is to make a business arrangement that creates dynamism, collaboration, and mutual learning among the parties. Thus, the private sector met the consumer demand with new types of contracts including collaboration.

The PPP contract used today in many EU Member States aims to fulfil the same demand,⁴ and PPPs have received a boost in various countries undergoing a process of significant economic growth. By using PPPs, it is possible to provide additional capital; to set up alternative management procedures and implementation skills; to provide value added to the consumer and the public at large; and to provide better identification of needs and optimal use of resources, if it is possible to negotiate an efficient contract.⁵

Years ago, PPP arrangements were often driven by limitations in public funds to cover investment needs. Today, PPPs are also driven by interest in increasing the quality and efficiency of public services in infrastructure projects, e.g. in sectors such as technology, infrastructure, energy, water, prisons, welfare, transport, public health, schools, urban regeneration, and national security⁶ and providing a wide range of public services, like telecommunication, plants, financial support, innovative financing, general public services, education, and research.

² N. Pongsiri, 'Regulation and public private partnership' (2002) 15 (2) *International Journal of Public Sector Management* 487-495, p. 489.

³ Reuer, Jefferey, (ed.), *Strategic alliances, Theory and evidence*, Oxford University Press, 2009.

⁴ N. Pongsiri, 'Regulation and public private partnership' (2002) 15(6) *International Journal of Public Sector Management* 487-495, pp. 487-495.

⁵ See Commission (EC), 'Guidelines for Successful Public Private Partnerships' March 2003, p. 4.

⁶ D. Grimsey and M. Lewis, *Public-Private Partnerships, The worldwide Revolution in infrastructure provision and project finance* (Cheltenham: Elgar, 2007), pp. 8-10.

Short definition of PPP: long term collaboration contract based upon an increase in shared information, flipping the incentives, total cost perspective, alternative to traditional contracting out contract and procurement, creation of dynamism, risk diversity,⁷ efficient use of core competencies and the creation of more value for the tax payer's money by using private funding to solve public tasks.⁸

In the end, all of these factors can fulfill the main scope of a PPP agreement, which is to ensure joint utility between the parties, thereby ensuring the most efficient product at the lowest price.

A PPP therefore has more to it than just the financing element. The relationship has to build on co-operation, trust and demands, so that the parties can create the best and most efficient product.

From an inter-contractual perspective, a PPP must be based on co-operation, because the aim of a PPP is to provide a mechanism for developing a public service provision involving significant assets or services over a relatively long period of time. From an institutional perspective, a PPP focuses on turning around the parties' traditional incentives to create more, and better, value for tax payers' money,⁹ by, for example, basing the contract on needs instead of demands.

2. EU public procurement law and PPP

The first legal challenge in respect to a full use and benefit of a PPP is that a PPP often falls under the public procurement rules and legislation, and that none of those rules are set up specifically to cover the purpose of a PPP arrangement.

In 2004, the EU public procurement legislation was made with traditional public contracts in mind, based on different measures than the PPP. The EU Commission did not comment on the problem that a large part of the traditional EC procurement rules in the 2004/18/EC Directive¹⁰ are made to cover the traditional procurement arrangement and not the new construction of co-operation between a public and private party.¹¹

The successful procurement and implementation of a PPP depends on the legal public procurement procedures. The contracts between the parties must fulfil the demands of the public procurement law and, as such, there is little flexibility for the parties to negotiate further demands.

The old EU public procurement rules did in general not promote or support the idea of co-operation and it seemed as if the EU Commission believed that it was possible to accommodate all new ideas and needs, to create new types of co-operation between

⁷ The distribution of risks between the public partner and the private partner is different. The risks generally borne by the public sector are transferred to the private party if this is efficient with regards to the transaction and the project.

⁸ Value for money means: reducing the cost and price; increasing the quality; reducing the risks and failures; improving the co-ordination; and sharing responsibility and capacity.

⁹ See also M. Burnett, *Public-Private-Partnerships (PPP) – a Decision Maker's Guide* (Maastricht: Institut Européen d'Administration Publique, 2008).

¹⁰ See Council Directive (EC) 2004/18 on the co-ordination of procedures for the award of public works contracts, public supply contracts and public service contracts [2004] OJ L134/114, as amended.

¹¹ See Commission (EC), 'Communication on Public-Private Partnerships and Community Law on Public Procurement and Concessions' (Communication) COM (2005) 569 final, 15th November 2005, section 2.3.

public and private parties, and to cover all situations created by the market without negotiation.

