

PUBLIC-PRIVATE PARTNERSHIP

– theory, best practices and the newest Polish experience

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Reviewer

Adam Przybyłowski

Editor

Monika Grądecka

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e-mail: wydawnictwo@sgh.waw.pl

Cover design and production

Monika Trypuz

Photos in Chapter 4

Wiktor Mrozowski

DTP

DM Quadro

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Contents

Preface	7
1. What are PPPs?	11
1.1. Historical examples of private provision of infrastructure	11
1.2. Key definitions of PPP and its alternatives	16
1.3. Key actors of a PPP project	22
1.4. Diversity of contemporary PPP projects	26
2. How to manage a successful PPP project?	33
2.1. Structure and milestones of a PPP project	33
2.2. Risk sharing	41
2.3. Procurement process	50
2.4. Project Finance	53
2.5. Construction and operation phases of a PPP project	60
2.6. Termination of cooperation, step-in's and substitution	64
2.7. Main reasons of PPP projects' failures	68
3. Are PPPs efficient?	73
3.1. Pros and cons of PPPs	73
3.2. Methods and results of PPP assessment	80
3.3. Suitability of PPP for different sectors	85
3.4. Special case of developing countries	89
3.5. Lowering PPP costs	92
3.6. Influence of crises on PPP	94
3.7. Beyond PPP	97
4. The newest Polish experience	103
4.1. Research objective and assumptions	103
4.2. Introduction to case studies	104
4.3. Columbaria in the cemeteries of Gdańsk (completed project)	107
4.4. Land development of Wyspa Spichrzów in Gdańsk (completed project) ..	111
4.5. Mental health care and treatment centre in Kobylnica near Słupsk (completed project)	114
4.6. Cemetery and crematory in Podgórzki Tynieckie, Kraków (completed project)	117

4.7. Reconstruction of Jagiellonian University Dormitories, Kraków (completed project)	121
4.8. Central heating for the municipal union with its headquarters in Kalisz (not completed project)	125
4.9. Waste segregation and storage facility in Skarżysko-Kamienna (not completed project)	126
4.10. Construction of council houses in Kraków (not completed project)	128
4.11. Key factors that impact success of PPP in Poland	129
Conclusion	135
Bibliography	137

PREFACE

Public Private Partnership is one of the most controversial solutions within modern public sector management concepts. Its enthusiasts and opponents can have discussions lasting hours, supporting their argumentation by data and examples of successful and failed projects.

PPP, understood as **long-time arrangements obliging private party to conduct and finance infrastructure construction and maintenance works, based on risk sharing between private and public sector**¹, is a modern way of providing services based on infrastructure, such as roads, railways, airports, as well as hospitals, schools, prisons and other public buildings, water supply networks, power plants and complex land development schemes.

Pros and cons of PPPs will be described in details in section 3.1, but it is well known, that on the one hand, PPP helps to provide new infrastructure, that is designed in efficient, life-time (and not warranty-time) oriented way, without huge up-front spending of public funds. PPP projects are also much often delivered on-time and in-budget in comparison to traditionally procured projects.

On the other hand – PPP projects are usually more expensive due to higher capital costs charged by lenders to the private sector and higher transaction costs. What is more, there are some well-known examples of failed PPP projects (such as London Underground upgrade), that ended up with premature termination and step-in of a public partner.

Although there are no easy answers to questions about PPPs, one is sure – even their enthusiasts confirm, that a PPP project will be a failure, unless the partnership

¹ Further discussion on definitions is presented in section 1.2.

is well prepared and managed². What is more, good knowledge about PPP will help decision-makers to use it in situations where the potential benefits are the highest, as well as select projects that really solve important problems and are demanded. Therefore a good knowledge about PPP principles and case studies is essential in order to create a successful project.

This study aims at providing full theoretical background on PPP, including international case studies, as well as presenting the newest Polish experience in PPP. The latter is a unique study on smaller, post-crisis PPP projects, in a new EU-Member state, proving that PPPs can be successful even with limited bank funding available, and many infrastructure project are co-funded with the European grant support. Polish experience is rarely described in English and may be really useful for international audience. The first in a prerequisite to understand the latter, for readers without extensive PPP-expertise.

The **structure** of the book consists of three main chapters, each of them containing number of sections.

The **first chapter** aims at presenting general background data about PPP. It describes history of private provision of infrastructure-based services, provides basic information about PPPs, such as useful definitions (this is very important, as there is no unified terminology in PPP, and some confusions are common) and key actors, as well as presents the variety of PPP models and projects worldwide.

The key concern of this handbook is not the assessment of PPPs' efficiency (as this is not a research thesis), but presentation of the most efficient ways of project management – **How to manage a successful PPP project?** The answer can be found in the **second chapter**, which in details describes general structure of PPP project, as well as presents how a PPP project “works”. It focuses on good practises taken from the entire project lifecycle – from the identification phase, to the hand-out of the facility back to the public body. In contrary to the first chapter, that is theoretical, the second one has much more practical character.

The **third chapter** presents extended assessment of PPPs. Basic elaborations about PPP's pros and cons are described usually at the beginning of PPP handbooks, but we decided to move it towards the end for two reasons. Firstly – the assessment is the clearer part containing more information about PPP that the reader can poses. And secondly – in this book the assessment is only a starting point for

² J. Delmon, *Public-Private Partnerships, An Essential Guide for Policy Makers*, “Cambridge University Press” 2011, pp. 4–5.

presentation of the newest developments, aiming at maximising the benefits arising from PPP, and at reducing its disadvantages (especially visible during the economic crisis). This makes the third chapter an extended conclusive part of this handbook, but still, very practical one and the most interesting for people, who already have some knowledge or experience in PPP.

Finally, the **fourth chapter** presents Polish experience on PPP, including statistical background and 8 case studies (5 completed and 3 non-completed projects). The studies are based on site visits and personal in-depth interviews (IDIs) with key actors. The chapter contains extensive conclusions on key success factors, impacts of PPP and rules of cooperation.

1

WHAT ARE PPPS?

1.1. Historical examples of private provision of infrastructure

Although PPP is considered as a modern concept of public sector management, in fact private provision of infrastructure has been known for hundreds of years. The following section is going to provide some examples thereof.

First known toll roads could be found in the Roman Empire, constructed by the Sallasi tribe, which was officially allowed to collect tolls on the Little St. Bernard's Pass in exchange for maintaining the road and providing help to travellers³.

In the **United Kingdom** many of the currently existing roads, railways and channels were built privately.

The earliest experience related to privately financed roads dates back to the 1660s, when the first concession was granted to a **turnpike trust**. Such concessions allowed trusts to collect tolls in exchange for upgrading and maintaining given road section. The trusts gained money for investment in the form of loans at a fixed interest rate (usually 4–5%). In their best period, in 1840s, the British roads were managed by over thousand trusts and at main roads toll had to be paid every ten to twenty miles. Each trust based its activity on a separate parliament act, that is characteristic for both – historic as well as contemporary PPP projects in the UK.

The system helped to increase the quality of infrastructure, reduced journey times and increased the reliability of road system, especially during poor weather

³ D. Grimsey, M.K. Lewis, Public Private Partnerships, The Worldwide Revolution in Infrastructure Provision and Project Finance, Edward Elgar, Chetelham, Northhampton 2007, p. 42.

periods, compared with the preceding model, in which the roads were built and maintained by local parishes. It also stimulated technical progress in road construction. The toll system caused also controversies – in fact it provided high-quality roads expected by wealthy men, whereas everyone (especially the poor travellers) had to pay for it, even if they did not wish to do so. In some cases the payment system caused riots.

Initially the system was intended to be hinged on 21 years concessions, after expiry of which upgraded roads were planned to be transferred to public sector and tolls – to be abolished. In fact, because of smaller incomes, the concessions have been extended to indefinite periods⁴.

The turnpike system has been in operation until 1878, when it lost its financial sustainability due to the raising competition of newly created railway network, and the road network has been nationalised and returned to local authorities.

In the meantime also the **British canals** started to be constructed using private funds, beginning in 1760s, and continuing until the end of the century. Firstly, the canals were built by local entrepreneurs, which were wishing to decrease costs of transport of their products – especially coal from mines. Most of the canal projects were founded by equity, so by shareholders, whose capital was directly at risk, and profits were dependent on the performance of the enterprise. This was a real, financial innovation, compared to earlier system of road projects funding.

Some of the companies, that were involved in canals construction proved to be very profitable – the best of them were paying even 30% annual dividends over decades, although other were less profitable, as well as suffering delays and cost-overruns during construction phase. Some projects could be finished only because of the government support during the construction phase⁵.

Not surprisingly, so called ‘**railway mania**’, i.e. extremely rapid development of railway network in the UK, was financed also by private railway societies with money from private funds. In fact, rapid development of railways was caused by a great financial success of George and Robert Stephenson’s Liverpool and Manchester Railway, opened in 1830. For the first 15 years this company paid its shareholders dividends between 8 and 9,5%, being able to pay even more, but according to the Act, that allowed it to operate, higher dividends would result in obligatory

⁴ Ibidem, p. 44.

⁵ A.J. Smith, *Privatized infrastructure: the role of government*, Thomas Telford, London 1999, pp. 12–15.

fare reduction. This success tempted many people to invest, even moderate sav-ings, to railway companies and therefore those enterprises had really excellent access to cash.

Good performance of railway companies persisted over decades until the big failure of Eastern Counties Railway that promised its investors 22% dividend. The line has never been finished, because many investors did not pay required amount of money (they were to do it in tranches), and a completed part of the line allowed the investors to have the dividend equal to 1%. Huge cost overruns during construction phase was another problem of railways those days.

Growing railways took over a number of canal operating companies – some-times in order to eliminate competition and/or gain land for railroad, and some-times to provide feeder services.

The increasing role of railways in the 19th century economy (both as a mean of transport, as well as a popular way of investing money) created a need to regulate this private industry. During the 1840s a number of acts have been issued, regard-ing technical conditions (for example 1846 The Gauge of Railways Act), financial statements and investors' transparency, fares and staff working conditions. For example the 1844 Gladstone's Regulation of Railways Act required each railway to run one train in each direction, stopping at every station, carrying 3rd class pas-sengers in covered carriages for maximum 1 pence per mile. The same act gave the government the right to buy a railway company after 21 years of operation, at a price based on its 25 years profit. The initiative to build a new line came still from the private sector, so the government had little influence on the network shape.

Private investors, especially British ones, also took part in development of railway networks overseas – for example in France, India and South America, but most of the European governments were much more active in shaping the network, than the British. In some cases, such as Belgium, railways were built from the very beginning by state enterprises⁶.

Moreover main **London Underground** network has been constructed in 1894–1907 using private capital, but in much more co-ordinated way, than the coun-trywide railway network. First idea included seven lines built by seven different companies, but after granting the rights, some of them met difficulties to raise needed capital. In this case therefore the capital was raised publicly, through shares.

⁶ A.J. Smith, *op.cit.*, pp. 15–24.

Finally, when the lines were constructed, the tube faced unexpectedly strong competition of much cheaper buses and trams, because during the construction period, bus technology has evolved and trams were allowed to enter the city of London (initially they were not allowed to enter the city, limited by Metropolitan and District lines)⁷.

The road **turnpike system** existed also in the USA. Although the first turnpike trust, created in 1785, was publicly owned, in 1840s nearly 1600 private trusts were applied to most of intercity roads and bridges across the country, basing on 99-years concessions. As the traffic in the USA was usually lower, than in the UK, some of the roads were covered by earth or planks (timber).

In fact, in the USA, not all travellers paid tolls – some of them were officially exempted from paying tolls (for example people going to church), others skipped this duty because of travelling on short distances between tollbooth. There were also those, who used illegal bypasses around tollbooths. Therefore turnpike trusts offered their shareholders dividends usually at the level of 3% per annum, much lower than expected. Another problem – as in the UK – was an increasing competition between canals and railroads.

Therefore the amount of toll roads has declined, because there were either bought by states or simply abandoned. New roads were built from public funds and were free for users⁸.

In **France** the concession system dates back to the 17th century and is based on the following rules:

- privately financed infrastructure, used for providing public services, remains under the regime of public properties and must be given back to the public party after the termination of the contract;
- supremacy of the general interest over private interest;
- private sector operator gets compensation in case of unforeseen circumstances, including using the clause of supremacy of the general interest over private interest by public bodies.

The system was used firstly to construct canal systems and then – mostly urban infrastructure, such as water distribution and central heating, as well as railways and trams, although the state had minority shares at some railway companies from the very beginning⁹.

⁷ D. Grimsey, M.K. Lewis, *op.cit.*, pp. 46–47.

⁸ *Ibidem*, pp. 45–46.

⁹ *Ibidem*, pp. 47–50.

Another famous piece of infrastructure, constructed under the French model (and law), was **Suez Channel**, completed in 1869, operating privately until 1956 when it was nationalised for political reasons, 12 years before the original concession ended.

The Channel has been constructed according to the concession, granted by Said Pasha, Turkish Viceroy of Egypt. As the project had strong opposition in Britain, the concessionaire had problems to gain capital. Finally the project was feasible only because the grantor bought almost half of the shares of the project company.

Although the construction was three times more expensive than expected and strongly delayed, the channel became a big commercial success, mostly because of British imperial traffic to Australia and India. Finally Egyptian shares were bought by the British government, that wanted to have control over this crucial piece of infrastructure¹⁰.

In the mid-war **Poland** some of the biggest infrastructure projects were financed privately as well. For example telephone network in many cities was created by the Swedish company Cedergren, and transferred to the government after the concession period. The concession agreement contained step-in rights, allowing the government to buy the network from the private partner anytime, at a given price, that was decreasing proportionally each year¹¹.

Other example of privately financed infrastructure was a commuter railway line from Warsaw to Grodzisk Mazowiecki, known today as *Warszawska Kolej Dojazdowa* (WKD – Warsaw Commuter Railway), financed by the infrastructure company “Siła i Światło” (“Force and Light”), one of the first private companies in Poland. “Siła i Światło” was a real infrastructure holding, possessing also power plants, electricity and tram networks. It was also an owner of a company, that developed a new city called Podkowa Leśna, placed close to the line – obviously the land development company benefited strongly from the railway activity. This is an excellent example of coordination of land use and transport policies¹².

The initial British rolling stock, purchased for WKD by “Siła i Światło” was in operation between 1927 and 1972, which shows its high quality.

Popularity of public provision from infrastructure services decreased in the first half of the 20th century. First strong **nationalisation** trends in Europe were visible in the mid-war period, when London public transport was nationalised and state

¹⁰ A.J. Smith, op.cit. pp. 8–10.

¹¹ M. Wolański, *Polska Akcyjna Spółka Telefoniczna*, in: *Świat Oczami Ekonomisty*, edited by: D. Stala and S. Sztaba, Szkoła Główna Handlowa, Warszawa 2010.

¹² R. Grodzicki, *Siła i Światło*, „Podkowieński Magazyn Kulturalny” nr 54/55.

owned London Passenger Transport Board as well as London Underground were created in 1933. In addition, in France in early 1930s railways, energy sector and key urban transport infrastructure have been nationalised, and such companies as SNCF (railways), EDF (electricity) and RATP (Paris public transport) have been created, mostly as a result of the Great Crisis.

The history was different in Poland, where many concessions granted by Prussia, Austria and Russia were not respected by the new Polish government, established after World War I, and the infrastructure was mostly demolished and required strong expenditures to restore it. Therefore publicly owned railways were created as early as in 1918, so the mid-war nationalisation referred mostly to some newer urban infrastructure.

After the war in some western countries – such as the United Kingdom – the nationalisation trend was continued. For example, stated-owned British Railways were created as late as in 1948, until then the railways were private¹³. In Central and Eastern Europe nationalisation was forced by implementation of soviet model of economy.

Nevertheless, in some other countries, especially in some of the cities in France, there was a continuity of private infrastructure provision, especially in water supply, urban transport or central heating.

1.2. Key definitions of PPP and its alternatives

Unfortunately, there is no uniform terminology in the area of PPP, and different terms, such as PPP, concessions, privatisation and contracting-out can have different meanings in different economic, law and cultural contexts. Therefore for a good understanding of broader literature, including case study papers, it is essential to understand this variety and relativity.

The term Public Private Partnership was used for the first time in the United States, when it referred to joint public and private financing of educational programmes, and later also utilities (in 1950s) and urban renewal (1960s). Herein it should be mentioned that in the US many utilities have been constantly delivered by private sector, regulated by courts and/ or special regulatory offices.

¹³ D. Parker, *The official history of privatization, Volume 1, The Formative Years 1970–1987*, Routledge, London-New York 2009, pp. 1–8. D. Parker also elaborates wider background of “nationalization” trend in the British economy after II World War.

Currently in the US the meaning of the term PPP has changed and evolved to be understood as a providing social services and R&D activities, performed by private bodies with financial support of public bodies. Many of such activities are conducted by non-profit organisations, such as NGOs¹⁴.

This American approach differs a lot from the contemporary European understanding of PPPs, which generally means a project, that aims at upgrading or constructing a piece of infrastructure, which should be usually provided by public sector (such as road, railway, school or prison), financed by a private sector, in exchange for lifetime long payments (**unitary payments**) from private sector authority or directly from users.

This understanding does not have a consistent definition, but is expressed in different definitions, promoted by different bodies and exposing slightly different features of PPP.

International Monetary Fund defines PPP, as “*arrangements, where the private sector supplies infrastructure assets and services that traditionally have been provided by the government.*”¹⁵

Organisation for Economic Co-operation and Development (OCED) defines PPP, as “*an agreement between the government and [...] private partners [...], according to which the private partners deliver the service in such a manner that the service delivery objectives of the government are aligned with the profit objectives of the private partners and where the effectiveness of the alignment depends on a sufficient transfer of risk to the private partners*”¹⁶.

HM Treasury uses the term Public Finance Initiative, and defines it, as “*arrangements where the public sector contracts to purchase quality services on a long-term basis so as to take advantage of private sector management skills incentivised by having private finance at risk*”¹⁷.

¹⁴ E. Yescombe, *Public-Private Partnerships, Principles of Policy and Finance*, Butterworth-Heinemann, Burlington, Oxford 2007, pp. 2–3.

¹⁵ *Public-Private Partnerships*, International Monetary Fund, Washington 2004, p. 4, <http://www.imf.org/external/np/fad/2004/pifp/eng/031204.pdf>, accessed: March 1, 2012.

¹⁶ *Public-Private Partnerships, In pursuit of risk-sharing and value for money*, Organisation for Economic Co-operation and Development, Paris 2008, p. 17.

¹⁷ The term PPP equals PFI in the UK, as well as privatization of state-owned enterprises and other measures to increase efficiency of public assets management in cooperation with private sector, but this meaning is used rarely and in fact many British authors use PFI and PPP as synonyms. *Public Private Partnerships: The Government Approach*, HM Treasury, The Stationery Office, London 2000, <http://archive.treasury.gov.uk/pdf/2000/ppp.pdf>, accessed: March 1, 2012, p. 10.

J. Delmon of the World Bank, defines PPP, as “any contractual of legal relationship between public and private entities, aimed at improving and/or expanding infrastructure services, but excluding public work contracts”¹⁸.

Polish PPP Act defines PPP, as “common enterprise based on duty and risk sharing between private and public partners”¹⁹.

The above quoted definitions contain following features of PPP:

- PPP refers to infrastructure, that is traditionally provided by the public sector – so according to the most of the definitions above, rail or bus operating contracts are not necessarily PPPs, unless they contain infrastructure construction and/or upgrade, although according to some definitions PPP is not limited to infrastructure (for example the OECD definition), what is also more in line with the common Australian understanding of the term;
- PPP contains big, up-front investments of public partner in exchange for payments during many years of operation of the project (this is not stated explicitly, but they can be paid by public authority or users of the infrastructure²⁰ – for more details on this subject see the term concession below) – this feature is connected with the nature of investment infrastructure and is essential for financial structure of a PPP;
- PPP is connected with transferring some of the risk to the private sector – this is stated explicitly in HM Treasury, OECD and Polish PPP Act definitions; the scope of risk can be different, which will be elaborated later, in section 2.2;
- PPP is based on long-term contract, closed for the lifetime of the asset (although there is no precise definition, what the lifetime exactly is; PPP agreements are usually closed for 20–30 years).

For the purpose of this handbook, we would like to assume, that PPPs are long-time arrangements, obliging private party to conduct and finance infrastructure construction and maintenance works, based on risk sharing between private and public sector.

This definition includes main features of PPP – it refers to infrastructure investment (herein called **facility**), private sector finance and risk sharing, and is based on long-time agreements.

¹⁸ J. Delmon, op.cit., p. 2.

¹⁹ Ustawa z dnia 19 grudnia 2008 o partnerstwie publiczno prywatnym, Dz.U. nr 19, poz. 100.

²⁰ Literate interpretation of the HM Treasury definition can exclude the second option, but in fact also toll-financed road projects are described as PFI even by HM Treasury itself.

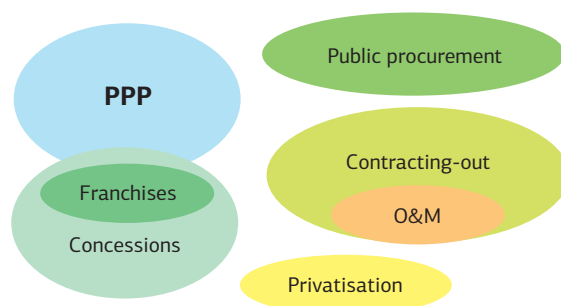
The definition stresses also, that PPPs is based on risk sharing so, for example, giving private sector the rights to construct mobile telephone network (or canals as it used to be earlier) is not a PPP, because no risk is kept by public body.

Although the above definition limits main scope of this handbook, some of the cases and solutions presented further may not necessarily meet the following criteria, but as they deliver useful conclusions for the main topic, we decided to use them, indicating terminological remarks in footnotes. Additional advantage of this solution is illustration, how the PPP term is understood differently in different countries.

There are two other terms, overlapping partially with PPP, that should be explained and defined at the beginning of this handbook, in order to distinguish alternative models of infrastructure project delivery. All the terms described below are also presented in Figure 1.

First of them is **concession** – in fact this term has been used already in section 1.1 of this handbook, referring to practically all historical, privately financed infrastructure projects. Concession means a right, that is granted to a given firm to operate an infrastructure asset and collect revenues (or gather other benefits) from it or to deliver a service in exclusively regulated industry²¹.

FIGURE 1. Relations between key terms referring to public sector project delivery



The key feature of concession is, that a private party receives majority of its incomes from the market and bears market (revenue) risk, as in the historic

²¹ Ustawa z dnia 9 stycznia 2009 o koncesjach na roboty budowlane lub usługi, Dz.U. z 2009 r. Nr 19, poz. 101, amended.

examples. On the contrary in a not-concession based PPP, the incomes (or at least the majority of them) are provided by the public authority.

Some authors state, that a concession must contain obligation to construct a facility²², but in fact, there are some concessions, that refer to operation and maintenance of existing ones (such as A4 motorway between Krakow and Katowice in Poland).

Other authors – as for example Yescombe – state, that concession is a type of PPP²³. In fact there are examples of concessions, that are PPPs (for example a toll-road PPP), but there are also other concessions, that are not (for example a concession to build and operate a mobile telephone network). Clearly, there are also PPPs, that are not covered by concession (for example non-toll roads) – this relations are also presented in Figure 1.

Franchising has been traditionally used as an English translation of the French term *affermage*, meaning long-term management (operation) contracts, concluded for example in water sector, typically for ca. 10 years. The asset is a public property during entire contract, but the market risk (as well as sales incomes) is bore by the operator, so in fact a franchising contract in infrastructure is also a type of concession²⁴.

In English the term franchising is often used in relation to public transport (including railways) concessions. For example railway franchising in the UK is not a PPP, as the operators use national railway infrastructure and even lease rolling stock, but it may be called a concession, as the private companies bear income risk (although they also get subsidies)²⁵. On the contrary, Melbourne train and tram franchising is often called PPP probably because the private party also has to upgrade and maintain infrastructure²⁶. It is still not a pure PPP, as not much investment is made up-front, before project execution and benefits appearance, what is typical for many of the PPP projects. This may be the reason, why some authors, for example Yescombe, state that franchising is not a PPP²⁷.

²² T. Merna, C. Nijru, *Financing Infrastructure Projects*, Thomas Telford, London 2002, p. 92.

²³ E. Yescombe, *op.cit.*, p. 5.

²⁴ *Ibidem*, pp. 11–12.

²⁵ Compare: N. Harris, E. Godward, *The privatization of British Rail*, “Railway Consultancy Press”, London 1997.

²⁶ *Franchising Melbourne’s Train and Tram Systems*, Auditor General, Victoria, Melbourne 2005, http://download.audit.vic.gov.au/files/ptfranchising_report.pdf, accessed: March 2, 2012.

²⁷ E. Yescombe, *op.cit.*, pp. 11–12.

Finally, we should introduce three terms, that are opposite to PPP – contracting-out, public procurement and privatisation, in order to define clearly, which models of private service provision are not PPPs.

Contracting-out or **outsourcing** also means competing for the market of services, that have been initially conducted by a public service organisation. As opposed to PPP it usually refers to a wide scope of ‘soft’ (not-infrastructure) based services, such as cleaning, security, but also buses, air traffic control, some road maintenance services or advisory. Contracting-out does not include significant risk sharing, except for some cost risk, but can allow to provide savings to a public body.

In some cases complex maintenance of a facility can be also contracted-out (for example road or wastewater treatment facility), but we call it rather outsourcing, than PPP, as long as no significant infrastructure investments or market risk bearing is expected from the private partner. This model is called O&M or OM&M (Operation, Maintenance & Management contracts)²⁸.

Privatisation or fully private provision of a service means, that assets are transferred permanently to private sector (or the private sector is their permanent owner) and, as we already mentioned, there is no risk-sharing between private and public partner – all risk is private. Still in some cases, the government can grant a private partner a concession or have some regulatory influence on it, for example in mobile telephony.

Please note, that in some countries (for instance the USA) and contexts the term privatisation is also used for contracting-out or outsourcing. Bus services contracting-out by a public transport authority (such as in London or Warsaw) can be called either bus transport privatisation or contracting-out²⁹.

Nevertheless, a pure understanding of privatisation is, that there is no service delivery agreement between private and public parties, as a base of the service provision, and a private sector delivers services fully at its own risk. Such understanding is presented for example by OECD³⁰.

Finally, an opposite term to PPP is **public procurement** of an investment. It means that an infrastructure asset is founded by public sector. Public procurement is often called “traditional” procurement, as it has been (and still is) a dominant model in infrastructure investments during last few decades.

²⁸ D. Grimsey, M.K. Lewis, op.cit., pp. 56–58.

²⁹ Ibidem, pp. 55–56.

³⁰ Public-Private Partnerships, OECD, op.cit., pp. 19–20.

Public procurement can be either conducted in a traditional formula, when public authority firstly procures design of a facility, and later separately procures its construction or in a Design and Build formula, when one contractor procures both design and construction within one contract.

Despite above described options, public procurement of investment, usually means, that it is constructed by a private company, and does not exclude further maintenance of the facility by a private company. The difference lies in separate contacts, so that both construction and maintenance contractors do have their own responsibilities against public sector procurer, and the construction is financed from public funds (or loans taken directly by a public sector entity).

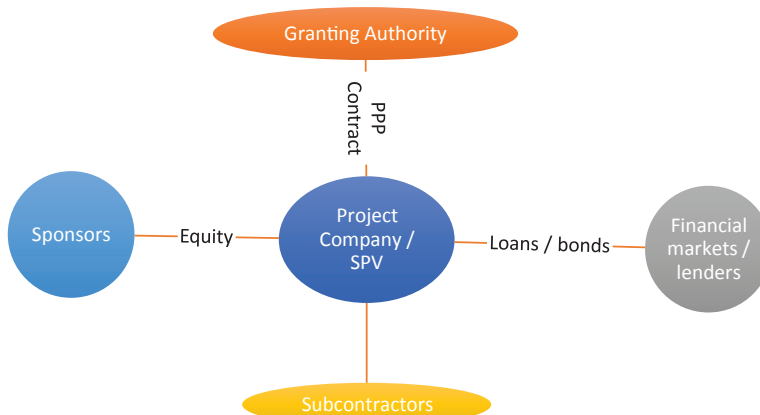
1.3. Key actors of a PPP project

Key actors of a PPP project are:

- granting authority;
- project company and its shareholders;
- lenders of the project company;
- project company's subcontractors.

Their relations are presented in Figure 2, and discussed in the following section of the handbook.

FIGURE 2. Key actors in a PPP project



A **granting authority**, called also a public sector body, government procuring unit, contracting authority, or public authority is a public body directly responsible for the project. It can be a part of a central government (for example Highway Agency) or a local authority (for example Transport for London).

A **project company** is a special company, created in order to conduct a given investment. It may be called an SPV (Special Purpose Vehicle), although this is more general term, that refers not only to PPP project companies. Although there is no formal obligation to conduct PPP projects through a SPV, it is practically a standard. The reason for this, is that a project needs significant amount of debt, and its owners do not want to decrease their creditworthiness and burden their companies with risk.

The owners of the project company are called **sponsors** or promoters (whether the term promoter sometimes refers also to a granting authority, what may be confusing). Sponsors usually come from the group of investment banks, investment funds and potential service suppliers for the project (construction and maintenance companies etc.), although the approach differs among countries and sectors.

Sponsors provide **equity** to the project company – usually equity varies between 10 and 30% of the required investment budget (**capex** – capital expenditures). Equity is the most risky capital involvement to the project, and if the project fails – sponsor loses it, but if it succeeds – the amount that he or she earns can be very high. Usually each of the sponsors has a minority share of the SPV, so that its debt does not burden their sponsors balance sheets.

Granting authority and project company are connected by a **PPP Contract**, which is a key relation of a PPP and remains effective during entire contract period (we will later discuss the possibility of its amendments). The contract is closed as a result of procurement, described in section 2.3.

A PPP contract contains complex description of long term-cooperation rules. Preparation of it requires plenty of experience and imagination, as it refers to a huge budget, as well as a long-term relationship resistant to changing circumstances. Contract usually contains³¹:

- complete date and specification of the facility, whereas in PPP the specification should be oriented more on the output service level requirements and maintenance standards, that on technical assets details, typical for public procurement;

³¹ E. Yescombe, op.cit., pp. 32–33, J. Delmon, op.cit., pp. 120–123.

- rules about financing the asset – level of unitary payment or maximal payment covered by user, its valorisation rules, as well as penalties and bonuses when the facility is delivered below or over agreed service levels; in some cases this may be called an **offtake purchase agreement** – i.e. an agreement, that refers to purchase of facility's products (for example for electricity made by a power plant);
- granting authority's obligations, such as financial guaranties, site preparation, etc.; in some cases it may also refer to some complementary or competitive investments, especially when the project company bears market risk (for example this can be completion dates of other sections of the same motorway in case of toll motorway or upgrade restrictions to alternative routes);
- rules of initial assumptions changes and supervision over the construction performed by granting authority;
- insurance obligations for project company;
- restrictions in terms of ownership change of a project company (for example new consortium must meet initial criteria) and refinancing rules;
- method of contract amendment, including disputes – as the contract will probably not predict all circumstances, that will occur during the expiry time;
- provisions for the public authority to terminate the contract earlier and compensation rules is such conditions;
- technical conditions, that refer to the facility at the end of the contract (“hand-back conditions”).

Most of the aspects will be elaborated in details in chapter 2, as they play a key role for the future cooperation.

Some countries provide standard PPP contract patterns, which are very helpful for granting authorities, but still have to be adjusted to the specific features of a given project. For example, HM Treasury provides a document of Standardisation of PFI Contract, which is more than 350 pages – so called SoPC 4. This is already a fourth version of it³².

We have already mentioned that equity helps to cover usually 10–30% of capex. The rest has to be covered by debt, provided by **lenders**, according to the **Project Finance** principles. Project finance means financial engineering, that allows to repay project debt from project revenues.

³² Standardisation of PFI Contracts, HM Treasury, London 2007, http://www.hm-treasury.gov.uk/d/pfi_sopc4pul01_210307.pdf, accessed: March 2, 2012.

Traditionally, two main sources of debt are used in finance projects – bank loans (usually from number of banks in order to spread the risk between them) and bonds. Generally a project is based on pure loan financing or, in case of bigger projects, on bank loans mixed with bonds. There are cases, when banks, that are financing a project are also its sponsors (for example in Australia), but there are also cases, when a separate procurement for financing is done by the procuring authority, usually after selection of a project company (for example in the UK – see section 2.3).

Basics of Project Finance will be described in sections 2.4 and 3.5, and some current issues of financing PPP projects after the crisis in section 3.6.

As stated above, project company's **subcontractors** are important actors of a PPP project. They are responsible for design, construction (general contractor) and maintenance of a facility, but usually each of these is procured separately by a project company itself. Main subcontractors can be sponsors of the project; they can also use their subcontractors (especially general contractor).

PPP subcontractors are usually big, multinational companies. This domination is partially a result of a complexity of the facility itself, but also the result of the fact that PPP investment formula increases market entry barriers.

The important role in a PPP project is played by different advisors – including legal, technical and specialised PPP advisory, insurers, as well as rating agencies.

Advisors are employed separately by a granting authority, a project company and lenders. Granting authority's advisers aim at preparing the tendering process and documentation, evaluating feasibility of bids, as well as at negotiating final agreement. They also research, if PPP is a proper way of delivering a project (this will be elaborated in section 3.2).

Granting authority employs also technical advisors (T/A's), who supervise construction process. Construction process is also supervised strictly by bank's T/A's, and their acceptance of works is a crucial condition for payment of credit tranches. Project company as an investor has its advisors for similar reasons, as the granting authority.

Advisory costs represents a significant part of PPP's budget, compared to usual public procurement. Therefore it is not worth to consider small projects to be PPP projects (see section 3.1).

PPP Unit within a national government, usually Treasury Department is a special type of advisor, which aims at supplementing commercial advisers, providing knowledge to different granting authorities in the country. Commercial advisers

usually deliver services to both private and public parties (not within the same project). On the contrary PPP Unit is independent from private sector.

Insurers provide policies for different risks, that are required both by granting authority (according to the contract) and lenders, who also expect some risks to be covered for their security. Another type of insurers used in PPP process were monoline insurers – companies which guaranteed bonds, in return for insurance premium. It enabled to offer lower bond rate (these bonds are called wrapped bonds). After the subprime crisis, the activity of monoline insurers strongly decreased.

Rating agencies are also involved in PPP processes, especially in case of bond placement. They evaluate risks of a project in a complex way, in order to provide lenders with the information about risk level, which influences expected interest rate.

1.4. Diversity of contemporary PPP projects

In this section we shortly discuss different types of contemporary PPP projects, taking into account its geographical location, sector, scope, and then – models of cooperation, according to asset and project company ownership, and scope of work (for example BOT – Build, Operate, Transfer or joint ventures), as well as basis for unitary payment. This will be preceded by the newest history of PPP.

As we mentioned in sections 1.1 and 1.2, after World War II, private sector involvement in infrastructure provision has decreased for political reasons, although some of the traditional concepts has still been used. For example in France some private companies provided urban utilities (usually in franchise model), and new toll motorways were built in the 1950s based on concession, but the concessionaries were public companies, financed by public debt (they were not successful)³³.

The privatisation trend started at the end of 1970s in the UK. During the first years it referred mostly to privatisation of heavy industry that had also been nationalised, which resulted in its huge inefficiency and cumulating losses. Among companies privatised in the 1980s we should mention oil industry, including British Petroleum, British Aerospace, Cable and Wireless, and transport companies such as Associated British Ports and British Airways, as well as network utilities, such as British Gas and British Telecom³⁴.

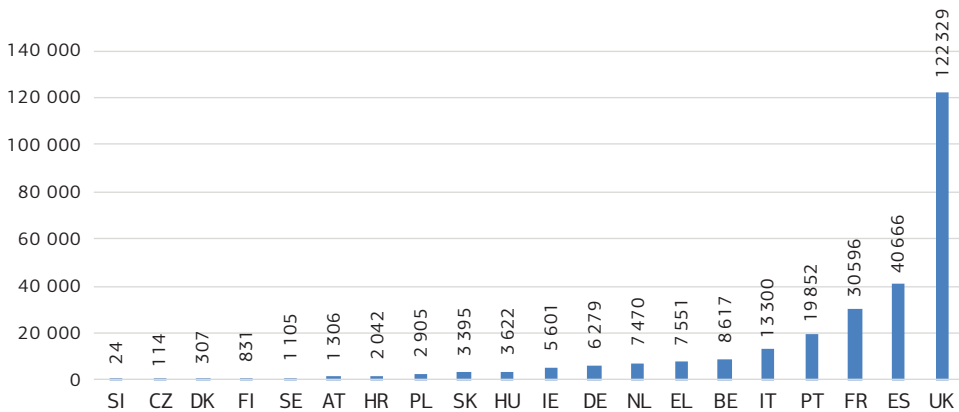
³³ D. Grimsey, M.K. Lewis, op.cit., p. 49.

³⁴ D. Parker, op.cit.

First PPP project was conducted in the UK in the second half of 1980s – it involved construction of new Dartford Crossing close to London. A private consortium has overtaken an existing tunnel and constructed a new bridge. Therefore it was allowed to collect tolls. Three other similar projects (usually estuary crossings) have been conducted until mid-1990s³⁵.

This began a PPP trend developing in some of the European countries, including the UK, Spain, France, Portugal, Italy, Hungary, Poland and Slovakia (see Figure 3). Outside Europe PPP is popular in Australia, Korea, Japan and Canada.

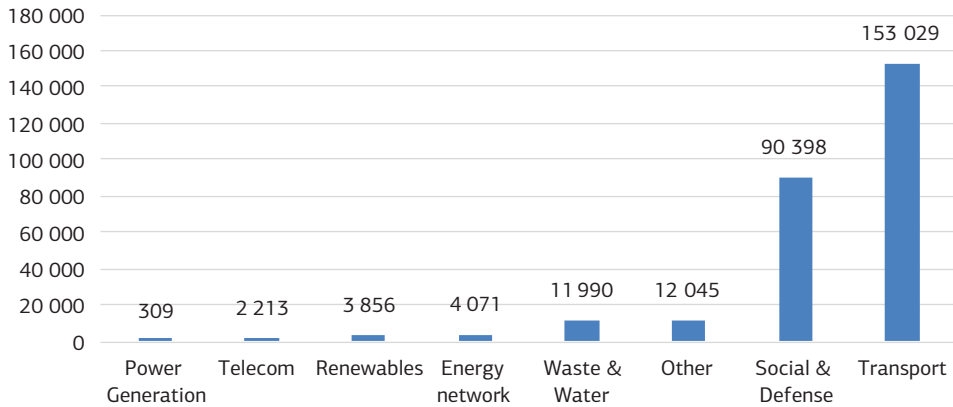
FIGURE 3. Total value of major PPP projects in EU-Member states (2000–2015) [m€]



Source: Dealogic Projectware database, Investment Challenges in Energy, Transport and Digital Markets: A Forward Looking Perspective. European Commission, Brussels 2016, p. 19.

The scope of PPP projects can be very different. Although toll roads are the most evident case, it is also a method to deliver non-toll roads (a private party can be then granted for availability of the road, or **shadow tolls** can be paid by a public authority for each vehicle using the road), railroads, hospitals, prisons, schools, military facilities, fire stations and social housing. Since 2000 in the EU transport projects have created 55% of the total value of the major PPP deals, whereas social and defence – 33% of it (see Figure 4).

³⁵ R. Bain, op. cit., p. 24.

FIGURE 4. Structure of PPP projects in the EU by sector (2000–2015) [m€]

Source: Dealogic Projectware database, *Investment Challenges in Energy*, op.cit., p. 19.

In case of such projects as schools, hospitals or prisons, different scope of responsibility can be transferred to private sector. The minimum scope called **service infrastructure model** highlights infrastructure facility provided by a private party (including utilities, cleaning and general security etc.), whereas key activity is performed by a public party. The maximum model, called **DCMF** (Design, Construct, Maintain and Finance), includes full scope of services, so the private party is responsible also for such activities, as teaching, re-education of prisoners, treatment of patients. As these are socially important processes, most of the projects are still based on service infrastructure model, although some projects have extended or full scope which is usually well-assessed. The example of this can be Acacia Prison in Western Australia (see Case Study 1)³⁶.

A range of different models for private participation in a prison project is presented in Table 1.

³⁶ Although the Acacia Prison is rather an extended example of OM&M project, than a pure PPP in the meaning of this handbook, this is also a good lesson for pure PPP project. It is also worth mentioning, that such OM&M projects in Australia are usually called PPP, although the prison have not been built or significantly upgraded by the private party – Serco.

TABLE 1. Different scopes of private participation in a prison project

	UK PFI DCMF Model	French mixed management DCF model	Services infrastructure model
Accommodation services – provision of the infrastructure including buildings, plant and machinery	✓	✓	✓
Security systems – provision and maintenance of all security and fire systems	✓	✓	✓
Property management – major facilities maintenance	✓	✓	✓
Transport – movement between facilities and the court	✓	✓	✓
Information systems management – data storage and recovery/reporting	✓	✓	✓
Medical Care	✓	✓	
Education, work and vocational training development	✓	✓	
Billets – cleaning, laundry and catering service including the utilisation of prisoners' labour	✓	✓	
Industries – commercial enterprise	✓	✓	
Custodial – guarding and associated services	✓		

Source: D. Grimsey, M.K. Lewis, op.cit., p. 99.

A basic typology of business models within PPP contains³⁷:

- **Build Operate Transfer (BOT)**³⁸ – where the private sector finances, designs, builds and operates the project, and transfers it back to the public authority after the concession period. This is a very classic PPP model, used broadly for toll road projects, such as Dartford Crossing, as well as many other motorways (also in Poland or Hungary). The asset is usually private sector's ownership during the operation period, which is called also **BOOT – Build Own Operate Transfer**.
- **Build Transfer Operate (BTO)** – this model assumes, that in construction phase the facility is owned by the private party and after its construction (before

³⁷ E. Yescombe, op.cit., pp. 11–13.

³⁸ The term BOT was introduced by Turkey's prime minister Targut Ozal in early 1950s, but as we know it has been known for ages, as most of the old concessions also contained hand-back obligation after the project. T. Merna, C. Nijru, op.cit., pp. 89–90.

receiving first unitary payment) it is transferred to public sector, although project company remains responsible for operating it.

- **Design Build Finance Operate (DBFO)** – where the facility belongs to the public sector all the time, and the project company only constructs and operates it.
- **Joint venture PPPs (JV PPPs)**, called also institutional PPP – when private and public sector jointly own and operate facility, so a public body is a minority shareholder at a project company. This was popular in the USA (especially in case of land development projects) and in Japan³⁹. JV model can be combined with other models, such as BTO or BOT.

Case Study 1. Acacia Prison, Western Australia

First Australian privately operated prison has been opened in Queensland in 1990. Since then, share of privately operated prisons in this country raised to 15% of the total capacity. The Acacia prison PPP project has been granted by the Department of Custodial Services (DSC) in 2000 and is constantly supervised by State Office of The Inspector of Corrective Facilities in terms of both – safety standards and quality of educational programmes. The innovative approach in this project is, that a unitary payment to the private operator (a UK based conglomerate Serco) is a Performance Linked Fee, connected with the achievement of given KPIs, referring to the given vision “every prisoner at Acacia will work actively with the help of the prison to address his offending, develop his abilities and re-join the community as a full and law-abiding citizen”. This means, that the KPIs reflect the effectiveness of prisoner’s treatment, education and training. Although the beginnings were hard, currently the project brought the state not only 12,5 million AUD savings/year (i.e. over 16500 AUD / prisoner and year), but also brought a number of improvements in the educative process.

Source: L. English, C. Baker, J. Broadbent, Accountability in private prisons? A case study of the effectiveness of dialogic evaluation, Sixth Asia Pacific Interdisciplinary Research in Accounting Conference, Sydney, 11th-13th July 2010.

Within other possible models we can find also⁴⁰:

- **FBOOT – Finance – Build – Own – Operate – Transfer**, that is similar to BOT and BOOT;

³⁹ D. Grimsey, M.K. Lewis, op.cit., p. 11.

⁴⁰ T. Merna, C. Nijru, op.cit., p. 90.

- DBFM–Design – Build – Finance – Maintain, which contains maintenance, but not operation, as we saw in case of prisons, or as it was intended in case of London Underground (Case Study 5), where the operation was to be provided by a public body (although this was rather DRFM – see below);
- ROT – Rehabilitate – Operate – Transfer, and others where B is substituted by R, and means that a subject of a project is an existing facility – such projects are also called **brownfield** projects in opposite to **greenfield** projects, where a new facility is build.

The above typology – as usually in case of PPPs – is not compliant with the ones in different countries and does not contain full range of possible solutions. Some of the solutions can be also described by a range of abbreviations.

There are examples of authors, such as Grimsey and Lewis, who describe O&M contracts, as a type of PPP⁴¹. At the same time in another chapter of the same book⁴², they discuss differences between PPP and O&M. This can show, how ambiguous is the entire PPP terminology (the main feature of an O&M contract, that differentiates it from PPP, is that there is no up-front investment in an O&M model, so all project finance challenges are irrelevant, but also no lifetime-cycle design benefits are achieved).

Similar observations can be made looking at Build Own Operate, which differs from BOT in private ownership of the facility during operation and no ownership transfer at the end of the project. Examples of its use are water supply and savage network projects in Chile and the UK. In this model it is assumed, that the facility operates privately without a time limit, but the supplier undergoes sector regulation. In fact, a BOO model means privatisation, not a PPP.

The above typology has educational value. In a real life contracts scope of responsibilities must be described in details, not just by choosing and mentioning a particular model. In literature there are many models abbreviated in a similar way, from which only some can be identified as PPP.