Now, however, the new 2014/24/EU directive on public procurement indicates that the EU Commission has taken into consideration that PPPs have very specific characteristics with regard to the co-operation acknowledged some degree of negotiation in the new directive besides the first priority of an open market, competition, equal treatment, elimination of corruption, transparency, non-discrimination, proportionality, effective public procurement and maintaining market interest. From a legal perspective, this, a more flexible approach, has been requested for many years. The research literature has discussed the necessity of legal support and clear rules of PPP arrangements even before the 2004/18/EF public procurement directive. Pongsiri argued, in regard to developing countries, that:

“Regulation is a key element to maintain competitive market discipline in public service provisions in developing countries. While many governments in developing countries have already signed their first demonstration public private partnership contracts mist have not yet designed the legal and regulatory framework for monitoring the performance of private contractors and for ensuring contractual compliance.”¹²

“Regulatory systems should be established as soon as possible to define clear rules for financial performance, provide practical experiences to the staff responsible for their implementation, and provide assurance to the private sector that the regulatory system includes protection from expropriation, arbitration of commercial disputes, and respect for contracts agreements.”¹³

By the new public procurement directive 2014/24/EU the EU Commission seems to have recognised that there is a great need for contracting authorities to have additional flexibility in choosing a procurement procedure, which allows for negotiations.¹⁴

“Member States should be able to provide for the use of the competitive procedure with negotiation or the competitive dialogue, in various situations where open or restricted procedures without negotiations are not likely to lead to satisfactory procurement outcomes. It should be recalled that use of the competitive dialogue has significantly increased in terms of contract values over the past years. It has shown itself to be of use in cases where contracting authorities are unable to define the means of satisfying their needs or of assessing what the market can offer in terms of technical, financial or legal solutions. This situation may arise in particular with innovative projects, the implementation of major integrated transport infrastructure projects, large computer networks or projects involving complex and structured financing.”¹⁵

It should, however, be noted that the competitive procedure with negotiation is not available in all cases. For works contracts competitive procedure with negotiation cannot be used to procure standard buildings, but it is possible to use negotiation if the work includes design or innovative solutions. Moreover, the competitive procedure with negotiation could be available in cases where an open or restricted procedure resulted only in irregular or unacceptable tenders.¹⁶ Furthermore, the public authority should observe the principles of equal treatment and transparency, in particular some minimum

¹² N. Pongsiri, ‘Regulation and public private partnership’ (2002) 15(6) *International Journal of Public Sector Management* 487-495, p. 490.

¹³ N. Pongsiri, ‘Regulation and public private partnership’ (2002) 15(6) *International Journal of Public Sector Management* 487-495, p. 490.

¹⁴ Directive 2014/24/EU, preamble no. 42.

¹⁵ Ibid.

¹⁶ Ibid, preamble 44.

requirements characterizing the specific nature of the procurement and the award criteria and their weighting must not be changed in the negotiations, in order to guarantee equal treatment of all economic operators.¹⁷ The EU Commission also stresses the importance of ensuring that the negotiations are used as tools to require fulfillment of specific needs.

The acknowledgement of a procedure allowing some degree of negotiation in the 2014/24/EU directive was very much needed, especially in regard to PPPs. The 2014 directive does not explicitly mention PPPs in the text, but PPPs seem to be included in the phrase in preamble 42:

"... in particular with innovative projects, the implementation of major integrated transport infrastructure projects, involving complex and structured financing".

Thus, it is important that public parties acknowledge that the PPP objectives result in a shift of content in the contract. Normally, a traditional public contract is based on demands and concrete descriptions. To fulfil its objectives, the PPP contract focuses on needs and functions, and it must be built on trust, transparency by open books, and co-operation between the parties. With the 2014/24/EU directive, the strongest barrier to PPPs – the ban on negotiation - is removed.

Through the right negotiation in the procurement process it is possible, under the new public procurement directive, to ensure that the private party will be responsible for the funding, design, completion, implementation, service and maintenance,¹⁸ the incentive to build to reduce the life-time cost of service and maintenance. Thus, the PPP concept provides the contractor with a compelling reason to create the cheapest building or infrastructure for a period of 20 to 30 years to regain the investment.

3. Negotiating an efficient PPP

The observation regarding the need for negotiation by the EU Commission is significant. Negotiation is a relevant tool when aiming at an efficient contract. The former implicit ban on negotiation derived from the 2014 public procurement directive was extremely problematic in regard to PPPs; the ban on negotiation is now abolished or at least downgraded with the 2014/24/EU directive. The ban on negotiation prevented the specific economic gains from PPPs.