There are also different types of PPP projects, according to project company's source of incomes. This can be:

- **user's fees** – for example in case of toll roads;
- **usage-based payments** of granting authority – for example shadow tolls in case of many British PFI road projects granted in 1990s, where no user-tolls have

⁴¹ D. Grimsey, M.K. Lewis, op.cit., pp. 11–12.

⁴² Ibidem, pp. 56–57.

been introduced; usage-based payments can be different, depending on traffic level and types of car. In case of road PFI construction projects, the highest fee per user is paid by the public body for every user below pessimistic traffic forecast. Fees per user allocated between pessimistic and optimistic forecast are lower and those above optimistic forecast – little or equal to zero;

- **availability fees** of granting authority.

Above described payments (especially availability fees) can be complemented by performance penalties and bonuses system.

The system being a mixture of above stated models is also possible. In case of prison both, availability fee and accommodation-based fee can be paid. In case of a public transport PPP, user fees can be combined with an availability fee to cover deficit of money. A choice of proper way of settlements is a very important issue influencing risk transfer and will be discussed later in section 2.2.

2 HOW TO MANAGE A SUCCESSFUL PPP PROJECT?

2.1. Structure and milestones of a PPP project

PPP projects are very complex covered by billion budget, lasting 35 years or more, which includes entire preparation phase. The following chapter presents key success factors of a PPP project and its first section provides general outlook of a project, that can be divided into 7 phases, presented in Figure 4. This section also provides some remarks for project management team, as an important part of project structure.

The first phase of a PPP project is an identification (see Figure 5). This phase is connected with strategic selection of projects within authority's policy. In other words, it should be focused on deciding which investments should be promoted by the authority in incoming years, and which should be postponed or suspended. This includes prioritisation of potential investments in terms of its effectiveness in addressing policy goals, as well as economic efficiency.

A product of an identification phase is usually a preliminary feasibility study, as well as a decision, whether to include a project in strategies or not. In order to conduct initial comparison of different investments, one or more of the following methods is usually used:

- Cost-Benefit-Analysis (CBA) – comparison of internal and external costs during entire lifecycle of the process (in monetary values),
- MultiCriteria Analysis (MCA) – assessment of different aspects based on different criteria (such as costs and outcomes, but also other features, difficult to be valued) and subsequent weighting, adding and comparing final values;

- Cost-Effectiveness Analysis (CEA) – aiming at finding the cheapest way to achieve given goals.

FIGURE 5. Structure of a PPP project



Combinations of these methods are often used to initially compare different scenarios of a given investment within its feasibility study (for example MCA, where CBA results are an important but not the only criterion).

From technical point of view, identification phase usually contains concept design, estimation of demands (for example traffic forecasts) and environmental assessment. At identification stage network effects and co-ordination between different investments in time and space – have key importance, because a given

investment itself can be potentially viable, but in fact some competing investments may decrease its viability. In this phase potential financing sources – including PPP – are identified and initially evaluated.

Identification phase does not differ significantly between PPP and traditionally procured projects. This phase is however crucial for the success of a PPP project. PPP itself will not make a bad project very successful, and each project will fail, if it does not meet policy and market demand. If PPP is chosen as a project delivery method – the failure can have even worse political and economic impact, and can be more difficult to hide. This can be illustrated by a case study of Clem7 tunnel in Melbourne, Australia (see Case Study 2).

Unsolicited proposals at the identification stage are specific issues of PPP project – i.e. proposals of private bodies to conduct an investment, that is not planned by the government, but can be commercially viable and socially beneficial, for example construction of efficient school buildings, that will offer unitary payment lower, than maintenance costs of current buildings, or a new self-financing toll-bridge or estuary crossing etc. Such proposals should be taken into consideration, but most of the law systems do not allow the proposing body to grant a contract without a bidding process. Nevertheless, if an unsolicited proposal results in a decision to conduct the proposed investment, some advantages should be offered to the proposing body, such as⁴³:

- additional points within bid assessment;
- a right to match the best offer;
- a right to participate in the final round of the bidding process;
- financial compensation.

In some legal systems unsolicited proposals can be refused or limited to concession projects.

Second phase of PPP project is **preparation**, where different technical and economic solutions have to be finally examined and chosen, in order to deliver a particular project in an optimal way. The main document prepared at this stage is usually a feasibility study, that identifies and compares different scenarios of the investment (for example different locations, technical parameters etc.), also using CBA, but in a more detailed way. Technical analysis is much deeper in this phase, for example, in case of road investments, preparation phase can include geological research of the investment site in order to find optimal location. At the preparation

⁴³ J. Delmon, *op.cit.*, pp. 45–46.

stage also appropriate land should be acquired (although it does not always happen), as well as political and public consultations and buy-in should be conducted.

Case Study 2. Clem7 Tunnel, Brisbane, Australia

Clem7 Tunnel in Brisbane is a 5 km tunnel under the city of Brisbane and Brisbane River, opened in summer 2010. Clem7 is a PPP project, promoted by the government of Queensland. The facility was planned to be financed by tolls, which are main income of the project company, floated on Australian Stock Exchange.

The tunnel has been constructed on time and in budget and is an award-winning engineering piece-of-art, but the actual patronage achieved only 1/3 of the forecasted values. This caused big problems for the project company, as its incomes are much lower, than forecasted. It is unable to pay its debts and its shares aren't traded any more, as they have lost all the value. The company is currently under Voluntary Administration (this is an insolvency procedure according to the Australian law) and its debt is traded at less than half of its initial value.

The history of Clem7 is a result of failures – and so called optimism bias – at many levels of the project, from the very beginning to the very end. But final results show, than in fact the project should probably have been abandoned at the identification period, as the low demand would not justify its costly construction, also if it was publicly procured. Because of PPP, the project's inefficiency became visible for broad public, but there are many similarly unreasonable transport projects in many other places worldwide, what shows weakness of project identification process.

Sources:

- T. Grant-Taylor, *Clem7 tunnel would never have been built based on actual traffic numbers*, The Courier-Mail, <http://www.couriermail.com.au/business/clem7-would-never-have-been-built/story-e6fqmx-1226000426935/>, accessed: March 3, 2012.
- Rivercity Motorway official website, <http://www.rivercitymotorway.com.au/>, accessed: March 3, 2012.

If PPP is considered for the particular project, the first decision has to be made at this stage. In order to do it, a separate type of economic analysis should be conducted, about whether PPP is an optimal way of delivering the investment. This decision may be changed later; nevertheless it will significantly influence the next stage of the project – the bidding process. The methodology of comparison between public procurement and PPP is called **Value for Money (VfM)** or **Public Service Comparator (PSC)** analysis and in some countries (as for example UK) is required by law for all investments, where there is a potential possibility of PPP establishing.

In some of classically procured projects (excluding Design and Build contracts), preparation phase may include also detailed technical design of a facility. In case of PPP projects this is omitted, as the detailed design is made by private party, according to grantor's functional specification. This aims at offering the higher efficiency, within given output.

Identification and preparation phases will not be discussed in details in this book, as they are not PPP project specific, and another handbook and another unit of studies on feasibility studies is provided the Warsaw School of Economics Project Management programme⁴⁴. Specific issues describing the choice of PPP at those strategic stages of project preparation, including more details of VfM analysis, will be presented in section 3.2, because discussion on it needs detailed knowledge of the other project phases, presented in the following sections of this chapter.

On the contrary to the first two phases, the **bidding process** differs significantly between PPP and public procurement. It contains two substages – preparation of the process made by a granting authority and the bidding process itself, absorbing huge effort both of a granting authority and bidders. The border between those two stages is a first call for tenders or request for qualification.

The bidding process is important for PPP and efficiency of entire project. It will be described in details in sections 2.2 (risk sharing, which is crucial for the procurement design) and 2.3 (the procurement process itself). Here we should stress, that the bidding process should:

- fulfil local legal requirements (PPP projects usually undergo similar rules of procurement as classic projects, although there may be some specific regulations, because of PPP projects' complexity, as they are much more challenging for lawyers);
- optimize costs – participating in a PPP tender is very expensive for potential bidders, because at this stage they have to prepare initial but detailed project design, in order to provide long-term cost projections and sometimes (if they gather incomes from the market) also income forecasts;
- therefore a PPP procurement contains number of stages, beginning with **pre-qualification**, in which only bidder's technical abilities, financial potential, as well as experience are evaluated – therefore participation in pre-qualification is not expensive; ca. 5 consortiums are usually qualified and included in the

⁴⁴ M. Wolański, B. Gorlewski, Project Feasibility Study, Warsaw School of Economics 2015.

next stages, in which they have to bear the costs of preparing project-specific offer; a bigger number of stages is also possible in order to reduce costs (this will be elaborated in details in section 2.3).

Focus on expected output with relative big freedom for bidders to propose solutions – therefore different innovative methods of tendering are used within a PPP procurement, such as **competitive dialogue**, that enables negotiations with bidders without a detailed technical specification given upfront.

We should be conscious, that at this stage, bidders do negotiate lending conditions with financial institutions, but cannot sign binding contracts with them due to fluency of financial markets. On the other hand – without fixed financing the project consortium cannot sign binding contract with the project authority. This adds a huge dose of challenging uncertainty.

Therefore there must be a separate stage of a PPP project, within the scope of which a project consortium has to be chosen and most of the financing still needs to be arranged (except equity provided by the sponsors). This stage is called **financial arrangements** and it is finished with the **financial close**.

There are two main possible approaches to this phase – financing can be arranged by the project company itself (classic approach) or jointly by the project company and granting authority. Currently we can observe a trend moving towards the second solution – for example in the newest British PFI projects.

The main challenge of this phase is to provide as efficient (cheap) financing as possible, whereas this requires good risk assessment by the banks. Big PPP projects are rarely financed by one bank, as it is connected with high risk, but the unit called **lead arranger** underwrites the debt and places it in the market, after conducting **due-diligence** – a complex evaluation of viability, profitability and risks analysis of the project. Placing a debt in the market means ‘selling’ its parts to other banks, whereas the lead arranger usually retains the biggest part of it. This process is called syndication. If bond financing is planned, due-diligence is usually made by rating agencies.

Financial close is a moment, when the project is fully prepared in terms of financing and the **construction phase** can start. Although we call it construction phase, it contains also detailed design of the facility. Project company spends the highest amount of money and usually receives no unitary payments from the granting authority or other operating incomes (with exception of some refurbishment or multistage projects).

At the construction stage – as we already mentioned – project company is strictly supervised by both: lenders and a granting authority. Theoretically it is an easy stage, because it is relatively short and aims at getting the facility done.

In fact, some unforeseen circumstances can happen during the construction phase. Firstly, granting authorities often change their priorities, especially during the time of design. Special procedures should be foreseen to enable this, at reasonable cost for a granting authority (in construction business such changes are often main profit source of the contractor), but also without losses for a project company.

Secondly, some unforeseen events can happen during the construction works. This will be discussed in the next section, but it is aimless to transfer all risk to the private sector (for example risk of archaeological findings in the area of future facility construction), and some of the problems have to be resolved in a dispute process.

Undoubtedly it is hard to predict, which unforeseen events will really happen in a particular project, but it is highly probable, that some will, and a PPP structure (especially procedures described in a contract) have to be flexible enough, to include all possible scenarios.

Once construction phase is complete, **operating** phase begins. As mentioned before, this is the longest phase of the project, lasting usually about 25–30 years. This phase should be characterised by sustained cash flows, where project company's income covers maintenance costs and debt repayment. Although a project company gyrates big amounts of money, cash management can be sometimes challenging, as PPP budgets are usually tight. Project company remains strictly supervised by its lenders and it has to make some reserves for unexpected activities such as bigger maintenance. The less successful is a project, the more difficult is cash management.

Operating phase is also usually a stage, when project risk decreases compared to construction phase. This happens, because the risk related to project delay or cost significant increase does not exist anymore and the initial project performance is already known. Therefore project companies can search for **refinancing** – getting new financing sources, with lower risk premium and lower interest rate. This can mean renegotiations with current lenders, changing creditors, or switching financing source – for example from debt to bonds (existing and good performing project may get higher rating).

The end of the operation phase is called a **tail**. Business plan of a project usually assumes that all (or most) of the project debt will be repaid a few years before termination of the contract, bearing in mind that last few years are devoted to equity

holders rewarding. This can be also a safety margin needed during due-diligence, to prove robustness of the project.

Similarly to the construction phase, there is also a high risk of unforeseen circumstances during the operating period that may need to be resolved, and special procedures for that special cases must be foreseen.

The last phase is called **hand-back**, during which the facility is returned back to a granting authority by a project company. A project company's task is to create a facility according to agreed shape and consequently a grantor needs to examine, if the condition of the facility complies with the agreement. This is usually done through T/A's. Hand-back can occur after a fixed amount of years, but in some cases a contractual period can be extended or vary in specified modes described below:

- sometimes contract can be extended, within re-negotiation process, due to unforeseen negative circumstances or in exchange for extended scope of works,
- some contracts may be extended as a bonus for good performance,
- some contracts may have variable length – for example if project company gets usage based payments, the contract termination may happen after the project company gathers a given amount of money, and not after a given time.

Another dilemma connected with the hand-back of the project is its future operation and maintenance regime. There are following options:

- a facility can be operated in-house by the granting authority,
- a facility can be re-tendered as an O&M contract or a concession,
- a facility can be re-tendered in a PPP formula, when refurbishment is needed, for example extra lane has to be added to a motorway.

From the beginning of the bidding process (or the second stage of preparation process), at least until the end of the construction process, each PPP project should be managed by a special team, within the granting authority. During an operation phase some projects can be grouped, and governed by one management team, although in some cases retaining separate management teams can be a better decision.

A project team should be managed by a full-time **project director**, using knowledge and resources of different departments, as well as external staff (PPP unit, advisors). A project director should report to the highest management of the public authority, in order to be able to consult his decision directly with the people from appropriate level (including political level).

2.2. Risk sharing

As risk sharing is an important feature of PPP, its proper design is one of key challenges at the stage of procurement preparation. The main rule of risk sharing in PPP is, that risk should be allocated to the party, that has best abilities to deal with it, so to the party that can deal with it at the lowest cost⁴⁵.

Too much risk transferred to the private party results in the expectation of high risk premium, that can make a project not affordable or not efficient. It can also make the project not bankable – i.e. there will be no parties willing to lend money.

On the other hand, too little risk transfer can cause, that the public party will not benefit from PPP as it should.

Before discussing this issue, we should outline basic ways of handling the risk. It can be⁴⁶:

- retained by a granting authority;
- transferred to a project company and:
 - retained by it,
 - passed to its subcontractors,
 - covered by insurance, or,
 - covered by sponsors;
- transferred to end users (in case of concessions the scope of this activity is limited).

We should also stress, that a default method of dealing with risk is usually its transfer to a project company, because according to the rule it is responsible for on-time delivery of the project, in exchange for the agreed benefits.

Obviously, risk transfer should be adjusted to a particular project, and there is no detailed rule, how much risk should be transferred (excluding the rule above). In order to assess risk, it is useful to divide it into groups. Herein we propose the following systematics, based mostly on Grimsey and Lewis⁴⁷:

- completion risk – group of risks that appeared at design and construction stages;
- operating risk – risks of higher operating costs during operation phase;
- revenue risk – risk of lower revenues, due to low demand;
- financial risk – due to increased financing costs etc.;

⁴⁵ D. Grimsey, M.K. Lewis, op.cit., p. 106.

⁴⁶ E. Yescombe, op.cit., pp. 242–243.

⁴⁷ D. Grimsey, M.K. Lewis, op.cit., p. 172.

- *force majeure* risks – such as wars, natural disasters;
- legal, regulatory and political risks – caused by strategic changes of government policy;
- project default risk, as an ultimate result of other risks.

This groups of risk are going to be elaborated below and are presented in Table 2.

Although some authors⁴⁸ split **completion risk** into site, technical (design) and construction risk, it is usually treated in a complex way. Such approach is more adequate, as project companies are used to contract design and construction in an integrated way (D&B contracts).

TABLE 2. Risk matrix for a PPP project

	Main risks, that are usually retained by public authority	Main risks, that are usually transferred to the project company (a way how project company deals with the risk)	Main risks that may be shared, or transferred in different ways
Completion risk	Land acquisition, protestors, changes made by a public authority	Cost overruns, construction delays (passed to general contractor – completion bond, partially insured)	Site risks (geological, archaeological, environmental)
Operating risk	General price level increase	Increase of opex in real terms (mostly retained, mitigated by long-term contracts), additional maintenance or defects (passed to general contractor – maintenance bond)	-
Revenue risk	-	-	Risk of low usage (although there are tendencies to limit its transfer to the project company)
Financial risks	Risk of changing conditions at financial markets before financial close (in most of cases)	Loan availability and rates, exchange rates after financial close (mostly handled by the project company, using hedging tools, but can be decreased by a public party, by such tools as guarantees)	-
<i>Force majeure</i> risk		Natural disasters (insured) Wars, acts of terrorism (retained by the project company)	-
Legal, political and regulatory risk	Project or PPP specific legal, political and regulatory changes	General legal, political and regulatory changes, for example changes in general tax rates (retained by the project company)	

⁴⁸ For example D. Grimsey and M.K. Lewis, op.cit., p. 147.

Completion risk starts at the stage of plots of land acquisition, necessary for building construction. In order to decrease risk and to use special legal powers, the land is usually acquired by a granting authority (in case it is not owned by it earlier).

An important completion risk components include geological, environmental and archaeological risks, especially connected with line infrastructure – road and rail projects. There are different approaches to this risk – on the one hand, a project company should conduct its own research on ground and environmental conditions, before placing the bid. On the other hand – in some cases the above described option can be too expensive, and it can be cheaper, when public authority retains this risk. A compromise solution for easier cases, is to establish **relief periods** for some of the site risk factors – this means, that if an unexpected event occurs, a project company is allowed to deliver the facility later without fines, but it gets no compensation for increased construction costs and it usually loses some unitary payments. Some of the geological, environmental and archaeological risks can be also insured.

Some risks are also connected with a probability of protests, that can be organised because of the project possible impact. Logically, it should be retained by a public authority, as the authority has initially planned the investment and is responsible for social dialogue.

Furthermore, completion risk includes risk of delays and cost overruns, due to such factors, as wrong planning, unforeseen events and conditions (for example weather conditions, but also changes of prices of raw material and labour; some authors include site risks as the completion risks⁴⁹). This is very popular in the majority of infrastructure projects (especially publicly procured described in section 3.1).

Risks of delays and cost overruns are usually transferred to a project company that transfers them further to a general contractor of the facility based on one, possibly complex D&B contract, in order to archive clear and complex responsibility. As opposed to this, in case of any claims, for which there is no single body mentioned as responsible, a project company is forced to find the guilty contractor. In case, a delay or cost overrun occurs, general contractor has to cover the excessive cost or repair the damage, caused by this delay.

Completion risk includes also a risk, that the constructed facility will not meet granting authority's requirements. It can result in the need for additional works

⁴⁹ For example J. Delmon, *op.cit.*, p. 103.

and/or penalties during the beginning of operation. This risk is also transferred to a general contractor.

We should stress, that such risk can be handled only by the biggest construction companies (usually multinational), so many other companies (often local), having technical capabilities to construct a given type of facility, are in fact excluded from PPP projects, or can be only general contractor's subcontractors. Project company is usually additionally protected by **completion bond**, paid by the general contractor, which is returned after the project is completed.

Finally, we should mention, that although construction risk is passed to the general contractor, some effects of unforeseen events may cause, a general contractor decides to break a contract and lose performance bonds. In such a case, being a better solution from the possible ones, project company has to deal with the risk, that usually means its default – in such cases sponsors are about to lose equity, and public authority has to step in (theoretically lenders have also such right, but they use it rather at later stages of the project). These procedures will be described in chapter 2.6 (project termination).

Some of the construction risks can be also insured, such as for example a risk of disasters that may occur during the construction period.

Management of completion risk is especially difficult when a general contractor is one of the sponsors, which in fact is a very typical situation. Yescombe outlines four complementary solutions to deal with it⁵⁰:

- the project company is represented only by other sponsors (supported by T/A's);
- the project companies' employees supervising a contract are all independent from a general contractor;
- project company's directors, which are delegated by the general contractor, cannot vote on topics, related to the relations with their parent company;
- additional supervision by lenders' T/A's.

Operating risk is a risk of higher operating expenses (**opex**), excluding risks of higher financial costs. This cost increase may result from:

- changing prices of labour and materials;
- defects in design, materials or construction;
- changes in legal operational requirements (this case will be elaborated below);
- other unexpected events, such as fire, theft, etc.

⁵⁰ E. Yescombe, op.cit., pp. 256–257.

Operating risk is almost always transferred to a project company. The only protection, that it is reasonable for granting authority to offer, is **indexation** of unitary payment (or user fees). The indexation can be based on customer price index, other indices (labour prices, building materials prices) or a combination thereof. Usually, only part of the unitary payment is indexed, because only part of it covers opex – the rest, that is used for debt repayment does not have to be indexed, as it is constant in nominal terms. This issue will be extended in section 2.4.

The risk of changes in labour and material costs is retained in a project company. There are two reasons for that. Firstly, possibility to pass this risk to subcontractors is very limited, as such companies are not used to cooperate at a fixed (or even indexed) fees basis. Secondly, costs of many services decrease thus shorter contracts can be beneficial for a project company. Therefore the cooperation with subcontractors is usually based on:

- medium-term contracts with fixed prices over its period (no more, than 5 years) and periodical retendering;
- lifelong contracts, with regular cost reviews and periodical adjustment of fees; if the review is not satisfactory – maintenance is retendered.

The risk of defects in materials is consequently passed to general contractor within D&B contact. Project company's claims are protected by **maintenance bond**, paid by the general contractor, and returned after the entire PPP period. These bonds and guarantees must have appropriate value, depending from the probability and consequences of defect risk.

Some components of the operation risk, such as third party liability or physical damage of some parts of the facility as a result of theft, can be also insured. Such insurance is usually required by both a granting authority and lenders.

Revenue risk is a risk of potentially lower incomes from users than initially expected. It only occurs if a project agreement is made in a form of concession. Regarding risks possible in PPP, its allocation is the most controversial and evolving issue.

At the beginning of contemporary PPPs trend in the 1980s and early 1990s there was a huge tendency to move the revenue risk to the private sector. In the early British PFI programme, even if a road was free for users (this referred to the majority of early 1990s project), unitary payments were based on so called **shadow tolls**. It means, that the project company was paid by the public authority, as if there were different tolls for different cars (as we already described in section 1.4, this was limited up to a given level of traffic, above which there were no payments).

In reality, this solution did not work well for several reasons. Firstly, although level of the use depends to some extent on the quality of a facility and its maintenance (project company's responsibility), it is usually more dependent on the general design (location) of the facility, as well as macroeconomic factors. Both of mentioned factors are beyond project company's control. As an example, a decrease of GDP can result in lower traffic, even if a road is excellent. In most of the cases transferring revenue risk to a project company, means charging it to bear a huge macroeconomic risk. Nowadays, lenders are much more conscious of this fact, than two decades ago, and they require an appropriate risk premium. Secondly, **optimism bias** – i.e. overestimation of usage and incomes – is a very popular phenomenon in PPP projects. Bain showed in his research, that the average traffic was equal to 77% of the forecast for the first year of operation taking into calculation 104 toll roads. In the following years this ratio did not rise. Forecasts were especially inaccurate in countries, where there were no toll roads before a PPP project began (for example Poland or Hungary – see Case Study 4) – in those cases real traffic was in average 58% of the forecast⁵¹.

It is therefore not surprising, that some of the project companies went bankrupt with incomes 23% up to 42% lower than planned. This is a thread not only for the equity, but also for the ability to repay the debt. Probably, the majority of PPP projects companies' defaults were more or less directly caused by revenue risk allocation in the project company. One of the examples for this issue can be Clem7 tunnel (Case Study 2), although this project should not be conducted, because of low demand and low users' willingness to pay compared to project costs. A better example is provided in Case Study 3, where trains and trams were franchised in Melbourne with revenue risk also transferred to the private company. Thirdly – in case of road projects, costs are not strongly related to the usage of a facility, as most of the costs are fixed. For some other types of facilities the situation may be different – for example in case of prison fully operated by a private partner, variable costs can dominate, and therefore at least a part of unitary payment should be usage-based. In fact, this does not mean that the risk transfer will be applied (it is hard to expect prison operator to encourage people to use the facility), but only better connection between unitary payment and costs will occur.

In order to mitigate the income risk, two approaches are mainly used:

⁵¹ R. Bain, op.cit., pp. 70–75.

- to use a fixed availability fee, supplemented with small usage-based payments, mostly to cover variable costs and/or quality-based bonuses and penalties;
- to introduce joint demand forecasting and share risks resulting from its inadequacy (see Case Study below).

Case Study 3. Trains and tramway franchising in Melbourne, Australia

The state authorities of Victoria decided to franchise rail and tramway transport in Melbourne in 1999. Private partners are responsible for upgrade, operation and maintenance of infrastructure and rolling stock. The initial model based on two income sources of the operators: fare box and subsidies paid by the public authority – this means full revenue risk transfer to the public sector. Each of the two networks was divided into two parts and contracted separately.

In 2001 one of the private partners, National Express, responsible both for a part of train and a part of tram network, expressed difficulties with cash flow, and in 2002 it has cancelled the contract. The company did not achieve expected incomes, that were very ambitious (their main long-term target was to operate without a subsidy).

Currently – after new 2008/2009 tendering – a model of risk sharing is changed significantly. Operator and granting authority have introduced an open book approach (all private party's financial details are known by the authority) and make a joint income forecast. Short – term differences between the forecast and real incomes have to be handled by the private party, but each 3 years the forecast is reviewed, according to past performance. If the past performance is for example 20% lower, than the forecast, a new forecast is decreased, but less than 20%.

Sources:

- J. Stanley, *Franchising of Melbourne's rail services: assessment after six years*. „European Transport” 33/2006, pp. 54–68.
- Expression of Interest Brief. Appendix A+B. Melbourne Metropolitan Tram (MR3 014) and Train (MR3 015) Franchises. Department of Transport, Victoria, Melbourne 2008.

Financial risk is connected with a risk of changes at financial markets, such as availability of funding, exchange and interest rates and others. As project company's budget is based on big cash-flows and is rather tight, even small changes in each of them can be a thread. What is more, project companies require long-term, fixed rate debt, which is very unpopular at financial markets, as banks usually have short-term deposits, and in a long run, variable rates are used.

Financial risk is traditionally managed by project companies, because private sector has more experience in dealing with financial markets and can use them

more efficiently, although financial markets are in fact beyond control of both, public authority and project company. A variety of hedging tools is used to decrease financial risk, such as swaps, that help to exchange variable-rate loans into fixed-rate loans. These tools are described in section 2.4 (Project Finance).

There are also some methods to decrease financial risk by public sector's participation in the project, for example if loans are provided – at least partially – by public banks, or guaranteed by public bodies. This helps to encourage further lenders and decrease financial risk. These methods are described in section 3.5.

Force majeure risk is a risk of low probable events, beyond control of both private and public party, such as wars, earthquakes, etc., called also “acts of God”. Some of those risks can be insured, such as for example a risk of fire, act of damaging a school, that is a subject of a PPP project. If so, the insurance is usually required by a granting authority and/or lenders. All the parties should be conscious, that some of the *force majeure* risk is not insurable and has to be handled by a project company – its shareholders and debtors. The premium for such risk is included in their profits. We should state, that such *force majeure* risk is similar in case of all private projects and companies regardless of their PPP status or not.

Legal, regulatory and political risk include all changes in law and politics, that influence a project. This group of risks should be especially considered by sponsors and lenders of pioneering projects – projects that take place in countries without stable political background, and without a PPP tradition.

The risk of legal, regulatory and political changes can be divided into:

- general (non-discriminatory) changes in law, affecting all entrepreneurs, such as for example changes of taxation rules – this risk is retained by project company;
- specific (discriminatory) changes, related to the given project or PPP as a whole – such as contract repudiation, expropriation, change of policy resulting in limitation of user fees, etc.; specific legal, regulatory and political changes must be usually compensated by the public authority and a project agreement and/or general PPP law should include rules of such compensation, otherwise expected return rate of lenders or shareholders will be very high or the project will not be bankable.

In some cases debtors may require guarantees against legal, regulatory and political risks, issued by a granting authority or a government – these cases will be described in section 3.4.

Project default risk is an ultimate risk resulting from all other risks. It influences all parties engaged in a project. If default happens, it is costly and problematic

not only for sponsors (they usually lose their equity), but also for lenders (who still have a chance to get at least some of their capital) and the public authority (that should provide the infrastructure for the society).

The two latter parties can be protected against impact of project companies' default by providing in advance **step-in** rules, that allow each of them to overtake the management of a facility, when project company collapses or there is such thread (described in section 2.6). Obviously, lower project leverage ratio (lower debt to equity rate) can reduce the impact of this risk, but this is rather an expensive method, as equity holders require higher rate of return, than interest rates required by lenders.

Case Study 4. Hungarian Motorway PPP Programme (M1/M15), Hungary

Motorway PPP Programme in Hungary was a pioneering PPP programme in former Eastern Block, starting in 1992. The first investments were M1 and M15 motorways connecting Budapest with Vienna. The M1 project has been delivered in budget and on-time in January 1996, in spite of high inflation rate (up to 30%) and heavy snowfalls during the end of construction phase. The motorway was mostly targeted to international traffic with higher willingness-to-pay for high-quality roads.

After opening the motorway some unexpected events occurred – firstly, the war in Yugoslavia started and traffic flows between Yugoslavia and Western Europe, using this corridor, significantly decreased. Secondly, Hungarian society was not used to toll roads and its wealth and willingness to pay did not rise as rapidly, as it was forecasted. The Hungarians also limited their visits to Austria, as most of the consumer goods started to be available in Hungary. Thirdly, cost of foreign currency debt was rising together with enormous inflation rate in Hungary.*

Finally, after political changes, a court case and a Competition Office case (the company was accused of abusing its dominant market position, and was found guilty, although it was not breaking the concession agreement itself), the Government has decided to nationalise the project company. It used a “friendly substitution” formula (a compromise with shareholders), agreeing to pay a large part (89%) of outstanding loans.

** Please note, that in this case war in Yugoslavia was not a force majeure event, as it happened in another country.*

Source: R. Joosten, *M1/M15 – How a successful project ended unnecessarily in tears*, PFI, October 1999, pp. 52–55.

Finally, we should stress, that the most difficult situation occurs, when a combination of unexpected events happens. This can be observed in Hungarian PPP motorway programme (Case Study 4), in which due to economic transition and lack of other toll-motorways, traffic forecasting was very difficult and clearly improperly performed. The project was also risky because of exchange and inflation rates fluctuations in transforming Eastern Europe. Moreover, an unexpected regulatory and political decision were made, that led to the step-in of public authority.

2.3. Procurement process

Once cooperation is designed by a public authority, a procurement process can start. As we have already mentioned, this process consists of several stages, in order to reduce transaction costs. The procurement process can include separate financing procurement made jointly by a public authority and a project company or alternatively financial agreements can be made directly between project company and potential debtors.

The following section focuses on the selection of a project company.

The procurement process usually contains following stages (see also Figure 6):

- request for qualification (RFQ), issued by a granting authority,
- expressions of interests (EoI) – answers from potential bidders,
- list of pre-qualified (shortlisted) consortiums,
- discussion on functional specifications and contractual details (not obligatory),
- issuing tendering documents, specifying granting authorities' expectations,
- placement of bids,
- bid evaluation, using criteria given in tendering documents,
- due diligence of the best offer, in order to verify its feasibility,
- bid award to the winning consortium.

The above mentioned two-stage process with prequalification is not required from the legal point of view in most of the cases. Using one-stage process is however not efficient in case of PPP, as much effort is required from all potential bidders to prepare an offer and a probability of winning would be very small. Consequently, one-stage bidding process may discourage potential bidders from presenting their bids.

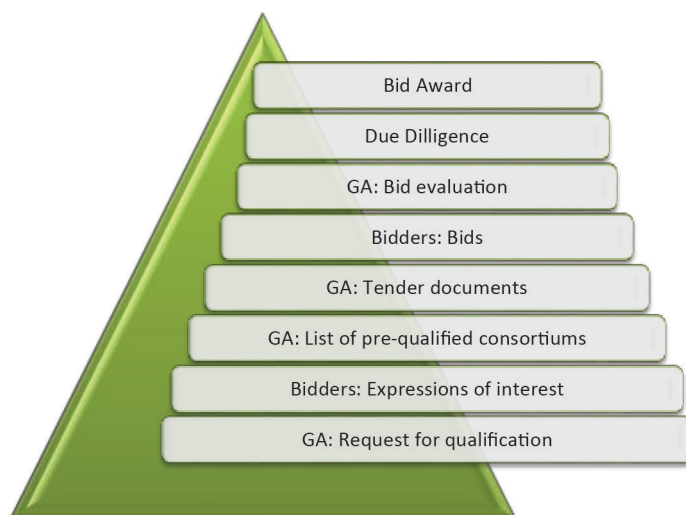
Request for qualification should include basic data about the granting authority and the project, including its scope, proposed business model, as well as

pre-qualification criteria and precise deadline. As already mentioned, pre-qualification criteria are usually based on a set of:

- prerequisites, that each consortium must meet;
- assessment criteria, that will be used to rank applying consortiums.

In the European Union such requests have to be published in the ‘Official Journal of European Union’.

FIGURE 6. Structure of a PPP procurement process



As a result of it bidders place their **expressions of interest**, proving that they meet prerequisites and present their technical abilities, financial potential and experience, to be evaluated by a granting authority. Basing on the expressions, granting authority prepares a **list of pre-qualified** consortiums. Their number is usually given in advance and is close to 5. If less than 5 expressions of interests meeting prerequisites are received, all of them are pre-qualified.

The next stage varies significantly between different procurement models. The granting authority can simply present their requirements (**tender documents**) or negotiate with pre-qualified consortium to prepare optimum requirements (for example using the competitive dialogue). Final tender documentation should include⁵²:

⁵² E. Yescombe, op.cit., p. 80.

- general background and market data (for example traffic flows),
- business model and proposed share of risks (preferably an outline of the agreement),
- service requirements,
- granting authority's duties;
- required form of bids;
- bid deadline and evaluation criteria;
- project schedule.

During the negotiation and bidding process, as well as after the publication of tender documents, a granting authority should communicate and treat the bidders equally without any sign of discrimination. This means, that if bidder asks the questions in writing, the responses should be send to all the bidders, and if any meeting is planned, all the bidders should receive its minutes.

Bid evaluation can be based on a number of criteria, including:

- price comparison, over the lifetime of a project (it is essential, that a procurement should be designed in a way, that allows its easy comparison. In some cases a discount rate used for bid comparison must be given in advance if different payment schedules are allowed);
- contract term – alternatively, granting authority can propose financial conditions, for example unitary payment (resulting from its budget) or user fee, and the contract duration is a subject to evaluation; obviously the shorter the contract, the better;
- other features, such as technical data (for example emissions magnitude in power plant), completion date, risk transfer scope, etc.

Some bidding processes allow bidders to place two offers – main one, meeting all the given criteria, and **alternative bid** (called also “variant bid” or “nonconforming bid”), not meeting them, but potentially offering better value for money – for example a bidder can propose different risk sharing rules, other financial or technical solutions; this can sometimes increase the efficiency of the project, as the bidders have another point of view, that the grantors (and its advisors).

Some procurements include multi-stage bidding. After first round of bids two best consortia are asked to improve their bids, and present **Best and Final Offer (BAFO)**.

The final bid has to undergo **due diligence**, that is performed by granting authorities advisors in order to prove its feasibility and viability.

After the bid evaluation a preferred bidder has to **confirm financing**. Very often some contract **renegotiations** are made at this stage, as some political or financial

circumstances constantly change – this is especially tempting for winning consortium, that may intend to increase the profitability of its business and worsen its offer for granting authority at this stage. This is clearly unfavourable for the project and can cause political allegations, therefore it should be avoided.

This is a very risky stage of the project, because of the fact that if the winning consortium will not keep its offer attractive, it may be hard for granting authority to come back to negotiations with other bidders, as their project teams may be already disbanded.

In order to avoid it, some granting authorities require binding bids, assuming given financing parameters. In this way a common **procurement for financing** is done, and the chosen offer – adjusted appropriately.

In some cases only one consortium can go through pre-qualification. This is very favourable situation for the consortium and very unfavourable one for the bidder. If the granting authority is not satisfied with the proposal, it should consider retendering the project as a PPP or return to a classic public procurement, in order to avoid inefficiency. Bidding against Public Sector Comparator (estimated costs of public procurement, known to a PPP bidder – see section 3.2) can be also a solution.

2.4. Project Finance

When one of bidding consortiums is selected by a granting authority, financing for the project has to be arranged. As it was already mentioned, PPP projects are very specific, because debt is taken by a company that has neither significant assets, nor high equity (compared with the debt value) and requires high-leverage, long-term financing, based on future cash flows. Such financing refers not only to PPP, but also to some other SPVs and is called **Project Finance**.

In this section of the handbook, we will elaborate Project Finance challenges in a PPP project, both during financial arrangements phase of a project, as well as after the financial close. We will also elaborate cash flow issues and key financial ratios of a PPP project.

A project consortium usually searches for financing the project together with its financial adviser (unless one of the sponsors is specialised in finance) and lead arranger. An adviser can be an investment bank or a consulting company. Together they decide, whether to target in debt or bond financing, or a combination of both.

At the stage of bidding, some initial agreements with a **leading arranger** can be made, but its **letter of intent**, used to say, that the letter of intent is not a legal commitment and a final credit approval as well as due diligence are needed, after closing a procurement phase.

As we mentioned, in some cases project consortium can also arrange financing in a strict cooperation with granting authority. Such method is used in the UK. In this case, bidders have to present binding offer based on financing conditions assumed by the project authority, and later the financial conditions are adjusted to the results of financial procurement and arrangements.

In case the consortium wins the procurement, the leading arranger starts its due diligence, covering legal issues, technical audit, financial model audit, as well as assessment of insurance scope and conditions. All this helps to evaluate the risk, in other words the probability of the project viability. Due diligence helps to calculate profit margin of the loan (as most of the project finance loans are given at a variable rate, including a reference rate, such as Libor – London Interbank Offer Rate and a margin, depending on the risk rate).

During the due diligence process lead arranger and project consortium should communicate with each other, in order to discuss controversial issues as well as modify some business assumptions when necessary (for example use less risky technologies, change insurance conditions etc.).

Thereafter a project is approved by bank's credit committee and the lead arranger is able to underwrite a **credit approval** with given financial conditions of the loan. This is still not a binding decision, and may also contain a number of conditions to be fulfilled⁵³. When the conditions are fulfilled, the contract can be signed. It takes at least 3 months between the end of bidding process (selection of a preferred bidder) and financial close.

Frequently, **Direct Agreements** between lenders and key parties of a project (such as a public authority and main subcontractors) are also closed. They give lenders rights to intervene and get the access to all needed information in emergency situations.

In case of big projects, a lead arranger does not provide entire debt in order to spread the risk, but mediates between the project company and other banks. This process is called **syndication**. In order to present the project to other banks, a **Preliminary Information Memorandum** is prepared, containing:

⁵³ E. Yescombe, op.cit., p. 132.

- background information about the project, as well as project company and its sponsors;
- information about subcontractors and other parties involved (for example auditors, T/A's, insurers);
- information about the PPP contract and other contracts (for example construction contract);
- project cost and financial plan;
- risk, financial and sensitivity analysis;
- detailed financing conditions;
- attachments, such as auditor's, T/A's and insurance advisor's reports.

Having that, lead arranger negotiates financing conditions with other banks and acts as an interface, between them and a project company.

The banks with biggest involvement in project finance, are: Royal Bank of Scotland (UK), BNP Paribas (France), Societe Generale (France), Calyon (France) and Mizuho (Japan), all of them with over 5 billion underwriting in 2005⁵⁴.

If a project company decides to issue **bonds**, the financing arrangements look differently. The process of selling bonds is called **bond placement**. It also requires cooperation with the investment bank, but in this case it does not bear any risk. Therefore a separate rating process is usually made by one of the globally or locally recognised rating agencies. As it was already mentioned, in order to decrease cost of bonds, they can be insured by so called **monoline insurers**, which have high ratings and guarantee bonds. Insured bonds are often called wrapped bonds and they receive insurer's rating. After the subprime crisis this system has crashed, and there are doubts, if it will recover.

There are two main differences between bonds and debt (see Table 3). Firstly, there is no bank (which takes the risk of bad loans) in between lenders and capital owners. Secondly – only coupons (equivalent to the level of interests) are paid before the due date; the capital is repaid at once at the due date. Bonds can (but do not have to) be publicly listed. They may have variable or fixed interest rate, the latter being very useful for PPP. Bonds of PPP projects are often bought by pension funds, which require long term, low-risk investments.

Bonds are popular in PPP projects in the US and to the lesser extent in UK, Mexico, Malaysia and Qatar. Its popularity is determined by tax regulations, as

⁵⁴ Ibidem, p. 127.

well as demand for bonds (for example principles of pension system can create big demand for bonds).

TABLE 3. Comparison of bank loans and bonds

Bank loans	Bonds
Banks can take part in PPP projects starting from the bidding phase, and can propose initial conditions at this stage	Bond investors cannot take part in PPP projects starting from the bidding phase, and no initial conditions are known
Project contract is confidential	Project contract and other sensitive data may be published in bond prospectus
Can offer variable rates of interest (hedging is necessary)	Can offer fixed rates of interest
Funds drawn in tranches, in a flexible way, but on the other hand – additional lending may be difficult	Funds drawn at once, but on the other hand – additional bond placement can be easier, that additional bank loan
Flexible repayment	Less flexible repayment
Repayment of capital and interests during a long period	Repayment of interests during a long period possible, repayment of capital at the due date
Lenders have more control over project company and are better partner for discussion, if project goes wrong	Lenders have little control over project company, and are worse partner for discussion, if project goes wrong

Source: E. Yescombe, op.cit., p. 141, 142, amended.

Comparing bonds and bank loans, being different sources of financing, we should highlight, that bonds are less flexible. If a project company decides to take a loan, it can further apply for a loan, bigger than the expected costs with a margin for possible cost overruns. In case of some savings achieved, the loan can be reduced. Debt is also more flexible to be repaid earlier (although bonds also may provide such possibility). Bond repayment similar to ‘bullet payment’ loan is usually not favourable for PPP projects, as the incomes of a project company are stable during the operation phase. The repayment therefore has to be stable as well.

On the other hand it turns out to be easier to obtain long-term, fixed-rate bonds. In case of debt, interest rate is variable, and loans for entire project lifecycle are not always available.

Cooperation rules also differ in case of bonds and bank loans. Banks are used to cooperate with project companies much tighter, supervising them, but also supporting them if project goes wrong. Bondholders do not have such possibility. Regulatory issues usually assume open (public) communication between bondholders and project company, which can be undesired in some of the cases.

The general rule is that bonds are usually used for bigger projects, because then fixed cost of their placement are spread over a big amount of capital. In case of big projects it is also harder to attract the interests of the banks.

Once the financing is arranged, a project can start, but also during its construction and operation some financial engineering tools have to be used. This includes:

- refinancing – changing source of debt during the project;
- hedging – protecting the project against financial risk.

The idea of **refinancing** is based on the already mentioned fact, that once a project starts to operate it becomes less risky for financial investors, as there is no completion risk anymore, and also demand level is known. Therefore the project can get cheaper financing, although margins of bonds and loans taken at the financial close often decrease after the construction phase ends. There are also some trends in the financial markets on the grounds of which better financial conditions can be achieved simply because of higher capital supply at a particular moment.

Refinancing process is similar to the process of initial capital rising. It is however simpler, as an operating SPV has already some credit history, which makes due diligence easier and cheaper. Refinancing can include changing debt into bonds (or reverse), and more rarely also changing debt into equity, by floatation of a project company.

In some countries, as in the UK, the benefits of refinancing are divided between project company and granting authority. This is reasonable especially if there was separate procurement for financing the project, and the initial unitary payment proposed in the general procurement was adjusted according to the results of financial procurement.

Hedging process is much more complex. As we know, unitary payments are usually constant in time, valorised in a limited scope in order to provide constant real opex budget. Banks offer long-term loans only on the variable interest rate basis. If Libor (or other reference rate) goes up, project cash flow can collapse. Hedging aims at reducing the interest rate risks (similar mechanisms are also available for currency exchange rate risk, if it occurs), by closing additional protecting transactions, called **interest rate swaps**.

Swaps are based on the idea, that two parties, one having fixed rate loan, and the other having variable rate interest loan, exchange their liabilities. Giving an example of such practice, we can swap 2,5% variable rate loan (0,5% Libor + 2,0% margin) for a fixed-rate of 3,25% – please note, that this example includes a premium for one of the partners, as both rates are not equal. Swaps are closed for

a given period – usually up to 15 years, which can cause, that some risk remains until the end of the project. Swaps can be broken, but an additional fee (breakage fee) is then charged.

Other types of swap are so called **cap swaps**, and **cap and collar swaps**. The former provides a given maximal interest rate to a debtor being for example a project company. If variable rate exceeds a given value – swap provider takes the repayment of the excess. If it is lower – project company benefits from lower repayment (but must pay premium to a swap provider). A cheaper version of that is cap and collar swap, which provides variability, but brings the risk. If variable rate falls below a given level – project company does not have any benefit, but must pay interest rates based on a given bottom interest rate. This can mean, that between 2 and 4% interest rate is variable, but project company can be sure, it will not exceed 4% and not go below 2%.

There are standard conditions for swaps provided by International Swaps and Derivatives Association, as well as banks intermediating in swap transactions. It may happen, that one bank offers better loan conditions, and another one – better swap conditions, and contractual relations between project company and banks should contain rights of independent choice of financing and swapping partners.