From an economic point of view, negotiation is an important issue when two or more parties wish to create a model for co-operation.

Short version of the Coase Theorem,¹⁹ to illustrate the importance of negotiation towards joint utility: Farmer A lives next to farmer B. Farmer A grows corn on some of her land and leaves some of the land uncultivated. Farmer B runs cattle on all his land. There is no fence between the two ranches, but the boundary is clear. Thus, from time to time farmer B's cattle wander into farmer A's property and damage farmer A's corn. From a legal point of view, farmer B would then have to pay farmer A for the damage to the corn. With regards to future damage, farmer B must build a fence around his land to keep the cattle inside his own property and, by that measure, ensure that future damage will not occur. If instead the two farmers, in a world without transaction cost, used another approach than the traditional legal solution, one

¹⁷ Ibid, preamble 45.

¹⁸ See Commission (EC), 'Green Paper on public-private partnerships and Community Law on Public Contracts and Concessions' (Green Paper), COM (2004) 327 final, 30th April 2004.

¹⁹ Ronald Coase, The problem of the social cost, 1960 (Coase theorem) based on Cooter and Ulen, *Law and Economics*, 6th ed. London: Addison-Wesley, 2014.

could imagine a solution where the two farmers fell in love and got married. Such a decision would imply that the farmers combined their business interests, and, therefore, their joint profits. The joint profit would then be highest if they were to build a small fence around the cornfield. This would be the best value for money in this specific situation and the optimal joint solution.²⁰ If the farmers did not fall in love but were just neighbours deciding to negotiate the best value for money, in a world without transaction cost, the two farmers still could end up with a more efficient solution than the legal solution if they negotiated. This idea of negotiation is fundamental in relation to optimal contracts²¹ in, for example PPP's.

Based on the Coase-theorem, the parties concerned are the best placed to negotiate the risk and the value of this risk. If the public party in the tender notice already sets up the distribution of the risk as demanded by the public procurement law, the project cannot create the best value for money.

4. The efficient PPP contract

The efficient PPP is dependent on negotiation and a well-functioning interrelationship between the parties. The interrelationship depends on both the task, and the contract regarding the project.

Regardless of the contract type, economic theory considers contracts as (Pareto) optimal if the following conditions are met. Given a set of alternative allocations of goods or outcomes for a set of individuals, a change from one allocation to another that can make at least one individual better off without making any other individual worse off, is called a 'Pareto improvement'. An allocation is defined as 'Pareto efficient' or 'Pareto optimal' when no further Pareto improvements can be made.²²

Game theory can be used to argue that:

"For individuals pursuing their own self-interest, incentives for co-operation will be greater than for selfish behavior ... under a wide variety of circumstances, including when the "partners" are hostile".²³

Game Theory and the prisoner's dilemma²⁴ can be explained by the following example, using applied economics and not involving economic theory:²⁵

Two people have been arrested in possession of some stolen goods. The prosecutor has enough evidence to have them prosecuted and convicted for possession of stolen goods, unless one or both of them confess to burglary. If the prosecutor only prosecutes the persons for being in possession of stolen property, it will lead to a lower penalty than the burglaries. The two people, now known as the prisoners, are put in isolation and therefore cannot talk to each other. Each prisoner is visited by the prosecutor, and each gets the same deal. If the prisoner confesses and by that also gives evidence about the other prisoner, he

²⁰ See further Cooter and Ulen, *Law and Economics*, 6th ed. London: Addison-Wesley, 2014.

²¹ See, for example, I. Macneil, *The New Social Contract* (New Haven, CT: Yale University Press, 1980); and K. W. Artz and T. H. Bruch, 'Asset specificity, uncertainty and relational norms' (2000) 41 *Journal of Economic Behavior & Organization* 337-362.

²² Steven Shavell, 'Contracts', in P. Newman (ed.), *The New Palgrave Dictionary of Economics and the Law* (Basingstoke: Palgrave Macmillan, 1998), p. 436.

²³ R. W. McQuaid, 'The theory of partnerships: why have partnership?', in S. P. Osborne (ed), *Public-Private Partnerships: Theory and Practice in International Perspective* (London: Routledge, 2000), p. 27.

²⁴ See A. Rapoport, 'Prisoners' Dilemma and Game Theory', in P. Newman (ed.), *The New Palgrave Dictionary of Economics and the Law* (Basingstoke: Palgrave Macmillan, 1998), p. 100.