In some cases hedging may not be needed or can be limited. This may happen, when a big part of unitary payment (bigger than opex) is indexed by inflation rate, and – ideally – also a bank loan is indexed by inflation rate (which is possible on some markets, but it is rare). This still contains some risk, that has to be tested. What is more, granting authorities agree with this solution very rarely, as they prefer to have decreasing future PPP commitments.

The last important financial issue of PPP project management is so called **cash-flow cascade** (or waterfall). It shows priorities of different payments in project company's cash-flows and is directly connected with different levels of risk, handled by different parties. Here we should stress, that in most cases accounts of a project company are more or less strictly controlled by lenders (if the project is based on bank loans) and breaking the rules of cash-flow cascade, if possible, can result in fines and further restrictions.

Once the company receives unitary payment or other incomes, it usually covers its liabilities in the following order⁵⁵:

⁵⁵ E. Yescombe, *op.cit.*, p. 204.

- opex and taxes;
- fees to agent bank or security (bond) trustee,
- interests and hedging payments;
- debt (capital) repayments;
- payments to reserve accounts and cash sweep – reserve accounts and cash sweeps are created in order to provide cash for future scheduled expenses, such as bond repayments or major maintenance of the facility;
- distribution to shareholders.

This cascade can be slightly modified, but it is a subject both to financing agreements as well as – in some cases – general law. Similar, but not identical, rules apply to cash flows from other sources, such as insurance compensations.

As we see, generally shareholders are the last to get the cash from the project company, except fees that they get for maintenance or other duties they perform for the project company as subcontractors. But as a ‘reward’ they take not only downside risk, but also upside risk, as their potential profits are not limited. Payments to shareholders can be also restricted in other ways, for example the distribution can be limited to the situation, when company has good financial ratios.

Finally, it should be stressed, that in Project Finance, different financial ratios are used, contrary to regular corporate finance. Two key ratios are:

- CADS – Cash Flow Available for Debt Service;
- ADSCR – Annual Debt-Service Cover Ratio.

CADS is a difference between operating revenues and operating expenses, so it shows cash surplus generated by the project in a given period (for example a year). The majority of this surplus is used usually for debt repayment, hence the ratio’s name. In order to make the ratio comparable between periods, operating expenses should also include transfers to maintenance reserve accounts. CARS is similar to EBITA in terms of interpretation, but it is based on a pure cash-flow basis.

ADSCR is a relation of CADS and debt service (including interests and capital repayments). If CADS is for instance 120 and debt service equals to 100, ADSCR is equal to 1.2. ADSCR can be calculated in a half-yearly, yearly loan-life and project-life basis. The factor must be much greater than 1 (usually at least 1.1) and it shows the robustness of project’s ability to cover its debts. ADSCR is used for project performance monitoring and if it falls below a given alert level, some steps should be taken to restructure the project, including step-in by lenders.

2.5. Construction and operation phases of a PPP project

There are two main issues connected with management of a PPP project after the financial close. First of them is a supervision over a project company including checking, if it delivers services properly, performed in parallel by lenders and a granting authority. Another one includes changes in contract and managing unforeseen events, which in fact tend to occur in the majority of PPP projects, especially in developing countries, and in case of concession projects, where project companies bear revenue risk⁵⁶.

Both issues will be discussed in the following section.

At the construction phase (or rather D&B phase) the most intensive control over a project is usually performed by lenders, who want to be sure, that huge amounts of their money are spent properly and will be returned. Therefore they hire T/A's, who will face a lot of work, as a loan is divided into tranches, and no tranche is paid, until T/A accepts proceeding works. A control can be also exercised by a public authority, but thanks to lenders' supervision and project company's long-lasting responsibility for the quality of works, the supervision does not have to be as strict and expensive, as in case of traditional, publicly procured projects.

Typically, a granting authority does not formally accept a design of facility, but all plans should be send to an authority and the authority itself is able to:

- intervene when design does not meet functional specifications, although usually this does not mean responsibility transfer to public authority, if some differences remain overlooked and will turn out later;
- propose amendments to a functional specification and a contract (usually also to its financial details), if the grantor releases, that it had not expressed its intentions well.

Finally, before the facility's operation begins, it has to be examined and accepted by a public authority, basing on contractual requirements.

Moving to operation phase, the supervising role of a public authority should be increased, whereas lenders tend to focus on financial issues, including proper

⁵⁶ J. Guasch, J. Laffont, S. Straub, *Renegotiation of Concession Contracts in Latin America*. "World Bank Working Paper", Washington 2003, <http://elibrary.worldbank.org/content/workingpaper/10.1596/1813-9450-3011>, accessed: April 9, 2012. J. Delmon, op.cit., p. 164 generalizes this data on all PPPs, what may be controversial.

cash management (see section 2.4) and cost monitoring, especially when project goes over budget.

Therefore it is important, that a granting authority has enough staff, competence and resources to supervise project company's performance. The monitoring should be rather output-based, than focused on the technical features. For example, it should include such indicators, as average speed of vehicles on a motorway, temperature in a school building in winter, users' satisfaction index, train punctuality ratio etc. Obviously, this monitoring makes real sense, only if a unitary payment is dependent on service performance level. This is an example, as *service delivery objectives of the government are aligned with the profit objectives of the private partners*⁵⁷, quoting the OECD definition of PPP.

As we already mentioned, all PPP contracts are so called "incomplete contracts", which means, that the parties should be conscious, that not all circumstances, which may occur within the decades of a project delivery, could be predicted. The contract should however be future-proof including probability that something unpredicted will happen and providing procedures, enabling to deal with it. Delmon advises to consider renegotiation as a chance for adjusting cooperation rules in favour of both parties, and not as a failure of a project or a project team⁵⁸.

Changes in contract and additional agreements take place at both phases:

- at the construction phase – when a granting authority may wish to introduce some changes to specification (we partially elaborated this problem above, but it includes also bigger policy changes) or some unexpected event (important archaeological finding at the construction site) that happens independently from a project company– we have elaborated those events earlier in section 2.2);
- at the operation phase – when some unexpected events may happen and external conditions can change strongly; those changes may include for example exogenous changes resulting from the demand and need to extend a motorway (for example – for construction of additional lanes or knots) or oppositely – closing or functional changes of school buildings (conversion from primary to secondary school). The latter can include not only demand changes, but also general reforms of educational system, which happen in many countries on a regular basis.

⁵⁷ Public-Private Partnerships, In pursuit of ..., op.cit., p. 11.

⁵⁸ J. Delmon, op.cit., pp. 166–167.

Some changes in an agreement draft may be also included earlier, but in fact there is no fixed contract before the beginning of the construction phase, which should start with the financial close. We would like to highlight, that some renegotiations can take place before choosing the best of the bidding consortium as a preferred bidder, but this should be usually avoided from the point of view of a granting authority.

If a change in design occurs, usually an appropriate compensation to the project company has to be made, but a project company must accept the change, within the reasonable range (it should be limited by a project contract and usually amounts up to +/-20% of project value). This rule applies as long, as general project principles, such as risk sharing, remain unchanged. Some authors call such an event a **compensation event**⁵⁹.

The general principle is that compensation should neutralise influence of change in design on project consortium's finance. Compensation can have one of the following forms:

- one-off payment, which is appropriate if a change refers to significant increase in capex, and project consortium has little possibility to increase its debt (or their current suppliers of funding may expect exorbitant conditions, knowing their monopoly position) – this solution however may not be acceptable for a public authority, that may not have enough funding available;
 - increase of unitary payments – this solution is perfect, if amendments change the opex; it may be also used, if capex is increased, but project consortium is able to cover the cost by additional debt (or other sources) at reasonable cost; this is usually a preferred solution and therefore at the stage of financial arrangements, project consortium should take it into consideration and have some extra reserve of undrawn debt, that may be released by a bank only if the unitary payment is increased;
 - increase of contract / concession period – this solution also may need some renegotiations between project company and lenders, but it is very advantageous for public authority, as it does not increase a level of a unitary payment; it is however possible only if additional funding is available to a project company. In many cases appropriate adjustments in project schedule should be also made.
- Changes in law and changes in external conditions are other compensation examples, that was discussed in section 2.2 (Risk sharing) and are retained by

⁵⁹ E. Yescombe, *op.cit.*, pp. 271–276.

a public authority, according to the project agreement. In these cases one-off payments are a default solution.

Some unforeseen events, such as for example economic crises may influence the project (especially if revenue risk is passed to a project company), but there is no compensation for a project company stated explicitly in a contract. Practically in such cases both granting authority and lenders are likely to renegotiate existing contracts, especially if project company has proved its efficiency before. For both of them it may be more efficient to extend the contract and provide **grace periods** (i.e. periods, when no debt or limited debt repayment is required), than to make project company bankrupt. Nevertheless, it is desirable for a granting authority, if project contract contains clauses, allowing such help in extraordinary situation at the absolute discretion of the authority.

If a **dispute** occurs, there is a number of methods that can be used to solve it, starting from negotiations between parties, and finishing on court trails (see Table 4). Some of them are based on searching for a compromise between parties (negotiations, conciliation, neutral evaluation), and the other on taking an arbitrary decision by a third party (expert determination, adjudication, arbitration, litigation).

TABLE 4. Different methods of dispute resolution

Negotiations	Parties attempt to resolve a dispute without external help.
Mediation	Parties attempt to resolve a dispute with an assistance of a third-party (mediator), but a final compromise must be accepted by both parties.
Conciliation	Parties attempt to resolve a dispute with an assistance of a third-party which is allowed also to propose solutions, but a final compromise must be accepted by both parties.
Neutral evaluation	An external expert company (usually a legal advisor) is hired, in order to propose a compromise, that should be equal to court's trail in a given case. This can be accepted by both parties or can be a basis for further discussion.
Expert determination	An external expert company (usually legal advisors) is hired, in order to give a binding decision.
Adjudication	An external T/A is hired in order to solve urgent technical disputes and give a binding (but often interim) decision.
Arbitration	A formal and binding process is resolved by a specialised nominated private third party (arbitration tribunal).
Litigation	A claim is taken to a public civil court, the judgements are binding, but the parties have rights to appeal.

Source: based on D. Grimsey, M.K. Lewis, op.cit., p. 199.

It is highly desirable to predict such procedures upfront, for example to define arbitration procedures. Otherwise any dispute may end with court litigation, which can take a long time, as especially 1st instance courts may not be competent in PPP issues and may require to involve number of experts. Such delay can be unfavourable and loss-making for both parties.

Research on contract re-negotiation, made by the World Bank in Latin America (Argentina, Brazil, Chile, Colombia and Mexico) shows, that⁶⁰:

- surprisingly, most of the renegotiations were led by public authorities, and not by private companies; publicly-led renegotiations happened mostly in Brazil and Mexico, and often aimed at decreasing fees for users due to political and social reasons,
- there are countries, where almost no renegotiations happened (for example Chile – 1 out of 105 projects), and others, where they were rather popular (33 renegotiations out of 41 contracts, 32 of which led by private partner); the latter can cause lack of transparency and corruption suspicions and is not favourable for the project, as well as PPP as a whole.

2.6. Termination of cooperation, step-in's and substitution

In this section we will discuss four different situations:

- the first one – when a project performs well in terms of expected output for a public authority, but does not meet lenders' requirements (for example ADSCR ratio did not reach given level and actions undertaken by a project company to increase it failed as well) – in this case we usually deal with lenders' step-in and substitution;
- the second one – when project performs inadequately in terms of expected output for a public authority (it this case often, but not always, it performs wrong also in terms of lenders' expectation, as penalties imposed by a public authority significantly decrease income streams of a project company and its ability to repay debt) or a project company goes bankrupt – in this case we can deal with lender's step-in in cooperation with public authority or an early termination;

⁶⁰ J. Guasch et al., op.cit., pp. 22–27.

- the third one – when for reasons of national importance a granting authority overtakes responsibilities of a project company – in this case emergency step-in clauses should be used;
- the fourth one – when a termination occurs according to the plan (we have already called this case hand-back).

It is very important to bear in mind that all terms, such as “expectations” or “requirements”, used above should possibly refer not to party’s wishes, but to performance indicators stated in a contract. It may however happen, that a party (especially a public authority) uses its step-in rights, because it is not satisfied with project company’s performance, even though it meets all quantitative targets. Such situation should be also contractually possible, but in such case sponsors should be fully compensated (this obviously cannot be applied as a rule, when they fail to meet agreed targets).

In all cases it is high priority of all parties to provide the service continuously and this usually succeeds. There are obviously different motivations for it including public authority wish to provide public services, and lenders will to continue generating incomes.

Lenders’ step-in is made according to Direct Agreements (see section 2.4) between lenders and other parties as well as a PPP contract. It aims at substituting project company by another body and is usually preferred both by lenders and public authority, because early termination always causes additional costs and harm.

At the first stage of step-in, lenders appoint a nominee that overtakes project company’s duties. This is a temporary solution, and according to project contract it may usually last up to 6 months. In this period, a project company remains a counterparty for a public authority, but at the same time it is effectively managed by a nominee.

During the first stage, lenders should search long-term solutions and usually public authority should refrain from terminating a contract.

At the second stage of the same process **substitution** may occur. This means that searching for another project company begins, which will overtake the project. In other words, a project company with all its liabilities (or a majority thereof) is sold to another consortium.

If lenders’ step-in or substitution are not possible, for example, because the project does not generate enough incomes to cover its costs and a granting authority does not agree for contract renegotiation, **early termination** of a contract may be the only possible solution. It may also happen, if:

- a project company fails to deliver services at a given quality level in a permanent way (for example project is delayed or penalty payments are constantly high and have exceeded given value);
- a breach of fundamental principles of a contract takes place (for example serious security breach);
- a project company went bankrupt.

In this case a PPP contract can be terminated. Compensation for the project company (or rather to its debtors) is usually provided. According to chosen model and a reason of termination, calculation of **termination sum** can be based on⁶¹:

- repayment of outstanding debt – i.e. creditors are paid in full by a granting authority, but sponsors get nothing; this solution seems to be simple, but in fact it causes many problems with hedging costs as well as payment schedule – the main dilemma is, whether in case of contract termination the authority should repay the debt by a one-time payment or as it has been initially planned; if the first – debtors lose some profit, if the latter – risk level is lower, when the debt is overtaken by a public body, so its conditions should be renegotiated;
- cost of assets – this approach includes expert valuation of the assets, reduced by the payments, that were paid to cover the cost of the assets in the form of unitary payments or penalties – in this case not only shareholders can lose their capital, but also debtors may not receive all their money. This is caused by poor performance of the lender;
- open-market sale, which is similar to substitution (i.e. the new consortium undertakes all liabilities of the old consortium, including PPP contract);
- Net Present Value (NPV) of the future projected cash flows of the project company – includes payment of discounted future profits to a project company, taking into account historical level of penalties;
- adjusted Base Case calculation – which is similar to the method above, but basing it on a Base Case does not include penalties and therefore is used only in cases of early termination, that is not project company's fault.

The first two models may be very unfavourable for a project company and therefore should be used only when project termination is caused by its poor performance.

One may discuss, if any compensation is fair, when a project company has delivered a service far beyond given performance level. Approach without compensation at termination was used for example at the beginning of the British PFI

⁶¹ E. Yescombe, *op.cit.*, pp. 280–283.

programme, but later it caused excessive premium expectations of creditors, and therefore compensations have been introduced⁶².

Open-market sales is also suitable, if project company performed below given values. It may be however technically difficult if the PPP market in the country is rather small.

The two latter models need to assume a discount rate that influences the results and should be agreed upfront during initial contracting. Those models however include project company's lost profits and therefore are more suitable in case of late termination, that is not caused by project company's poor performance in terms of contractual indicators, but by other (mostly political or policy) reasons.

The above presented solutions are main models. In fact, there are also some mixed cases possible.

Case Study 5 in the next chapter will show us that a project substitution by a public company may happen, as it was in case of Tube Lines – one of London Underground's PPP consortiums. Theoretically, this was not an early termination and the project company was still far from bankruptcy, but it was effectively similar to the early termination.

Granting authority's **emergency step-in** is a temporary solution, especially when health and safety are at risk (these cases should be defined explicitly in a PPP contract). In this case, normal unitary payments should be paid to a project company.

Emergency step-in may also happen, when project company goes bankrupt and when no lenders step-in and a public service has to be delivered.

After a given period of public sector management, a long-term solution of the problem should be introduced based on emergency step-in rules. Depending on the situation, it may include returning a project to a project company, or one of the solutions, stated earlier in this section.

Hand-back in case of normal termination of a project was already described in section 2.1, where we stated, that a facility should meet given conditions, and authorities' T/A's should examine it. We also presented possible solutions for the future maintenance, such as in-house operation, external maintenance and further PPP.

Here we should add, that although typically after a PPP contract expires, a facility is owned by a granting authority (it may be transferred, or could have remained public during the contract) and no additional payment is needed, there are also other solutions possible. They are especially useful in case of facilities, that can

⁶² E. Yescombe, op.cit., pp. 279–280.

have alternative use, such as different kind of buildings (public housing, public offices). Possible solutions include:

- leaving the facility in the ownership of a project consortium – this can decrease unitary payments and can be useful, if after a long-lasting PPP contract, public body may wish to get new, more up-to-date buildings;
- an obligation or an option for a granting authority to pay a given, pre-agreed sum for a purchase of the facility at the end of a PPP contract;
- an obligation or an option for a granting authority to pay the market value of a facility at the end of a PPP contract.

The final payment can be an additional motivation for a project company to assure the facility being commissioned in agreed conditions, because pre-agreed penalties can be deducted from the payment. Alternatively they can be deducted from a bond, paid by a project company upfront.

A PPP contract may also include options of its **prolongation**, that can be either obligatory or voluntary for different parties and may or may not be connected with adjustment of unitary payment (as all capex should have been covered until the date). For example, the following rules can be agreed:

- a contract must be prolonged by a granting authority, if a project company achieves very good pre-defined quality output;
- a contract may be prolonged by a granting authority at its discretion, if a project company achieves pre-defined good quality output.

2.7. Main reasons of PPP projects' failures

In order to sum up the preceding chapter, aiming at presenting how a PPP project should be managed, we would like to present some of the main reasons for PPP projects' failures, so in other words, we would like to elaborate, how not to manage PPP projects. This will be illustrated by the most famous PPP project failure case study – the London Underground upgrade.

Basing on current experience, we may state that main reasons for the project failures are usually:

- underestimation of project costs;
- overestimation of incomes;
- policy changes;
- improper motivation system for a private partner;

or (more often) a combination of the above mentioned and of other unfavourable circumstances, as each failure usually has a number of reasons.

Risk of **underestimation of project costs** is especially strong in case of brown-field projects (redevelopment of existing infrastructure), as well as projects aiming at constructing line infrastructure, especially in hard geological conditions. In both cases initial cost estimations are based on assumptions, which may or may not be true, and can differ between bidders, so the most optimistic bidder is the most likely to win the tender.

A possible solution of the problem above may be a detailed site examination, conducted by a third party on behalf of the granting authority. Results of the examination should be presented to all bidders. This reduces transaction costs, compared with separate examinations by number of bidders. This leads also to comparable assumptions, taken by all bidders. In such a case risk of wrong assumptions can be retained by a public authority, making a project more robust.

We should stress, that the risk of underestimation of project costs is not PPP specific and it happens also in publicly procured projects, that will be elaborated later in section 3.1.

Overestimation of incomes is a big, PPP specific factor, applied in case of most concession projects. It is especially dangerous in transport – as we already mentioned, average overestimation of incomes in case of road project equals 30%. The best solution of this problem in many cases seems to be a model, where revenue risk is retained by a public authority, and a project consortium is motivated by performance penalties and bonuses to deliver high quality.

As Yescombe states: “road concessions tend to have either so little traffic risk (and a high risk of excess profits as a result) that there seems little value in transferring the risk into private sector, or so much that it is better not to transfer it into private sector because there is high risk of a project collapsing”⁶³.

Both above factors – underestimation of costs and overestimation of revenues – are often called optimism bias or **winner's curse**, that means, that if one of the offers is too optimistic, it has the biggest chance to win. Another ways of reducing this thread are detailed due diligence processes, conducted by lenders and a public authority. These processes tend to highlight simple overestimations and

⁶³ E. Yescombe, op.cit., p. 265.

underestimations, but, by applying them, it may be difficult to find errors precisely in technical assumptions connected, for instance, with geological risks or demand forecasts⁶⁴.

Policy changes are also particularly strong factor of concession projects. Concession projects usually deliver socially sensitive services and goods, such as water, heating, social housing or motorways. If user fees rise, some politics may use PPP concept as an excuse for this increase, and other may fight against PPP blaming this concept to be as a reason for those increases, even though it is not. This may cause political instability around the project and its failure, as we already observed in the case study of the Hungarian motorways.

It is hard to fully protect the project against the risk of policy changes, as public bodies are both judges and players in the game. Nevertheless, the following actions can be taken:

- bidders should be careful, if concession rules allow them to significantly increase user fees in real terms (an indexation is however desirable); after personal changes in granting authority or at the political level such policy may be changed and the project should be prepared for that and provide some safety margin, especially at immature markets;
- the law or PPP contract should explicitly provide adequate compensation to project companies if pricing rules are changed by granting authorities during the game (granting authorities should however have such a possibility – French approach, which is similar to the one described in section 1.1); alternatively contracts should be renegotiated in such case (as it happened in South America – see section 2.5), rather than disputed in courts (as it happened in Hungary).

Improper motivation of private partners is also a typical problem of all public procurements, not only PPPs. For example, if we consider motorway upgrade project, the same result can be achieved in many ways. Some of the ways are cheaper, but cause more harm for the users at the construction phase, and some are more expensive, but allow more fluent traffic during entire construction (for example more works are done at night). If no particular expectation will be stated in PPP contract, private partner will surely choose the cheaper solution, that can lead to user dissatisfaction, excessive external costs, as well as decreasing political and social acceptance for PPP.

⁶⁴ R. Bain, Toll Road Traffic & Revenue Forecasts. Robert Bain, 2009.

Therefore it is important to set proper unitary payment scheme, so that higher quality for the users will be followed by higher payments for the project consortium. Obviously this increase should reflect users' willingness to pay for given quality features, that can be hard to determine at a monopolistic market.

If a contract has been already closed – renegotiations can be a good solution (therefore we wrote, that renegotiations can be a chance for both parties).

A good example of overestimation of incomes as well as policy change risks has been already presented in Case Study 4, showing Hungarian motorway experience.

Case Study 5, which the reader can find below shows, how other two factors can work, together with overlapping roles of sponsors and subcontractors (see section 1.3). London Underground PPP programme was one of the biggest PPP project worldwide and one of the most famous PPP failures. It was also a very challenging brownfield project, referring to worn-out and not fully documented infrastructure, where costs were underestimated and private and public parties' objectives were not appropriately coupled through payment system.

Case Study 5. London Underground PPP Programme, United Kingdom

The London Underground was constructed mostly in the second half of 19. century and in the first half of 20. century. It carries millions passengers a day (the number is still raising) and is really a bloodstream of the city.