²⁵ The application of this economic example does not include all conditions and presumptions in the prisoner's dilemma game and the game theory.

himself will go free while the other receives the maximum sentence of four years. If both prisoners confess, they will each get two years in prison for burglary.

If neither confesses, each prisoner will get a half-year in prison for possession of stolen goods because the break-in cannot be proved.²⁶

	Keeps quiet = Cooperates	Confesses = Defects
Keeps quiet = Cooperates	- ½, - ½	-4, 0
Confesses = Defects	0, - 4	- 3, - 3

‘Confession’ is the dominant strategy because ‘confession’ is the optimal choice for each player, regardless of what the other player does. Prisoners 1 and 2 are in the same situation and have the same information. Thus, the game ends by both players spending two years in prison instead of only half a year.²⁷

The prisoner's dilemma can be seen as an illustration of the difference between individual and collective rationality. Decisions that seem rational from the individual's perspective are irrational when seen with common eyes, even though an outsider can see the rational gains from a common perspective.²⁸

The objectives regarding PPPs can be explained by the game theory. The collaborative contracts were introduced as an alternative to traditional construction contracts. The aim was to ensure that the parties would optimise the transaction instead of their own profit. Thus, the parties must optimise the joint utility and not only their own utility. To obtain this objective, the parties must share all information relevant to the project and work with open books and calculations. The relationship must be built on co-operation and trust.

If a PPP relationship is based on these economic factors, it is possible to move the output from the Nash equilibrium to the Pareto optimal situation in the matrix. But the parties need legal solutions to obtain this situation.

²⁶ Cooter and Ulen, *Law and Economics*, 6th ed. London: Addison-Wesley, 2014.

²⁷ Cooter and Ulen, *Law and Economics*, 6th ed. London: Addison-Wesley, 2014.

²⁸ A. Rapoport, ‘Prisoners’ Dilemma and Game Theory’, in P. Newman (ed.), *The New Palgrave Dictionary of Economics and the Law* (Basingstoke: Palgrave Macmillan, 1998), p. 100.

The benefits or advantages of setting up a well-functioning PPP are:²⁹

Collaborative advantages	Economic advantages
Increase the quality Reduce the failures Improve the co-ordination Share capacity with the private party Faster implementation Improve the quality of service Acceleration of infrastructure provision Enhanced public management	Reduced whole life costs and price More optimal risk allocation Improvement of the incentives to perform Generation of additional revenues in the private sectors Transferring responsibility Increasing investments in general Higher efficiency in the use of resources by joint utilities Generating commercial value from public sector assets

A well-functioning PPP is highly reliant on the ability of the parties to set up the incentive structure in the right way. Part of a functioning incentive scheme is when the supplier bears the right amount of risks, on the grounds that those with money at stake have an incentive to make the efficient decision.³⁰ In the end, all these factors can fulfill the main scope of a PPP agreement, which is to ensure joint utility between the parties, thereby ensuring the most efficient product at the lowest price.

6. PPP and partnering contracts – from self to joint utility – in a private law perspective

From a contractual point of view, it is a general rule in civil-and common- law countries that parties have contractual freedom. The reason behind the freedom of contract is individual autonomy and public benefit. The contract is binding upon the parties and determines the rights and liabilities.³¹

The principle is a product of a liberalist belief that when the individual is free from historical constraints and authorities, the individual is capable of determining his acts and responsibilities, and thereby the person can decide whether or not to make a contract.³²

PPPs can learn from the contractual evidences from partnering contracts. As mentioned above, ACA (British Association of Consultant Architects)³³ developed a Standard Form of Contract for Project Partnering³⁴ as a multiple party agreement called

²⁹ See also OECD, *Public-Private Partnerships, in pursuit of risk sharing and value for money* (Paris: OECD, 2008), p. 37 and Commission (EC), 'Guidelines for Successful Public Private Partnerships' March 2003, pp. 15-16.

³⁰ See also D. Grimsey and M. Lewis, *Public-Private Partnerships, The worldwide Revolution in infrastructure provision and project finance* (Cheltenham: Elgar, 2007), p. 247.

³¹ W. Flume, *The General Part of Civil Law, Vol. 2: The Transaction*, (4th ed., Berlin: Springer, 1992), p. 7

³² K. Zweigert and H. Kötz, *An introduction to comparative law* (3 edn., Oxford: Clarendon, 1998), p. 324.

³³ ACA has allowed the author of this paper to analyse and refer to the PPC2000- Project Partnering Contract.