The system has been underinvested for many decades and now requires urgent upgrade plan, including new rolling stock and infrastructure modernisation. After long political discussions, the following model has been chosen:

- PPP will refer to infrastructure and rolling stock upgrade programme, so private partners will be responsible for maintaining the network;*
- the operating company (London Underground Limited – LUL), employing drivers and dispatchers will remain public and will also be a granting authority for PPP projects.*

The network has been divided into three packages. Two of them have been won by a project company called Metronet and a third one by Tube Lines. Metronet shareholders included Atkins (engineering consultancy), Bombardier (rolling stock manufacturer), Balfour Beatty (construction company), EDF Energy and Thames Water (utility providers). Tube Lines were owned by Amey, Bechtel (construction companies) and Jarvis (engineering consultancy). Both companies started to operate the tube in 2003. Contracts were closed for 30 years with periodical reviews every 7,5 years, aiming at adjusting the costs and investment measures. The total value of the project amounted £30 billion.

Metronet's upgrade measures were not successful – the company experienced huge cost overruns and delays. Most of the sources says that the reason for it lies in unclear and poorly managed relations between the company (SPV) and its subcontractors (shareholders at the same time). This resulted in excessive prices and insufficient control. In 2007 the company went bankrupt, because creditors and shareholders refused additional funding. The company went into administration of Ernst & Young. In 2008 Metronet operations were taken over by LUL. All those difficulties did not cause any disruptions in tube traffic – the underground was operating every day.

In case of Tube Lines, the investment process was much more efficient, and in first period it was pretty successful, although Londoners complained about excessive difficulties, they experienced during Jubilee line upgrade – the consortium was not well enough motivated to reduce the harm. When Metronet went bankrupt, Tube Lines were often opposed to it, as a successful consortium, acting in similar conditions, which aimed at proving, how thin is a line between successful and failed PPP.

In late 2009 and early 2010, when the first periodical review of Tube Lines contract took place, the company proposed £7.2 billion for its future services, where LUL forecast was £4 billion. Finally, the company agreed to decrease the bid to £5.75 billion and the PPP arbiter has valued the works to £4.4 billion. Because no compromise has been found, in 2010 the company's shares have been bought by Transport for London (an owner of LUL) for £0.3 billion. Tube Lines are still operator of the three lines, but this is not a PPP any more.

Sources:

- T. Williams, *Analysis of the London Underground PPP Failure*, Engineering Project Organisations Conference, South Lake Tahoe, 4–7.02.2010.
- *Tube maintenance back 'in house' as new deal is signed*. BBC, 8.05.2010, <http://news.bbc.co.uk/1/hi/england/london/8669823.stm>, accessed: April 11, 2012.
- *Metronet goes into administration*. "The Guardian", 18.06.2007, <http://www.guardian.co.uk/business/2007/jul/18/transportintheuk.money>, accessed: April 11, 2012.

3 ARE PPPS EFFICIENT?

3.1. Pros and cons of PPPs

Having discussed general principles of PPPs, we can now pass on to the assessment of PPP. This is one of the ways, that a government or a local authority can use, in order to improve infrastructure. In this section we will focus on the general advantages and disadvantages of PPP, and in the following sections one can read about more details, including methodology of PPP project assessment, suitability of PPP for different sectors and countries, as well as improvements of a 'classic' PPP model, presented in chapter 2, in order to use its advantages and reduce disadvantages. At the end of the chapter we talk about the influence of crisis, and alternative solutions to the traditional choice between PPP and public sector procurement.

General advantages and disadvantages of PPP are presented in Table 5. Discussing advantages of PPP we focus on the following features:

- PPP investments provide lower construction and maintenance costs, due to:
 - more efficient procurement and management,
 - better and lifecycle-oriented design and quality of construction works;
- PPP investments are more often delivered on-time;
- PPP investments are more often delivered without exceeding given budget;
- PPP can provide higher / additional incomes from the additional use of the facility;
- PPP may make some investments affordable, those that cannot be affordable in other ways (no public funding possible);
- costs of PPP project may not increase public debt (PPP projects may be off the public balance sheet).

TABLE 5. Advantages and disadvantages of PPP

Advantages	Disadvantages
Lower construction and maintenance costs due to more efficient procurement and management	Higher capital and financial costs
Lower maintenance and construction costs due to better and lifecycle-oriented design and quality of construction works	Profit margin requested by private investors
Usually delivered on-time	High transaction costs
Usually delivered in-budget	Different objectives of private and public partner
Additional income possibilities	Risk of high costs in case of private partner's bankruptcy
Better affordability	
PPP project may be off the balance-sheet	

Lower construction and maintenance costs in PPP result from a number of factors. Firstly, public sector tends to be generally more efficient, than private companies. This difference varies depending on the sector and country, and according to different researches it usually ranges between 5 and 15%, although there may be exceptions. Research and research overviews are provided by Megginson and Netter⁶⁵, Kikeri and Nellis⁶⁶, Kip Viscusi⁶⁷ or Wolański⁶⁸.

Some of the reasons for this difference is for instance more efficient and flexible procurement technique. In most of the countries, all public sectors procurements have to be done according to very inflexible law that aims at providing transparency. It is hard to dispute such an aim, but on the other hand, it may prevent from rejecting an offer, that meets all the criteria, when we know, that the supplier is not reliable. On the contrary – private sector bodies have better opportunities to negotiate contract rules with reliable suppliers, letting one of the suppliers bid against the other one.

Public sector bodies may also have less possibility to hire high-level managers (because of official or unofficial salary limits), and may be attractive places

⁶⁵ W. Megginson, K. Netter, *From State to Market: A Survey of Empirical Studies of Privatisation*. "Journal of Economic Literature" 2(39)/2001, pp. 321–389.

⁶⁶ S. Kikeri, J. Nellis, *Privatisation in Competitive Sectors: The Record to Date*. "World Bank Policy Research", Working Paper 2860, Washington DC 2002.

⁶⁷ W. Kip Viscusi, J. Vernon, J. Harrington, *Economics of Regulation and Antitrust*, MIT Press, Cambridge (Massachusetts), London 1995, pp. 469–470.

⁶⁸ M. Wolański, *Efektywność ekonomiczna demonopolizacji komunikacji miejskiej w Polsce*. Szkoła Główna Handlowa, Warszawa 2011.

for politicians, their friends and families, who are not employed at the moment. On the other hand – they are often heavily unionized and they have to overpay their workers.

What is more, more efficient design can be used in PPP. Public sector authority may have little tools to motivate external designers of a school or hospital to limit in their projects unnecessary spaces, such as excessive corridors or storage rooms or application of inefficient technical solutions. When the same building is procured within a PPP and only important features (such as standard of classrooms) are given, public partner has much more motivation to avoid those costs.

In each of the investments there are also a trade-off between low investment costs and low life time costs. This trade-off is often hard to be managed for the public sector, limited by statutory procurement rules. The most visible outcomes of the described problem are probably roads in some Eastern European countries (for example Poland or Romania) with viaducts and pavements made of cheap, low-quality materials, that are not long-lasting materials that transfer into poor surfaces, not resistant in the long run (the warranty period is usually less than 5 years). In case of public transport it may mean providing underground trains that are cheap, but consume more energy and require expensive spare parts. PPP allows public sector to avoid such cases by comparing and optimizing lifecycle costs.

Another factor, that may cause higher efficiency of a private project company is economy of scale and higher experience of sponsors. Granting authorities may rarely conduct a given type of investment (for example a new building for a small university), so a specialized company can offer lower costs, due to more experience.

Finally, private sector is more likely to search for more innovative solutions, that can provide substantial savings, although in case of PPP, the scope of innovation can be limited by lenders' who want to use proved, no-risk technologies.

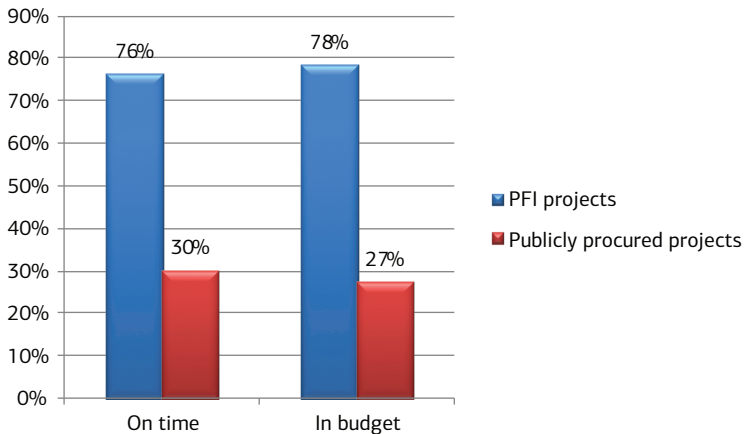
Research also shows, that PPP projects are more often **delivered on-time and in-budget**, than publicly procured projects. National Audit Office research, conducted in the UK shows, that 76% of PFI projects are delivered on-time, compared with 30% in case of traditionally procured projects (see Figure 7)⁶⁹. Similar results were delivered also by other authors⁷⁰, as well as by NAO in 2008⁷¹ (the most recent NAO research did not include comparison with traditionally procured projects).

⁶⁹ PFI: Construction Performance. National Audit Office, London 2003, pp. 2–3.

⁷⁰ See for example R. Bain, *Privately financed Roads in Britain, A Policy Assessment*. Angel Editing Press, Barcelona 2008, pp. 58–69 for research overview and the Author's own research.

⁷¹ Performance of PFI Construction. National Audit Office, London 2009, pp. 9–10.

FIGURE 7. Comparison of performance between PFI and traditionally procured projects in the UK



Source: PFI: Construction Performance, op.cit., pp. 2–3

The reason for the good performance of PPP project is the transfer of completion risk to the private sector. Therefore a private partner is motivated to deliver project and gather unitary payments or user fees as soon as possible – rather than delay it, put a public authority into difficult position and try to renegotiate a contract, as it happens in case of publicly procured projects. The public contract usually contains a number of clauses, allowing to increase constructor’s fees based on different conditions, such as FIDIC Standard Conditions of Contracts for Construction.

Additional advantage of PPP is, that public partner may be more able to **gather additional incomes** from the project. This refers only to some of the projects and may include:

- in case of a railway station upgrade project – a possibility of efficient commercialization of the station, i.e. attracting tenants;
- in case of tube construction – a right to use land over stations and/ or line for new housing or office buildings (popular in Asia);
- in case of public office buildings – a possibility of renting part of the office space to other tenants.

Case Study 6 presents, how the municipal authorities of Portland used this advantage, in order to decrease construction costs of a new light rail line, as well as to get economies of scale, by combination of passenger flows to an airport, and a new property.

Similar solution was applied in case of Podkowa Leśna in mid-war Poland (section 1.1).

Case Study 6. Portland Airport Max Light Rail, United States

Portland Airport Max Light Rail is over 5 miles long extension of the already existing Light Rail network in Portland, rated as one of the best public transport systems in the USA. The extension includes 4 new stations constructed between 1999 and 2001. Granting authorities were City of Portland and other local agendas (including airport authority). Bechtel – an American engineering corporation was a sponsor. The project was limited to the provision (construction and maintenance) of the infrastructure – did not include the operation itself.

PPP made the project affordable, without federal subsidies, for two reasons.

Firstly, because it provided substantial savings (up to 30%) and acceleration of construction compared with the public procurement.

Secondly – because 20% of the funding was provided by a project company in exchange for a long-term leasing contract of 120a land plot, close to the Cascade East and West Stations. Thanks to the investment, the plot started to be well connected both: with the airport and with the city. The plot has been used, in order to create public transport-oriented (as for American conditions) business and retail park, including also hotels. The tragedy from 11th of September and the economic crisis slowed down the development, but currently many offices and shops, as well as a hotels are in operation.

In this way some of the land value increase has been retained in the project, and maximised due to commercialisation made by a private partner.

The project gained the American Public/Private Partnership Award in 2004.

Sources:

- 2004 Public/Private Partnership Awards, The US Conference of Mayors, <http://www.usmayors.org/best-practices/busouncil/portland04.asp>, accessed: April 16, 2012.
- M. Thomet, Portland International Center, http://www.ncppp.org/publications/TransitSF_0807/Michel%20Thomet%20UPDATED%20-%20NCPPP3.pdf, accessed: April 16, 2012.

Finally, we should discuss the most controversial of the advantages – **higher affordability** and a possibility to keep a PPP project **out of public sector's balance sheet**.

In some cases PPP can be the only possibility to finance given investment in a given period, because a granting authority cannot be able to get additional funding (for example debt).

Most of the countries limit public debt in a statutory way, and often both – a government and local authorities have to be careful, in order not to exceed given limits. If there is enough risk transfer to private party (especially income risk – but not necessarily included in all law systems), PPP projects can provide new infrastructure, without exceeding public debt. Sometimes, it can be even the only possibility to construct given facility and improve economic growth, as well as quality of life.

As already mentioned, both arguments are controversial. There is a consensus among academics, that it cannot be the exclusive argumentation for PPP – i.e. if a project does not deliver higher efficiency through PPP, the possibility to keep it off balance-sheet, or finance it without debt should not be the only reason to conduct it with a private partner.

On the other hand, such approach to PPP can cause, that a government loses control over public debt, which is a part of the contemporary economy. Therefore some governments introduce limits of PPP spending, sharpen the rules, that a project has to meet, in order to be off-balance sheet, as well as make long-term projections of PPP spending.

One is sure: if a public authority decides to use PPP, not because it finds it more efficient, but because it has no effective choice, it has to double check, that the future benefits will increase the future costs, including possible results of excessive debt.

Speaking about disadvantages, we should mention the following:

- higher capital and financial costs;
- requested profit margin of private investors;
- high transaction costs;
- different objectives of private and public parties;
- risk of high costs in case of private partners' bankruptcy.

The most significant disadvantage of PPP is **higher capital cost**. If a project company takes a loan, the investment rate is higher, than in case of a loan taken by a government (in form of gilts, i.e. government bonds). The difference depends on the past PPP record in a given country and risk level of a project. It usually amounts between 1 and 3 percentage points, but in extreme cases can be even higher, up to 5–6 percentage points. Cumulated over a lifetime of a project, it makes a big difference in total cost, which means, that financing can often cost additional 10–45% of the design and construction costs (can be equal to 3–25% of the total cost of the project, depending from capex to opex ratio).

We should note, that not all the difference between gilt and PPP capital costs is a “real” additional cost of PPP. There are two reasons for it:

- gilts show the average capital cost of the government, while loans taken by PPP project companies show rather marginal cost, which is higher, due to the fact that this debt is subordinated (junior) to gilts (debt is paid later than gilts), because a government would rather stop paying unitary payments, than gilts;
- Grimsey and Lewis state, that the difference lies also in risk premium, meaning an “insurance premium” against bad projects, paid by the public sector. If a project fails (such as Clem7 tunnel did – see Case Study 2), a government or a society does not cover all its costs; this refers especially to projects with revenue risk transfer and higher interest rates⁷².

This topic will be continued in section 3.2, where Value for Money analysis of PPP against public procurement will be presented.

Additional disadvantage of PPP is the existence of other financial costs, especially costs of hedging, which normally add ca. 0.5% – 1% to the total capital costs.

If we decide to choose PPP, we should be conscious about the amount of total cost of the project that will be increased because of higher interest rates, and therefore how challenging it is to keep them as low as possible (for example by sustainable risk transfer, and by creating good PPP climate in a country). Some other methods of reducing capital and financial costs of PPP will be discussed later in section 3.5.

We have already learnt that debt usually covers 80–90% of the project value. The rest has to be covered by sponsors, who require even higher rates of return, because their capital is at much higher risk, than the lenders'. Therefore they aim at getting usually 10–15% rate of return, depending again on risk level, as well as general interest rates in given country. This increases Weighted Average Capital Costs (WACC) of the entire project by another 0.5–2 percentage points. Once more – especially high values refer to risky projects, in which not only high rate of return is required, but also a higher equity share.

Another major disadvantage of PPP is its **high transactions cost**. We have already discussed a number of additional parties, that should be involved in the PPP investment process, such as T/A's, legal advisors, insurers etc. Expanded bidding causes also higher costs, both for the private and for the public parties. A study conducted by European Investment Bank estimates, that⁷³:

⁷² D. Grimsey, M.K. Lewis, *op.cit.*, pp. 132–133.

⁷³ G. Dudkin, T. Valila, *Transaction Costs in Public-Private Partnerships: A first look at the evidence*. European Investment Bank, Luxembourg 2005, http://www.eib.org/attachments/efs/efr_2005_v03_en.pdf, p. 25, accessed: April 15, 2012.

- bidding costs of a granting authority and a winning consortium equal ca. 7% of the capital value of the project;
- bidding costs of losing consortiums equal ca. 5% of the capital value of the project.

Transactions costs are especially big in case of smaller project, therefore for example schools are usually bundled by a granting authority, and a PPP project contains a number of them to achieve minimum scale, that provides efficiency – usually ca. 30 m EUR. After exceeding this threshold, transaction cost seems to be linearly connected with the value of the project, but does not tend to decrease.

According to the quoted study, transaction costs may vary between countries, so some legal systems may help to decrease them. They also vary between sectors – for example in case of roads they are usually 1–2 percentage points lower, than in case of hospitals.

Another risk, connected with PPP is **low flexibility** of a contract, aiming at connecting commercial targets of a private party and social targets of a public party. Once a given quality standard is included in the agreement – it is valid, and once a feature is omitted – it may be hard to include it (although it is possible, as we learnt in section 2.5).

In case of public procurement and later – maintenance by a public authority or private companies, basing on shorter contracts – it may be easier to undertake ad-hoc corrective actions, when some initial assumptions prove to be wrong. Therefore construction of PPP contract requires high dose of experience and imagination.

Finally, although PPP includes risk transfer to private sector, it also causes additional **risk of private partners' bankruptcy**, which may cause additional costs to the public sector. In some cases this cost may be covered by the money from maintenance bonds, paid by a project company, but for example Metronet (see Case Study 5) bankruptcy caused big costs for the British taxpayers, which have not been valuated yet. As there are not many similar cases, it is also very difficult to valuate this risk.

3.2. Methods and results of PPP assessment

The main method of PPP assessment is called Value for Money (VfM) or Public Sector Comparator (PSC) analysis. It aims at comparing total costs of a given investment, conducted in two different models – PPP and public procurement, which is often called PSC in this context. VfM analysis should include all additional

costs and savings, presented in section 3.1, as well as try to value risks transferred to public sector.

Typical results of the VfM analysis – in this example, favourable for PPP – are presented in Table 6. The term NPV means Net Present Value – future costs and benefits are discounted, in order to include decreasing value of money in time⁷⁴.

The reader should bear in mind that in this particular example, financial costs of PPP are higher and only the value of risk transferred to private sector makes PPP preferred solution – this is also very typical for VfM results.

TABLE 6. Typical results of VfM analysis

	PSC	PPP
NPV of cost of public sector procurement (capex + opex)	900	
NPV of unitary payments		1000
NPV of risk adjustment	110	
NPV of additional tax	35	
Risk-adjusted NPV of costs	1045	1000

Source: E. Yescombe, op.cit., p. 66, amended.

There are two main methodological challenges of VfM analysis:

- choice of a discount rate;
- valuation of the risk.

VfM analysis compares one big up-front spending (public sector procurement) with a number of future payments, therefore **discount rate** choice is crucial and may influence results of the analysis. High discount rates (such as 6–12%, used in many developing countries) decrease present value of unitary payments and make PPP more preferred solution in doubtful cases. On the other hand, low

⁷⁴ We assume, that most of the readers are familiar with the concept of NPV. For those, who are not we provide a very brief description below.

We all can intuitively feel, that £1 now is worth more, than £1 in the future (say, in one year), so we all are more likely to choose £1 now, than in one year. Shall we have choice between £1 now and £2 in the future – we all would probably choose £2 in the future. This happens, because of a number of factors – we are conscious of inflation and price increase, we prefer current utility to the future one, etc. If said that in average £1 now is equal to £1.1 in one year, there is no difference for an average person whether he or she gets the first or the latter. This means that the discount rate is equal to 10%, because 1.1% is 10% more, than 1.0. We can express it with the following formula: $NPV (FV = 1.1, r = 10\%, t = 1) = FV + (1 + r)^{-t} = 1.1 / (1 + 0.1) = 1$, where FV – future value, r – discount rate, t – number of years.

For more detailed description of NPV see: A. Boardmann, D. Greenberg, A. Vining, D. Weimer, *Cost-Benefit Analysis*. Pearson, Prentice Hall, 2011, pp. 12–15.

discount rates (such as 3,5%, required currently by HM Treasury in the UK) are more favourable for PSC.

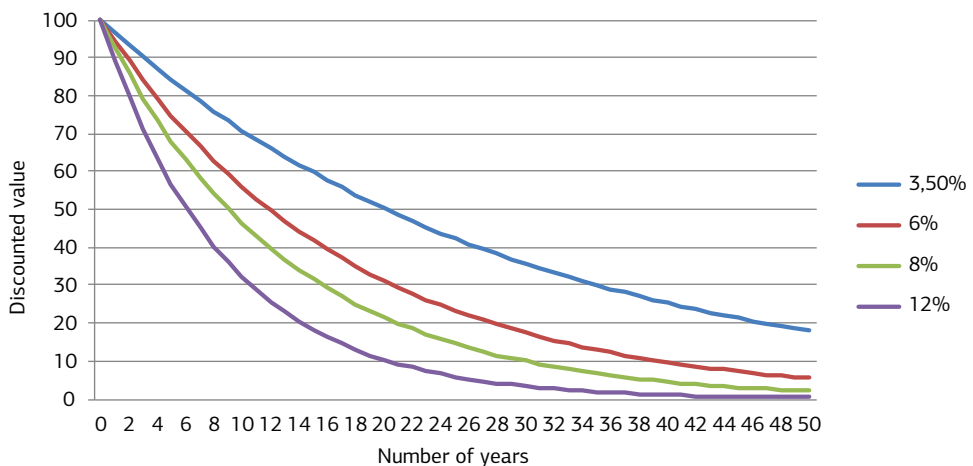
This is shown in Figure 8 – please mind, that for example a unitary payment of 100 in 25 years has NPV of ca. 50 if we use 3,5% discount rate, ca. 30 if we use 6% and ca. 20 if we use 20%. During 10 years the NPVs differ significantly between 70 (for 3,5%) and 46 (for 8%).

The choice of a discount rate can be determined by guidelines, but as economists, we should not forget, that it is only an arbitrary assumption. We should also remember two properties:

- higher discount rate is more appropriate if we assume higher increase of society's welfare with time, so especially in developing countries and in the context of optimistic economic forecasts;
- lower discount rate is less beneficial for PPP, but at the same time it is more favourable for many infrastructure investment projects; in other words, when we conduct a CBA for a project, we usually have significant investment costs at the beginning and future flows of benefits, which are discounted with a lower rate, bring much higher present value.

We should remember, that both CBA and VfM analysis are usually done in real, and not in nominal prices, therefore the discount rate does not include general price increase (inflation/ CPI). Those guidelines, that allow nominal prices, provide different discount rates if an analysis is made in nominal terms.