³⁴ PPC2000, amended 2008, ACA standard Form of Contract for Project Partnering, Construction Excellence in the build environment, Construction Industry Council, ACA and Towers & Hamlin LLP, 2008, by Dr. David Mosey.

PCC 2000 (amended 2008 Project Partnering Contract-2000) regarding large projects.³⁵ The Danish BYG-partnering standard form is similar to the PCC 2000.³⁶ One significant difference is, that PCC 2000 is a complete contractual form compared to the BYG partnering contract, which is linked to the traditional Construction Agreement documents in Denmark.

The Danish BYG partnering agreement 2005 has 11 clauses with sub clauses and refers to the construction law in general, excluding some clauses not compatible with the partnering concept. The PCC 2000 consists of more than 65 pages and includes more than 10 pages of individual clause, 34 pages on standard clauses and 5 pages with legal definitions and an appendix.

It is not allowed to quote from the PCC 2000 contract, which is why specific quotes are not possible in this paper. Permission to explain and compare with the Danish partnering regime has been given personally from the publisher to the author of this paper.

The PPC2000 partnering contract was the first British agreed document to involve more than two parties. The legally binding³⁷ document includes all parts of the construction - from design to delivery.³⁸ By the PPC2000 contract the parties commit themselves to collaborate, to show trust towards each other, to be fair and to work with the common purpose of the project at hand,³⁹ as a result of this the parties cannot work just to optimise their own utility. Furthermore, the parties are obliged to ensure transparency and share all project relevant information,⁴⁰ open books and calculations,⁴¹ to create and fulfil common goals⁴² and needs.⁴³ All characteristics are comparable to the Danish BYG partnering paradigm, which holds the same clauses and is a multiple party contract.

The purpose of the British partnering contract is to obtain a joint economic benefit with a common goal, defined as:

*"The first approach essentially sees partnering as a tool for improving the performance of the construction process and emphasises the way it helps to create synergy and maximize the effectiveness of each participant's resources... Secondly, partnering has been seen as a management process... to improve the efficiency of large construction projects...as a variant of total quality management... the formation of a project team with a common set of goals. Finally, others have focused on the contractual and relationship implications of partnering, seeing it as a way of "putting the handshake back into doing business" ..."*⁴⁴

³⁵ Richard Dartnell, Construction Law (2007) 18, 3, p. 23, 1st of April 2007. PPC2000 was in 2006 used on works at more than 8 Billion Pound in Great Britain.

³⁶ David Mosey, Construction Law (2007) 18, 2, 1st of Marts 2007, p. 6.

³⁷ PPC2000, amended 2008, § 2.3.

³⁸ In 2005 ACA developed another partnering contract called TPC2005 including a public party. David Mosey, Construction Law (2009) 20, 3, p. 23, 1st of April 2009.

³⁹ PPC2000, amended 2008, § 1.3.

⁴⁰ PPC2000, amended 2008, § 3.1.

⁴¹ PPC2000, amended 2008, § 10.1(i).

⁴² PPC2000, amended 2008, § 4.1(i).

⁴³ PPC2000, amended 2008, § 10.1(ii).

⁴⁴ Barlow, Cohen, Jashapara and Simpson, Towards positive partnering, Revealing the realities in the construction industry, the Policy Press, University of Bristol, 2002, p. 6.

The American purpose of the partnering concept is similar to the British concept, and focuses on the common objectives regarding the maximisation of the effectiveness of the resources and the common goals:

*"... Partnering is a long-term commitment between two or more organizations for the purpose of achieving specific business objectives by maximising the effectiveness of each participant's resources. This requires changing traditional relationships to a shared culture without regard to organizational boundaries. The relationship is based upon trust, dedication to common goals, and an understanding of each other's individual expectations and values."*⁴⁵

In this regard, it is most relevant that the parties must ensure a change in behaviour compared to traditional contracts, and dedicate themselves to the common goal, as defined later on as, joint utility.

In Denmark, several definitions of partnering can be found. The most important one is found in the BYG partnering paradigm BYG's,⁴⁶ *Partnering i praksis 2005*. This paradigm is a legally binding⁴⁷ multiple party agreement based on common goals, open books, on-going negotiation to solve the needs and functions, trust and collaboration.