FIGURE 8. NPV of £100, depending on discount rate and time (number of years)



Risk valuation is even more controversial, than selection of discount rate. It may include such factors, as:

- average PSC cost overrun, covered by a granting authority, within similar projects (in some types of projects in the UK this cost overrun may amount 50% of initial costs);
- costs of average PSC delay (including external factors);
- average repair costs of a facility, because of faulty craftsmanship, after guaranty period.

This factors should be identified within a detailed study of similar PSC investments, conducted in a given country, and then included into national guidelines, such as HM Treasury Value for Money Assessment Guidance⁷⁵.

VfM analysis is usually conducted *ex-ante*, i.e. before undertaking an investment, in order to check, whether a particular investment should be provided as PPP or within public sector procurement.

There are much less cases of **ex-post VfM analysis** of PPP, which aim at evaluating projects, that have been already conducted. One of such an analysis has been made by R. Bain, based on his own studies and National Audit Office data (Bain was more critical to same PPP aspects, than NAO). It aimed at evaluating 8 early British PFI road projects⁷⁶.

We should stress, that it was not a full *ex-post* analysis, as in case of those projects contracts are still in power. Nevertheless, the roads have been constructed and operated for many years, which delivers extra information to an assessment. PSC data can be also improved, but they still remain a theoretical concept only, based on several assumptions.

Bain's research results are presented in Table 7. It contains differences between PFI and PSC risk-adjusted NPV. Positive value means, that PFI proved to be right solution, negative – that public sector procurement would deliver more value for money.

We can see, that in total, all researched PFI projects delivered more VfM compared with public sector procurement of all analysed projects. Nevertheless, most of the positive VfM has been delivered by two projects – M40 and M1-A1. In case of both of them, PPP helps to achieve up to 1/3 lower total costs, compared with

⁷⁵ Can be found on-line: Value for Money Assessment Guidance. HM Treasury, London 2006. http://www.hm-treasury.gov.uk/ppp_vfm_index.htm, accessed: April 18, 2012.

⁷⁶ R. Bain, *Privately Financed...*, op.cit., pp. 87–118.

PSC (see Table 8). On the other hand, in case of the least successful projects, PPP increased total cost up to 20–24%, assuming 3,5% discount rate, and 11–15%, assuming 6% discount rate, which was applied at the moment of investment decisions.

Bain stresses, that the researched projects were the first PFI projects in the UK and therefore they should be selected as the best-fitting in the model. Therefore, for the future projects, the benefits can be lower.

TABLE 7. Results of ex-post vs. ex-ante VfM analysis of first British PFI roads

PFI Road	PFI – PSC risk-adjusted NPV		
	r = 8%	r = 6%	r = 3,5%
A30/A35	1	-19	-44
A50	10	8	8
A19	41	40	34
A1 (M)	50	30	-3
A419/A417	11	-3	-18
A69	-5	-12	-17
M40	94	101	126
M1-A1	112	84	57
Total	314	229	143

Source: R. Bain, *Privately Financed...*, op.cit., pp. 87–118.

TABLE 8. PSC comparison of most and least successful PFI projects

	M40		M1-A1		A30/A35		A69	
	PSC	PFI	PSC	PFI	PSC	PFI	PSC	PFI
r=8%	277	183 (-34%)	342	233 (-32%)	149	150 (+0%)	58	62 (+9%)
r=6%	329	228 (-30%)	375	288 (-23%)	161	178 (+11%)	68	78 (+15%)
r=3,5%	426	300 (-30%)	419	362 (-14%)	181	225 (+24%)	85	102 (+20%)

Source: R. Bain, *Privately Financed...*, op.cit., pp. 87–118.

Qualitative approaches are presented by other experts, discussing PPP efficiency.

Vining, Boardman and Poschmann are more sceptical, and they state, that the most important reason to use PPP is the fact, that an investment can be kept off public sector balance sheet. They give a number of examples of failed PPP projects from USA and Canada, especially toll road projects.

They support their hypothesis with examples of first toll roads in the USA, which were constructed as PPP, and failed because of low acceptance of road pricing and low patronage. They also criticise free PPP roads, as there is not enough risk transfer to the private sector in this case.

Finally, they conclude that PPP causes excessive financial costs, and efficiency-motivating risk of bankruptcy does not work well enough in PPP, because the investments are conducted by SPVs with no assets, so there is not much to lose. What is more, in case of project companies' financial problems, specific assets, constructed within PPP, such as roads or wastewater treating facilities are usually bought from failed project companies by governments, which additionally reduce motivating risk.

They conclude, that the only sector, in which PPP may be efficient are prisons, where the project risk is low, there is high competition of bidders and the service itself can be easily described, that reduces transaction costs⁷⁷.

Some remains enthusiastic about PPP and shows the following advantages of PPP⁷⁸:

- wide range of funding sources – PPPs help public bodies to use diversified sources of financing;
- more efficient forms of risk-sharing – public bodies have to cooperate with private suppliers, and PPP helps to manage some risks in more efficient way;
- cost efficiency – PPP provides lower costs through higher efficiency in several dimensions;
- pricing efficiency – more creative and proactive approach to pricing, resulting in maximising both: incomes and social welfare, compared with public monopolies.

3.3. Suitability of PPP for different sectors

Knowing main costs and benefits of PPP, we may expect, that the results of VfM analysis are generally more favourable for PPP, when:

⁷⁷ A. Vining, A. Boardman and F. Poschmann, Public-private partnerships in the US and Canada: "There are no free lunches". *Journal of Comparative Policy Analysis: Research and Practice* 3/2005, pp. 199–220.

⁷⁸ K. Small, Private Provision of Highways: Economic Issues. *Transport Reviews* 1/2010, pp. 22–31.

- there is more PPP experience in the given country, and the local legal system provides PPP-friendly solutions;
- public infrastructure managers in given country and economic sector are less efficient (for example poorly designed or managed), and projects are subject to delays and cost overruns – because of higher potential savings;
- the investment is worth more, than 30 m EUR or can be bundled with other investments, in order to exceed the value;
- the contract period is not too long, as high crediting period makes cost difference between PSC and PPP higher;
- the investment is not too risky (high costs of debt and equity will not compensate potential savings);
- an investment has significant amount of opex, compared to capex, and there are efficiencies of integrating maintenance with design and construction in one contract;
- there is enough supply of money for PPP projects at the financial markets (for example through pension funds).

Analysing suitability of PPP in different sectors, we may state, that in case of **transport infrastructure** suitability of PPP depends on the type of the infrastructure. Generally speaking, it is more suitable in those cases, where there are synergies between design, construction and maintenance conducted by one company, and both – cost and income risks are relatively moderate.

Therefore PPP is the mostly suitable in case of construction and operation of roads (both toll and no-toll roads, bridges, tunnels, etc.), assuming – as we already discussed – no or little revenue risk is transferred to the private sector. PPP is especially advisable form of road investments, if post-warranty quality of facilities, cost overruns and delays are significant problems in a given country.

PPP can be also successful in case of airports (see Case Study 7, and also Case Study 9), where commercial performance of a private partner can be a significant advantage, as each airport generates high share of its incomes from non-core services. It should also use a wide range of marketing tools in order to attract airlines. In case of the airports however, relations with the neighbourhood may be challenging and may significantly influence efficiency of PPP.

It should be highlighted, that in most cases airport PPPs are based on agreements between an airport authority and a private partner, so creation of such authority may be needed to conduct PPP (alternatively, current public airport manager can be transformed into an authority).

Case Study 7. JFK Terminal 4 Redevelopment, The United States

JFK Terminal 4 redevelopment project aimed at replacing the JFK International Arrivals Building, constructed in 1957 in order to meet cotemporary quality standards. With its budget of \$1.4 billion it was the biggest PPP project those days, and the first airport in the USA managed by a non-airline entity. The project was initiated in 1997 and finished on-time in 2001. The granting authority was Port Authority of New Jersey and New York.

Initially the project company called 'JFK AIT' had three shareholders, connecting competences in different areas: real property management (LCOR Inc.), airport management (Schipol group, owning Amsterdam International Airport) and financial management (Lehman Brothers investment bank), but in 2010 the company has been taken-over by Schipol Group, as a sole shareholder. Most of the project finance (over 0.9 billion) was acquired through bond issue, that is typical for the USA, because pension funds determine huge demand for bonds.

The terminal has the capacity almost twice higher than its predecessor, but it also contains modern 9 thousand square meters food and retail space for maximising business efficiency.

Both parties stress, that one of key success factors, was close cooperation between the project company and the granting authority in order to deliver good service and minimise difficulties.

Source: Ten Principles for Successful Private/Public Partnership. Urban Land Institute, Washington 2005.

In case of the other transport infrastructure, such as railroads or urban rail system, PPP may be less suitable, due to high complexity of those systems. This makes cost and revenue forecasts less accurate and output performance – more difficult to be specified. The extreme example of it is the brownfield London Underground Project. Therefore, other solutions should be rather used, in order to benefit from private sector's operational efficiency in case of rail infrastructure (see section 3.7).

There may be however some exceptions as listed below:

- PPP is often used successfully for rolling stock delivery⁷⁹, as combined purchase and maintenance contract helps to evaluate quality and efficiency of different vehicles, costs of repair and spare parts needed, etc. (this model was also used

⁷⁹ Although rail rolling stock is not infrastructure, so we may say that it cannot be a subject of PPP, it has many properties similar to infrastructure, such as long lifecycle (at least 30 years).

- successfully – by London Underground, Sydney CityRail and many other public operators);
- PPP may be also successful in case of simple, greenfield urban light rail / tramway infrastructure projects, especially if they are connected with some activities that use the land, as in case of Portland Light Rail (see Case Study 6) and some other systems in south-east Asia.

In case of **public buildings** or building-based services such as hospital, prisons, public housing, fire stations and offices, PPP is usually worth considering in most of the cases, as it provides lifetime cost-efficiency, low energy consumption and low share of unnecessary spaces.

Again, PPP may be particularly worth considering, if the business model assumes, that (at least in interim period) some spaces will be used commercially and the maximisation of those incomes can give significant benefits.

In case of **urban infrastructure** (such as water supply, wastewater treatment, central heating etc.), PPP is also advisable, although a number of similar models should be also concerned – including privatisation with regulation which is called the ‘British’ model and O&M (Operation & Maintenance) contracts, called also the ‘French’ model (see section 1.2).

Urban infrastructure projects usually do not require constructing entire infrastructure, but only its upgrade and maintenance. Therefore the line between PPP and O&M is in this case particularly thin. But the higher share of opex and the lower share of capex cause that advantages of high efficiency can easier compensate disadvantages of higher capital costs.

Nevertheless, both – O&M and PPP provide better long-term control over key assets and may protect more effectively the local society against private monopoly.

An example of successful study of PPP regarding water supply in Bulgaria is presented below.

Very similar conclusions refer to **power plants**, where different models of private operation, including PPP, are also available.

Power generation privatisation model may be called PPP, especially if a granting authority provides an operator with so called offset purchase agreement, a guarantee, that a given amount of energy will be purchased. Offset purchase agreements may also help granting authorities to achieve other policy goals, such as provision of cheap energy for given sectors (for example agriculture).

This can reduce risk that is significant in case of privatisation and increase efficiency when comparing it with the efficiency of public monopoly. Such model

may be important, if a government aims at keeping energy prices low, because of national policy.

Case Study 8. Sofijska Voda, Sofia, Bulgaria.

Sofijska Voda was one of the first concession projects in urban infrastructure in Eastern Europe. Granting authority – the Municipality of Sofia – has chosen a private partner, in order to conduct essential 15 years investment programme in urban waterways, worth over \$ 150 million USD. In exchange for it, the partner could run the waterways for 25 years. The majority share (75%) of project company Sofijska Voda was owned by private International Water Ltd. (chosen within a tender) and the minority share – by Sophia municipal company ViK. This provided the granting authority with extended control over SV's books and performance.

SV did not receive any guarantees, and in the long term could increase water prices by 15% in real values. At such level of revenue, assumed investment programme would not be affordable for incumbent, inefficient public operator.

SV's investment programme was covered by debt provided by commercial banks, equity (€20 million) and European Bank for Reconstruction and Development senior debt (€32 million), whereas in the first five years the company used only two latter sources, in order to get good performance record, when applying for commercial loans.

Source: D. Grimsey, M.K. Lewis, op.cit. pp. 241–243.

Another risk, which may be important in case of a power plant is a supply of raw material, such as coal or gas and protection against changes of its prices.

In case of **telecommunications infrastructure**, there were also some attempts to use PPP as an investment model, but due to rapid technological changes and complicated land acquisition, PPP should not be a preferred solution for such investments.

3.4. Special case of developing countries

There are three specific features of developing countries, which influence decision, whether to use PPP for infrastructure projects or not. These include:

- rapid development and rapid need for infrastructure;
- low quality of public sector management;
- immature law system and financial markets.

The first two of the above mentioned factors make PPP an attractive solution for emerging markets, but the third one introduces additional thread.

Most of the developing countries have **shortage of infrastructure** that seriously limits their growth. Lack of transport infrastructure or efficient power plants can make them less attractive location for manufacturing. What is more, shortage of infrastructure may decrease quality of life, level of education (lower accessibility of schools) and cause different external costs (for example costs of accidents).

Therefore acceleration of those investments can provide wide range of benefits, much better, than in case of highly developed countries, which do have plenty of infrastructure and are less manufacturing-dependent.

Moreover, rapid development of such countries justifies using higher discount rate (in 20 years its citizens will be much richer, and unitary payment of X will be much more affordable for them, than now), what additionally favours PPP (see Figure 7 again). This is reflected by high discount rates, used by the World Bank (up to 12%).

Another advantage of PPP in case of developing countries is usually **low quality of public sector management**, and therefore – high improvement can be achieved, when infrastructure is taken over by private bodies. This happened in the Bulgarian case of Sofijska Voda (Case Study 8). In case of other projects, ‘automatic’ motivation for higher quality of construction works and materials, can be also an advantage, as public bodies in the developing countries may not have enough experience in supervising construction, so contractors tend to use low quality materials, that may fail after warranty period (usually not longer, than 5 years).

Some authors also include accelerated economic stimulation in the group of advantages in the PPP performed in developing countries. We should remember, that it actually helps to create jobs, especially for low-educated people, but most of the work is done by multinational companies, because local contractors, even if are able to construct given facility, may not be able to meet financial requirements of PPP participation.

On the other hand, **immature law system and financial markets** make it difficult to establish a PPP in the developing countries. As we already know, from the Hungarian case study (Case Study 4), there is higher regulatory risk on such markets, and local investors and banks may not have enough money to finance the project locally. Therefore it is important to provide stable legal framework for PPP and to use international financing, especially provided by a range of non-profit banks (development banks), aiming at helping developing countries, such as:

- European Bank for Reconstruction and Development (it co-financed both the project in Bulgaria, described in Case Study 8, as well as the project in Hungary, described in Case Study 4);
- World Bank (very active worldwide, especially in Asia and South America);
- European Investment Bank (focusing on the EU-countries and future EU-members);
- Asian Development Bank (aimed at helping Asian developing countries);
- Inter-American Development Bank (aimed at helping Asian developing countries).

Those loans have at least two advantages – firstly, they are cheaper, than commercial loans. Development banks acquire capital at very low rates in international markets, because they have guarantees of its owners, international organizations and good records. Additional savings can be provided, because they do not aim at generating profit, but only covering costs. In fact, for many of the developing countries this source of financing can be even cheaper, than gilts, because international banks' ratings are better, than some of the governments.

Secondly, those banks not only lend money, but also aim at helping developing countries. Therefore they hired experienced advisors, who work actively to improve projects, that are especially needed on emerging markets. If a project is financed by one of the above banks, it is a clear signal for financial markets, that the project is more credible and worth attention.

We should however remember, that development banks' loaning conditions may require government or granting authorities' guarantees about their debt. This may or may not reduce possibility to keep the project off the balance sheet, depending on the type of guarantees and local regulations.

In some cases (such as in Sofia) preferential loan can be used at the beginning of the project, in order to increase reliability of a project company.

In some cases non-profit international banks may offer additional guarantees for private banks' funding, covering political risk or allowing extending repayment duration. As those banks are connected with international organizations, they usually have possibilities to reduce political risk in an active way.

In the developing countries it is important to ensure transfer of know-how between foreign non-profit and commercial consultants and local entities. Therefore it's good to create local PPP-Unit as soon as possible, as well as involve possibly many different local participants (for example local advisory subcontractors, local banks to provide subordinated debt etc.). In a long run, it will decrease consulting costs, and high demand for foreign consultancy at the very beginning.

3.5. Lowering PPP costs

As discussed previously, high capital costs and high transaction costs are the most significant disadvantages of PPP. Therefore, granting authorities worldwide try to find solutions, helping to decrease them.

In case of **transaction costs**, not much can be done. We have already mentioned in section 2.3, that a granting authority can split procurement into a number of phases. It can also provide bidders with some analysis (such as technical) in order to allow each of them not to cover the same costs. Some procedures and contractual clauses can be standardized, and knowledge – managed and retained by public authorities and national PPP-Units, in order to reduce granting authorities' costs and consultants' scope of work. Although it will not provide massive savings.

More can be done in terms of **financing**. The very first rule, is that lower transfer of risk to a project company will result in cheaper financing. Nevertheless, too little risk transfer can also cause PPP to be inefficient. At a given level of risk transfer, additional decrease of capital costs can be achieved through:

- obtaining international or national non-profit banks' funding or guarantees;
- obtaining public sector guarantees for SPV's debt;
- public sector participation in SPV's equity;
- differentiation of debt priority (mezzanine finance);
- extending supply of long-term debt.

General principles of **non-profit banks'** support were described in section 3.4. Here we should add, that many developed countries have also similar national banks, that can be used to grant financing for PPP at lower rates than commercial market are able to do or to guarantee project company's debt against some of the risks. National non-profit banks' loans can be used for projects which may not be eligible for international non-profit banks' support.

Alternatively, project company's debt (or also bonds) can be **guaranteed by the public body** – government, local authority or granting authority itself, depending on the type of granting authority and particular circumstances (for example if a granting authority is a government agency, guarantees can be issued by a government or the agency itself).

The scope of guarantee can be different, dependent on the project particular risks and can be, for example, limited to regulatory risks. Guarantees with broader scope were popular in Spain – where guaranteed debt has usually increased the

credit rating value up to the rating value for the country, which therefore enabled SPV to achieve the financing cost comparable to the value of the public debt (but still bit higher).

We should remember, that too much guaranteed financing may cause that project company becomes inefficient – this phenomena is called **moral hazard**. Therefore, many granting authorities did not want that guaranteed debt and development banks' financing cover all project costs – they should be complemented by a share of commercial debt, allowing some risk to remain in the hands of private sector and the project remaining under advantageous private debtor's control. The similar functions are provided by the equity, that motivates sponsors.

Observing many cases of PPP failures, we can see, that guarantees are not connected with additional costs for public sector. Even failed projects usually receive bailout from granting authorities and some debt remains repaid, because of big social impact of a facility. Formalizing this process up-front can help to decrease total project financing costs.

Public sectors' participation at SPVs equity (called also joint-venture PPP or institutional PPP – see section 1.4) can also decrease project costs for two reasons. Firstly – some of SPV's equity can be provided by the granting authority, which may decrease WACC (please note, that equity is the most expensive way of gathering funding). Secondly – public participation in SPV makes it more credible, especially in countries (even developed) without big PPP record.

This participation however, may cause that the granting authority will try to manage the project using its ownership power and not contractual power. It can also increase political influence on the company's management system and decrease its efficiency.

Therefore it is typical, that only minority shares of the joint venture SPVs are possessed by the public partner. It is also important, that a private partner is chosen in an open and clear tender – already established public-private company should not bid against private consortiums. Such solution was used for example in Sofia (see Case Study 8).

Both solutions above are not new or contain anything innovative – as we know from section 1.1 public guarantees or public participation in project companies' equity has been used for centuries.

Another concept of decreasing debt's cost – based purely on private project finance – is called **mezzanine debt**. It means that debt is split into two parts: senior and subordinated (mezzanine). Senior debt is less risky, because in the whole

project some share of debt will be repaid with great probability. This enables low interest rates and high ratings, at least for part of debt.

Debt differentiation aims also at fitting debt into different preferences of investors. Non-profit banks and pension funds will prefer or even require senior debt, and some private investors expecting bigger rates of return will go into subordinated one.

Finally, **debt supply** is also very important factor, determining financial costs of PPP. In the United States most of infrastructure projects – both PPP and not – are financed by bonds, issued for a particular investment. These bonds are bought by pension funds, as American pension system bases on private investment funds, searching for long-term, low-risk investments, which perfectly matches PPP debt.

What is more, in many countries activity of pension funds is regulated, so there are statutory maximal shares of different assets in its portfolios, which may also influence availability and cost of debt for PPP projects.

3.6. Influence of crises on PPP

In the last section, referring directly to PPP, we would like to discuss the influence of crisis on PPP – particularly, but not only, the current 2008 economic crisis. As the influence cannot be measured definitely because constantly appearing new circumstances, connected with increasing public debt are being revealed, but the impact of crisis remains so strong, that it is impossible to omit and leave it unspoken.

Generally speaking, each economic crisis has negative influence on PPP, especially on concessions, because GDP decline may decrease demand on such services, as transport or electricity. Hard economic conditions may also motivate public bodies to decrease prices of some utilities, at least for “sensitive” groups of users. It can be partially balanced by decreasing opex, but in many cases it does not work and project companies may face difficulties.

In this case negotiations between lenders, granting authority and project company are essential. Already quoted South American study⁸⁰ shows, that those renegotiations are usually successful. One of the most effective measures, helping project to survive the crisis, is an extension of concession or project period. This allows lenders to decrease debt repayment in a given period and enables project

⁸⁰ J. Guasch et al., op.cit.

company to balance cash flows with limited incomes and (if applicable) no additional or limited payments from a granting authority.

We should also stress, that PPP investments can be in many cases one of the ways, allowing governments to stimulate growth, due to large multiplier effect. For example, the first British PFI program was to a large extent an answer to early 1990s economic crisis, when the British economy suffered from GDP decrease in 1992. Big, privately financed infrastructure investment programs were one of the measures that effectively helped the economy to recover.

Current economic crisis, began in 2008 and has probably much higher negative influence on PPP, compared with all other crises we have already known. This is because it began in the banking sector and referred to many investment banks, some of which were heavily involved in PPP (for example Lehman Brothers). This influence is also high, because investors are more conscious about excessive debt of governments worldwide and increasing possibility of some countries' bankruptcy (although this has been already proved by the South America Crisis in late 1990s and early 2000s).

Additional difficulties have been added by the Basel III recommendations of Committee of Banking Supervision, drastically (from 2,5% to at least 7%) increasing amount of capital that the bank should have, related to the total level of risk-weighted assets, limiting leverage ratio and enforcing increased liquidity of banks. In other words – Basel III drastically limited supply of debt.