"There is full transparency about the economy, and all parties have a responsibility to ensure that the budget is held and is committed to optimizing the economy in order to achieve higher earnings / savings for all parties" (translated text).⁴⁸

7. Contracting efficient PPP

The PPP contract is a legal setup promoting long term relational commitments among two or more parties, such as, for example, a strategic alliances or a multiple party construction contract. The parties must shift from being parties to being partners, a significant tool for maximising the output from a long-term strategic alliance. Sharing information is also a relevant alliance tool together with the relational norms such as trust, collaboration and incentives, and also tools in strategic alliances that are used to create a competitive advantage.⁴⁹

Looking at the game theory argument in the Prisoners Dilemma game, joint utility will create the highest possible output, but the game will still end up in an inefficient Nash Equilibrium, due to the fact that the parties will end up self-optimising even though this will end in the worst possible economic output.

The most significant difference between a traditional contracting out agreement and a PPP contract is the objective concerning joint utility. Both traditional contracts and

⁴⁵ US-Construction Industry Institute's Partnering Task Force, Construction Industry Institute, 1991, In search of partnering excellence, Austin, Texas, CII, University of Texas, p. 2.

⁴⁶ Danish BYG partnering paradigm, 2005.

⁴⁷ Section 4, in BYG partnering paradigm, 2005, *"Aftalens parter forpligter sig til at handle i overensstemmelse med intentionerne i nærværende aftale."*

⁴⁸ Original text: *"Der er fuld åbenhed om økonomien, og alle parter er medansvarlige for at sikre, at økonomien holdes indenfor budgetrammen og er forpligtet til at medvirke til at optimere økonomien med henblik på at opnå en øget indtjening/besparelse for alle parter."*Section 6.2 in BYG partnering paradigm, 2005.

⁴⁹ Matton van den Berg and Peter Kamminga, (2006). Optimising contracting for alliances in infrastructure projects. The International Construction Law Review, 2006, 59-77.

contract law in general are based on the idea of self-optimisation. Every party will optimise their own utility.⁵⁰

The negotiations of the PPP contract must result in a joint goal benefitting, or removing the opposing interests among, the parties. When optimising the project or the transaction, the parties can focus on a common interest instead of their own interest. For example, in a traditional building contract the building owner will demand the lowest price and the contractor will set the highest possible prize.⁵¹

The PPP contract must seek to create a Pareto improvement and share the benefits among the parties.⁵²

In a traditional contract the supplier is obliged to deliver the asset at the right time, place and condition, otherwise he/she will be in breach of contract. The asset owner will deliver the right payment at the right time and place. Neither of the parties have an incentive to deliver a better solution than agreed upon. In a PPP contract the parties should be obliged to improve the asset by working to fulfil the needs instead of specific demands. By collaborating they can create the solutions to the demand by using lower cost and resources. From a game theory perspective, the parties can obtain a higher output by joint utility but will not. They will end up in an inefficient Nash equilibrium only possible to escape by the legally binding PPP contract.

The basis of PPP contracts is to create more value for money, and a well-functioning PPP contract should implement the following contract elements.⁵³

Material clauses	Process-based clauses
The parties share all economic information regarding the transaction. They have open books and accounts	The parties optimise the transaction, The parties optimise joint utility
Contracting on needs Contracting on common goals Contracting on allocating risk and responsibility to the efficient party.	The relationship is built on: Co-operation Transparency Trust
The parties educate all involved staff on PPP (including back office)	Workshops and processes are agreed upon ex ante and involves all parties from T=O

The prisoner's dilemma game illustrates that two individuals will not cooperate even when it is obvious that it is in their best interests to do so. Furthermore, the prisoner's dilemma game illustrates that defecting is always chosen in preference to cooperation.

⁵⁰ The lawyers will optimise their clients utility and by that their own utility. The client will control the lawyer/negotiators capability to obtain the highest pay off regarding one self and the law behind all types of contract will support this perspective.

⁵¹ As mentioned above, economic theory consider contracts as Pareto Optimal when "if the contract is impossible to modify (within the class of contracts) so as to raise the expected utility of both of the parties. Shavell, Contracts, The New Palgrave Dictionary of Economics and the Law, p. 436.

⁵² This paper does not consider the economic fair share among the parties but will just recommend using the theory behind initial investments and the theory on law and economic theory, see further Grossman & Hart, Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration, Journal of Political Economy, Vol. 94, 1986, p. 691-719.

⁵³ See also Tvarnø, 'Law and Regulatory Aspects of Public-Private Partnerships: Contract Law and Public Procurement Law', in G. Hodge, A. Hodge, C. Greve and A. Boardman (eds.), *International Handbook On Public-Private Partnerships* (Cheltenham: Elgar, 2010), chapter 10.

The reason is that a rational self-interested person evaluates their own options in consideration with the other party's possible choice, knowing that the rational self-interested counterparts do the same – in this scenario the only possible outcome therefore is not to cooperate but to defect. The risk of being defected by the other person is too great. An efficient PPP contract can solve this economic inefficiency by making the parties acknowledge the concept and benefit of joint utility and by creating a legally binding framework making the parties chose the right strategy without being caught in the dilemma between joint and self-optimisation.

The obligation to have open books and calculations is a significant condition if the parties are to reach the benefit from joint utility. If the parties do not share all relevant information and fear that the other party will reveal their information, self-optimisation will occur at once. Full information can increase the possibility of cheating and self-optimising.⁵⁴

Trust and collaboration, as well as open books and joint utility, are obligations to be delivered on the same conditions as delivering the building and payment. Open books and calculations increases the amount of information shared and, by that, information regarding prices, costs, payments, salaries, discounts, savings, earnings, etc.⁵⁵ The higher degree of information shared, the larger is the possibility to achieve joint utility. Information also decreases moral hazard and adverse selection and the risk of hold ups. Information is a key element to increase the output of the transaction and for the transaction to be legally binding the parties are to reveal information regarding the transaction, and the closer to joint utility the parties get.⁵⁶

Game theory has shown some relevant theoretical information in regard to situations in which the economic agent or contract party faces a decision concerning a conflict of interest in which the agent or contract party must choose a strategy. Many similar decisions must be taken every day in contracting, negotiation, employment, pricing, buying, selling, collaborating etc. - situations, where persons must consider whether to behave in a certain way or not.⁵⁷

The specific clauses in both the Danish BYG and the British PCC 2000 contracts consist of binding agreements requiring the building owner to describe the needs and functions, and the constructor and design enterprises together with the building owner to collaborate on common goals and to use positive incentives to obtain the goals instead of negative clauses on breach and damages. Furthermore, the clauses are binding the parties to open books, calculations and trust.

The long-term intention of the PPP contract is to stretch out the length of the contract to create the framework for the on-going negotiations in order to seek the most optimal solutions on the future challenges in the transaction.

When building on needs and functions, the design and constructor do not have any specifications to fulfil but must fulfil a more uncertain goal:

⁵⁴ Tvarnø, Partneringaftalens særlige karakteristika, UFR nr. 45, 8. November 2003, p. 366.

⁵⁵ Section 6.2 in BYG partnering paradigm: *"Der er fuld åbenhed om økonomien, og alle parter er medansvarlige for at sikre, at økonomien holdes indenfor budgetrammen og er forpligtet til at - medvirke til at optimere økonomien med henblik på at opnå en øget indtjening/besparelse for alle parter..."*

⁵⁶ Steven Shavell, Contracts, The New Palgrave Dictionary of Economics and the Law, p. 433.

⁵⁷ Robert Cooter og Thomas Ulen, Law and Economics, 5th edition, Pearson/Addison-Wesley, 2008, p. 38.

A goal negotiated along the way by using the joint utility perspective in the PPP contract.

A very different perspective compared to a traditional works contract.

As for traditional contracts the PPP contract is the legal rule among the parties and by that the legal reality even though the framework differs from the contract law doctrine.⁵⁸ It is necessary, to make the parties legally bound to joint utility by the PPP contract. If not, the game theory has shown, that it is too risky to joint optimise and too tempting to self-optimize. The risk of being cheated is too big if the parties are not bound by the contract. When using positive incentives and positive pay offs, the PPP contract signals to share the common benefits from joint utility and makes it possible to gain, as shown by the prisoners dilemma game.

Thus, the more soft social clauses, concerning collaboration, trust, common goals, joint utility, open books, and incentives, must be as binding as the obligation to deliver and pay.⁵⁹

The Governments should⁶⁰ implement the above-mentioned elements into a proposal for a PPP contract in the procurement and demand for proposals to improve the PPP contract in the procurement notice. Such public behaviour invites to negotiation and signals true will to collaborate regarding the important change in the incentives on a long-term basis.⁶¹ Furthermore, the aim of the contract must be that both the public and the private party benefit from such a contractual relationship, which is why the performance shall be based on needs instead of demands and ex ante requirements specifications. Thus, the contract should not state exactly what the private party must perform; rather, it should state which needs the end product must fulfil.⁶²

Compared to two private parties negotiation a contract under contractual freedom, a public and a private party cannot agree on what they want.⁶³ When a public party enters into a contract with private parties, public law in general and public procurement law in specifics must be followed when negotiating with the private bidders.

This restriction from the public law in general conduct limitations to the concept of PPPs in specific and collaborative contracts in general, and even if the public sector is keen on a new contract model, a public party cannot benefit as much from negotiation as two private parties.

In a perfect world, the function of a legal framework regarding PPPs would reduce opportunistic tendencies and opportunistic behavior between the parties. At the same

⁵⁸ Tvarnø, *Loyalitetspligt og partneringaftaler*, Julebog 2002, ed. Ruth Nielsen, DJØF, p. 149.

⁵⁹ Tvarnø, *Partneringaftalens særlige karakteristika*, UFR nr. 45, 8. november 2003 p. 366.

⁶⁰ The public authority also will face a number of other challenges. See for this subject M. Burnett, *Public-Private-Partnerships (PPP) – A Decision Maker's Guide* (Maastricht: Institut Européen d'Administration Publique, 2008), p. 116.

⁶¹ J. Barlow, M. Cohen, A. Jasphapara and Y. Simpson, *Towards Positive Partnering: Revealing the Realities in the Construction Industry* (Bristol: The Policy Press, 1997); Y. L. Dos and G. Hamel, *Alliance Advantage, The art of creating value through Partnering* (Boston, Massachusetts: Harvard Business School Press, 1998); and E. E. Scheuing, *The Power of Strategic Partnering* (Portland: Productivity Press, 1995).

⁶² For further discussions and analyses of Danish PPP arrangements, see C. D. Tvarnø, 'Public-Private Partnerships from a Danish perspective' (2006) *Public Procurement Law Review* NA98; C. D. Tvarnø, *PPP and Public service Broadcasting* (Copenhagen: Julebog, 2005), pp. 181-201; C. D. Tvarnø, 'Public private partnership in the European Union', in R. Nielsen and S. Treumer (eds.), *The New EU Public Procurement Directives* (Copenhagen: Djøf, 2005), pp. 183-194.

⁶³ H Collins, *Regulating Contracts* (Oxford: Oxford University Press), p. 304.

time, the legal framework would reduce the fear of opportunistic behavior among the parties and align the interest of the partners.⁶⁴

Other economic theories can explain the problems with the existence of a fear of opportunistic behaviour in a contractual relationship. In his transaction cost theory, Williamson explains that opportunistic behaviour is negatively related to safeguards,⁶⁵ and Gulati argues that this fear reflects a negative departure from the full change of co-operative relationships maintained by organisations.⁶⁶

It is necessary to acknowledge that one of the key elements in a PPP is the co-operation between the private and public party.

8. Final remarks

In regard to the public law and public procurement law, the law must ensure the possibility of establishing efficient collaborations between the public and the private sector. The future legal EU framework must also favor PPPs and not bring to much 'baggage' from past decades; baggage arisen on the traditional contracting out experience, tender procedures, rules, contract terms, etc., because this can result in a situation in which the service provider is 'covering his back', acting more concerned with meeting the performance criteria in the contract than seeking real benefits. Such behavior can lead to a breakdown in the relationship, and, therefore, the trust and co-operation foundation.⁶⁷ An opportunistic breakdown will lead to self-optimizing behavior, which is the opposite of the joint utility.

The game theory can, as described and analysed above, among other things show how to optimise long term relational contracts as for example a PPP contract. The tool is a legally binding PPP contract that sets the stage to optimise the transaction. As illustrated by the prisoner's dilemma game, the joint utility gives a significant larger pay off-compared to the game in which the parties self-optimize as shown in the matrix by the $-\frac{1}{2}$, $-\frac{1}{2}$ pay-off.

When entering into a PPP contract, the parties must accept a set of rules to govern the process to obtain joint utility by open books and calculations preventing the risk of creating asymmetrical information. If not, the relationship could end up in an inefficient Nash Equilibrium. The same could occur if the parties do not include a clause regarding specific payment derived from fulfilling positive incentives, the risk of being excluded from sharing the benefit from joint utility might move the parties towards self-optimisation and the inefficient Nash Equilibrium.

⁶⁴ J. Hennart, 'A Transaction Cost Theory of Equity Joint Ventures' (1998) 9 (4) *Strategic Management Journal* 361-374.

⁶⁵ O. Williamson, *Markets and Hierarchies: analysis and antitrust implications*, (New York: The Free Press, 1975).

⁶⁶ R Gulati, 'The Dynamics of Alliance Formation, Dissertation' 54, *Abstract International*, p. 4170.

⁶⁷ See also: A. J. Edkins and H. J. Smyth, 'Contractual Management in PPP Projects' (2006) *Journal of Professional Issues in Engineering Education and Practice* 82-93, at p.85.