Bonds as the alternative financing source became also less available, because the crisis revealed unreliability of monoline insurers, as well as rating companies, helping investors to use safely those financial tools.

All above mentioned circumstances halved the total value of new PPPs in the first half of 2009. Next year, the situation improved due to a small number of large-value, priority projects in some countries⁸¹.

There are also qualitative changes on the market – for example the 2010 World Bank report about PPP includes the following conclusions⁸²:

- private investors are less likely to risk, than before the crisis, because they expect more government support and guarantees, as well as some contract adaptation mechanisms (both before and after financial close);
- the phase of financial agreements is even longer and more difficult than before.

⁸¹ J. Delmon, *op.cit.*, p. 189.

⁸² V. Cuttareem, C. Mandri-Perrott, *Public-Private Partnerships in Europe and Central Asia. Designing crisis-resilient strategies and bankable projects*. The World Bank, Washington 2010, pp. 2–3.

The above causes, that most of the big post-crisis PPP projects used financing methods, described in section 3.5, such as loans of non-profit banks and/or public guarantees. Active involvement of a granting authority at the stage of financial arrangements is also beneficial.

After the crisis in 2008, the best projects, such as for example Pulkovo airport (see Case Study 9), remain attractive for the private capital holders without public guarantees. Polish A1 motorway between Gdańsk and Toruń reached financial close in 2009, due to government guarantees and loans from EIB and Nordic Investment Bank. In the case of two Russian motorways, including Moscow – St. Petersburg, the situation was very similar. Other projects, such as Romanian motorway PPP programme (see Case Study 10), collapsed because the government disagreed to further support it.

Some smaller projects, for example buildings, seem to remain bankable also within private sector, but the cost of the debt increases.

Case Study 9. Pulkovo Airport, St. Petersburg, Russia

The project aimed at modernizing Russian fourth biggest airport, handling over 6 million passengers per year, managed by the city of St. Petersburg (a granting authority).

The total value of the investment program was ca. € 1 billion.

The project has been granted to a consortium including VTB Capital (Russian investment bank – 50%) and Fraport (Frankfurt Airport's owner – 35,5%), who provided over 30% of investment costs as equity.

The project achieved financial close successfully in 2010.

The project remained bankable after crisis, without public guarantees for several reasons, decreasing the project risk. Firstly, it did not contain much revenue risk – it referred to an existing airport with increased traffic and good perspectives in the simple economy based on commodities. Secondly – financial risk was not high, as much of the revenues were gathered mostly in hard currency and no exchange rate risk applied. Thirdly – although there were no public guarantees, such institutions as European Bank for Reconstruction and Development and Russian Development Bank were involved in financing and syndicating the debt, and the World Bank – also in advisory.

Source: V. Cuttareem, C. Mandri-Perrott, op.cit., p. 36.

The crisis caused also more severe restrictions of public debt. The World Bank concludes, that “PPP should no longer be considered as an off-balance sheet budgeting

approach⁸³. We should assume that in this matter the last word has not been said yet and there may be some new regulations introduced, that will decrease possibilities of putting PPPs off public bodies' balance sheets.

Case Study 10. Comarnic-Brasov Motorway, Romania.

The project aimed at constructing and operating 58 km of motorway across Carpathian Mountains – including 15 km of tunnels and 4 km of viaducts or bridges. Its total budget was € 1.9 billion + VAT. The motorway was intended to operate in a concession model, with tolls set and collected by the project company. It was a part of a € 4 billion Romanian PPP project, that included also two other motorways.

PPP seemed to be a very good solution for construction of motorways in Romania, as the quality of works tendered through classical public procurements is very poor, and many roads need main repairs after 5 years of opening.

In January 2010 the Romanian government has granted a project to the French construction company Vinci, that formed a consortium with Greek construction company Aktor (a member of Ellaktor Group) – no investment bank was involved.

In April 2010 the contract was cancelled, as the consortium could not achieve financial close and government disagreed to renegotiate conditions, worked out within competitive dialogue.

In 2012 the Romanian government came back to the project, starting from the procurement stage.

Source: V. Cuttareem, C. Mandri-Perrott, op.cit., p. 34.

3.7. Beyond PPP

Finally, having discussed pros, cons and current difficulties of PPP, we can point to section 1.2, where we discussed different alternatives to both – PPP and traditional public procurement, and consider when the one is preferable over the other. We will focus on hybrid solutions, connecting (or at least aiming at connecting) some of the PPP advantages with advantages of public sector's financing.

⁸³ Ibidem, p. 8.

We are going to discuss the following alternatives⁸⁴:

- Public-Public Partnerships and Public SPVs;
- not-for-profit structures;
- DBO (Design-Build-Operate) contract;
- construction funding with a take-out;
- Operate & Maintenance contracts;

Some authors include also public sector debt guarantees and not-for-profit bank loans into alternatives for PPP, but the latest developments included them into PPP mainstream (and therefore they were discussed separately in section 3.5).

Public-public partnerships may be established, in order to deliver some infrastructure-based services within the public sector, but usually without burdening granting authority's balance sheets with additional debt. Those partnerships are based on conducting an investment by a publicly-owned company that may be an SPV or another public company with some assets and other activities (such as for example public transport operator).

Public-public partnerships are similar in their structure to PPPs – they contain transfer of risk and debt from an authority to a company, and their central point is an agreement between a granting authority and a project company.

Public-public partnerships are usually much faster to establish, because there is no need of procurement, although in some cases this freedom can be limited by public aid regulations. They are also more flexible for future renegotiations and usually can have good access to financing, as public debtors are more trusted. On the other hand – they may be less efficient, as there are lower incentives for a public company to maximise its efficiency and profits and there is no serious risk of bankruptcy. There are also limited possibilities to impose penalties on public SPV for poor performance. As an effect a granting authority punishes itself, as a shareholder.

As already stated in section 1.4, public-public partnerships were popular in France, during the construction of motorways, after World War II. They are used also in Poland – for example in Poznań many investments before Euro 2012 (including tramway infrastructure) were conducted by an SPV Infrastruktura Euro 2012, because the city of Poznań was no longer able to increase its debt significantly for legal reasons. Warsaw tramway operator Tramwaje Warszawskie is considered as an investor of Krasieńskiego Bridge in Warsaw, although it is going to be a normal bridge with a road along the majority of its length.

⁸⁴ E. Yescombe, *op.cit.*, pp. 310–311.

The popularity of this form may decrease, when more strict rules, connected with public sector debt will be introduced, in order to increase financial discipline.

Not for profit structures are project companies, that differ from a normal PPP, because they have very little or no equity, and therefore no one expects high rates of return. All other features of the cooperation remain similar. This may sound unreal, but in fact there are two forms of ‘not for profit structures’, both of them with a number of practical applications.

The first form is called public trust, which is similar to Public-Public Partnerships, because a trust, acting similarly to project company, remains public, although it is independent from a granting authority. This model was popular in the past, when schools and hospitals were owned by charity and roads by public trusts. More contemporarily, some toll-motorways in the USA are delivered by public trusts and public housing; in the UK – by housing associations.

Another form of not for profit structures is called ‘pinpoint equity’ company, that has little or no equity and shareholders’ guarantees in return. This can be achieved for example through British legal form of “company limited by guarantees” and was used in early British PFI projects, such as Dartford crossing.

DBO contracts are based on PPP principles, so they include construction and long-term maintenance of a facility by one private partner, based on one contract. However, as opposed to PPP DBFO (Design-Build-Finance-Operate) contracts mentioned in chapter 1.4, they do not receive financing from the private sector. It means, that capex is covered by a granting authority during the construction phase, and opex – thereafter, in the operation phase.

Such approach shows, that a project company does not need to get long-term financing on financial markets, which can decrease costs, even if a project is funded by a granting authority’s debt (for example bonds, issued by a public authority). Not only does it make project cheaper, but also quicker.

The disadvantage of DBO is, that much lower unitary payments that is characteristic for DBO can make the project company less motivated to deliver long term performance. Sponsors gather the most of its profits during the construction phase and even if they lose the contract during the maintenance phase, they still may be in black. Because of all above mentioned, DBO contracts have evolved into DBGO, where G stands for Guarantee and means significant performance bonds or commercial banks’ guarantees, that are helping to enforce high quality during entire contract.

Construction funding with a take-out is further development of DBO used in Italy. It includes private financing of entire construction and successful completion – take-over of the SPV by a granting authority. In Germany – only debt of SPV is taken over by a granting authority after completion of works.

Both schemes focus on good motivation of a project company to deliver project on-time and in-budget. However, they do not increase quality of works and efficiency of design in comparison with traditional public procurement, therefore they should not be used in countries, where the efficiency of design is a key problem (for example in Eastern Europe).

Finally, different types of **O&M Contracts** mentioned already in chapter 1.2 can be a good alternative to PPP in some cases, especially with high opex and high potential of maintenance process optimisation.

O&M Contracts do not include construction of a facility (the facility can be new, delivered through public procurement or already existing one), but cover only operation – for example existing prison or a tube line. This model also does not deliver benefits connected with higher quality of works and design as well as reduction of construction delays and cost overruns, but in countries where those are not so problematic issues, it can be useful, as it decreases both financial costs and operating costs. It was used for newly built Copenhagen underground, as well as already existing tube network in Stockholm, where both infrastructure and rolling stock are publicly owned and financed. British railway franchising and German railway tendering are also specific kind of O&M Contracts.

As we already mentioned, in some cases of brownfield projects, the border between O&M Contracts and PPP is very thin.

General overview of advantages and disadvantages of PPP and its alternatives can be found in Table 9.

TABLE 9. PPP and its alternatives

	Advantages					Disadvantages				
	Lifecycle oriented design	Lifecycle oriented quality of construction	Projects delivered on-time and in-budget	Off balance sheet financing	Efficient maintenance and commercial activities	High capital costs	High transaction costs	Time-consuming procedures	Different priorities of SPV and authority	Non-elastic cooperation structure
PPP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PPP with public guarantees	✓	✓	✓	limited	✓	limited	✓	✓	✓	✓
Public SPVs / Public-Public Partnerships	✗	✗	✗	✓	limited	limited	✗	limited	limited	limited
Non-for-profit structures	✓	✓	✓	✓	✓	limited	✓	limited	limited	✓
DBO	limited	limited	✓	✗	✗	✓	limited	limited	✗	✗
Construction funding + take-out	limited	limited	✓	✗	✗	strongly limited	limited	limited	✗	✗
O&M	✗	✗	✗	✗	✓	✗	limited	limited	limited	limited

✓ – exists, ✗ – does not exist

4 THE NEWEST POLISH EXPERIENCE

4.1. Research objective and assumptions

On the top of theoretical background, presented in the previous chapters, we would like to supplement our study with the newest **Polish experience** in developing Public-Private-Partnerships. We would like the primary outcome of this research to widen the knowledge of public-private partnership process participants, with particular target on those granting authorities (public sector bodies) and sponsors, providing equity to the project companies. The general aim of the study is to **improve the co-operation** between those bodies through the whole PPP project, starting from identification and preparation, through bidding process and financial arrangements and finishing at operation and (future) hand-back.

After the initial investigation it is quite clear that these are mostly high-value transport projects that are widely researched⁸⁵, as well as presented by daily and business press. As a result of this we find it beneficial for the future to focus on those less explored **local projects** with particular interest in evaluating local health and city infrastructure public-private partnership projects.

Regardless of how profoundly we would like to examine the subject, budget and timing constrains, as well as willingness of potential participants to take part in voluntary interviews limit us only to a small piece of community projects conducted

⁸⁵ To mention a few like: (1) Report on public-private partnership, edited by J. Hausner, Centrum PPP, Warsaw 2013; (2) Rynek partnerstwa publiczno-prywatnego i koncesji w Polsce w 2014 r. na tle stanu obowiązującego w latach 2009–2013, Kancelaria Doradztwa Gospodarczego Cieślak & Kordasiewicz, Baker & McKenzie Krzyżowski i Wspólnicy, Ministry of Economy, Warsaw 2015, (3) Partnerstwo Publiczno – Prywatne w latach 2009–11, edited by K. Siwek. Ministry of Regional Development, Warsaw 2012.

in Poland. Nonetheless the methodology of in-depth interviews (IDIs), conducted with all parties involved, and supported by local media coverage, including press, allows us not only to present the following cases but also to extract key conclusions for upcoming projects with hope that the communities around them will influence their effectiveness and efficiency.

While preparing for the qualitative research and searching for best projects suiting the research objective, we used the PPP Database, available on one of the Polish Government website⁸⁶. Some qualitative analyses have been conducted as well.

4.2. Introduction to case studies

107 public-private partnership contracts have been signed between January 2009 and September 2016 and their **total CAPEX/OPEX equals 5.147 billion PLN**, according to Project Database on official PPP Polish Government website⁸⁷. It is worth mentioning that only projects, that met all the requirements of the Polish 2008 PPP Act⁸⁸ and 2009 Concession Act⁸⁹ have been taken into these statistics. A careful reader will not find any reference to biggest investments started before those dates such as A1/A2 highways infrastructure improvement.

In terms of total sum of CAPEX/OPEX in 2009–16 (see Table 10), telecommunication and waste management projects are in the strong lead with budgets responsible for 32.7% and 27.5% of total investment respectively, followed by revitalisation and infrastructure projects (10.0% and 6.8%), sport and tourism, and culture (5.3% and 5.2%). Healthcare, public building or education, however very important for local communities are less interesting for investment in public sector and their share in total investment is very low.

It is very interesting to see how the idea of **public-private partnership has become strongly popular** since just 2 contracts signed in 2009, 16 in 2012 and 24 in 2015, becoming eventually more popular for smaller projects as well, bearing in mind higher budget contracts that were signed in 2013 (see Figure 9). It allows

⁸⁶ Baza Projektów Partnerstwa Publiczno-Prywatnego. Official website of the Polish Ministry of Development website, http://www.ppp.gov.pl/baza/Strony/baza_projektow_ppp.aspx/, accessed: October 19, 2016.

⁸⁷ Baza Projektów Partnerstwa Publiczno-Prywatnego, op.cit.

⁸⁸ Ustawa z 19 grudnia 2008 r. o partnerstwie publiczno-privatnym, op.cit.

⁸⁹ Ustawa z 9 stycznia 2009 r. o koncesjach na roboty budowlane lub usług, op.cit.

us, together with qualitative research that was conducted, to conclude that the process of partnership between local authorities and private entities became democratised after a few years of learning process. However, the positive trend has been strongly reversed last year with only 6 contracts signed in 2016 and rather no chance to meet 2015 level with only 3 months left. Based on the interviews conducted, it is justified to set the hypothesis that this inverted tendency will keep decreasing for the next few years due to local authorities fears of new governments policy towards public-private initiatives.

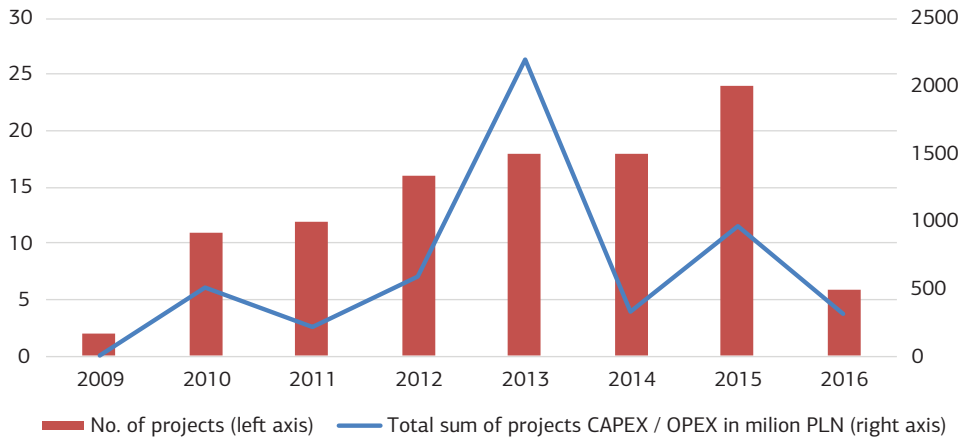
TABLE 10. Structure of PPP projects in Poland (2009–2016)

Sector	Total sum of projects CAPEX / OPEX in million PLN	Share of total CAPEX/OPEX	No. of projects	Share of total no. of projects
Telecommunication	1684	32,7%	11	10,3%
Waste management	1417	27,5%	5	4,7%
Revitalisation	514	10,0%	4	3,7%
Infrastructure	352	6,8%	18	16,8%
Sport and tourism	271	5,3%	17	15,9%
Culture	265	5,2%	6	5,6%
Power engineering	210	4,1%	16	15,0%
Healthcare	147	2,8%	3	2,8%
Public buildings	134	2,6%	6	5,6%
Water and sewage	122	2,4%	12	11,2%
Other	27	0,5%	4	3,7%
Education	4	0,1%	5	4,7%
Total	5147	100,0%	107	100,0%

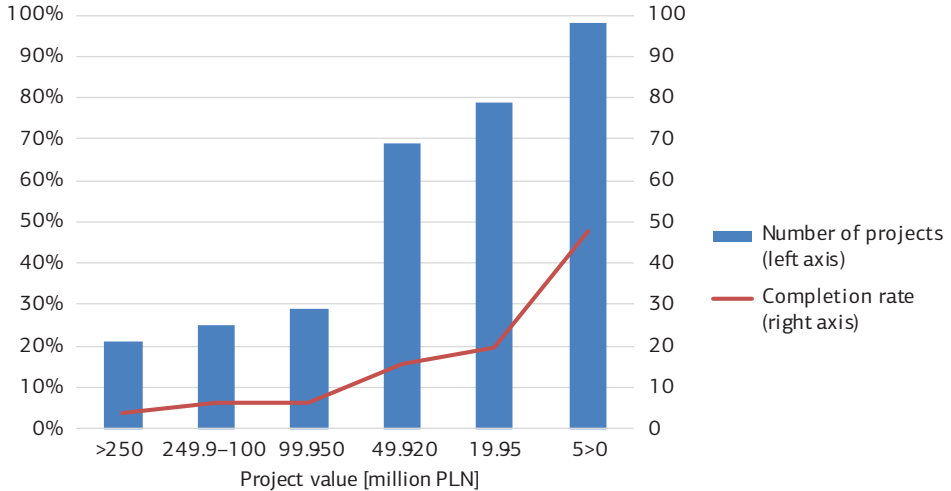
Source: Own analysis based on: Baza Projektow Partnerstwa Publiczno-Prywatnego, op.cit.

OECD analysis, based on Polish Government data confirms also high popularity of smaller value projects, stressing its **high completion rate**, amounting almost 50% for projects with the budget below 5 million PLN, compared to almost 5% for projects worth 50 million PLN and more (see Figure 10).

As already mentioned in paragraphs about the **method** of the research, due to time constraints, we have only managed to conduct qualitative analysis of several projects. Furthermore, the level of detail of data provided by interviewees and the amount of information were varied. Such a formula enabled us to notice both the principles on the procedural level, private motivations and opinions of people involved.

FIGURE 9. Total number and volume of PPP projects in Poland (2009 – Sep 2016)

Source: Own analysis based on: Baza Projektow Partnerstwa Publiczno-Prywatnego, op.cit.

FIGURE 10. PPP projects by size in Poland

Source: OECD Economic Surveys Poland. OECD, Paris 2016, p. 111 based on the Polish Government Data.

By conducting research on a similar group in the past, we were surprised not only by the **professional approach of representatives of the public sector** (this approach is nowadays often observed in the behaviour of high-ranked officials of

local government), but also their high level of business awareness and local patriotism. In our opinion it has contributed to the atmosphere of mutual trust and understanding surrounding the realization of PPP projects, and is vital in comprehending the success of given projects.

To complete the research, we not only conducted interviews with the representatives of those municipalities that have brought the PPP project to a close stage (the operational phase), but we also decided to include the reports of interviews concerning projects which have never reached that phase, due to different reasons, although. They cannot be considered representative.

4.3. Columbaria in the cemeteries of Gdańsk (completed project)

Background

For some time, Gdańsk has struggled with the lack of burial sites, especially in older, densely built-up districts, where cemeteries were small and available sites were not only scant, but the cemeteries were less often visited by relatives of decedents. The columbarium, implemented as a wall for urns was a natural response to the demanding market. It also became a mean of revitalisation of closed cemeteries (cemeteries that no longer offered burial sites). Additionally, already existing columbaria functioned efficiently despite their unattractive location and did not cause community protest, which is essential advantage in case of the sector in question.

The municipal budget was in good condition and Gdańsk was able to fund the columbaria including it in the city budget. However, financial simulations indicated the superiority of PPP form over direct funding and potential acquisition of funds through bank loan. Nevertheless, at the beginning Gdańsk was in favour of regular concession and launched a tender for a project of columbaria. After revision of initial projects and exploratory discussions with representatives of funeral industry, a decision in favour of PPP has been made and the process of negotiation has been initiated.

Negotiations

Before the procedure has started, the city has prepared initial landscape planning projects, which was based on a dialogue with the residents, bearing in mind the potential community protest concerning the construction of columbaria. These projects were carried out to create an initial functional specification. After its preparation, a tender was agreed upon and business partners were invited to bid.

Plans were extremely detailed, including very precise description of the amount of niches in particular columbarium in each cemetery (9000 new burial sites in 8 cemeteries, including Centralny-Srebrzysko, Sobieszewski, Garnizonowy and antique Oliwski – see Figure 11)⁹⁰. Nevertheless, during the negotiations, some of the locations were changed/ cancelled and no. of niches has been decreased to 2.500 once final contract has been signed (with an option to extend this amount to initially planned number)⁹¹.

FIGURE 11. Columbaria at the Oliwski Cemetery in Gdańsk



⁹⁰ K. Moritz, Dwie firmy chcą budować kolumbaria w Gdańsku, <http://www.trojmiasto.pl/wiadomosci/Dwie-firmy-chca-budowac-kolumbaria-w-Gdansk-u-n62460.html>, accessed: November 20, 2016.

⁹¹ Gdańsk podpisuje koncesję na kolumbaria, <http://ippp.pl/funeralna-koncesja-w-gdansk-u/>, accessed: November 20, 2016.

After reviewing all submitted offers, two tenderers were invited to multistage negotiations and finally a deal with a bidder who opted for more modern (cheaper and less invasive) technology, not considered in the initial terms of reference, was signed. The chosen partner was PPHU “Zieleń”, a local, private company specialized in funeral services as well as green areas maintenance, which was created by changing its legal character from communal ownership to being privatised in 1992 by employee buyout.

During the negotiations the city has forgone the so-called maximum option, which involved construction of columbaria at all cemeteries. This resulted from additional analysis presented by the public partner which showed a large financial risk of this endeavour (due to popularity of other cemeteries among older, lonely people, who value traditional forms of burial).

At the point of final negotiations the offer for the future users and some conveniences were stated including: family or double columbarium niches, exhumations of existing graves, help in organising a cremation and placing the urn in a family grave⁹².

In January 2016 all columbaria were ready and put into operations. Since its opening for use and during construction phase, columbaria were accepted by public and society except several comments concerning the architectural aspects (regarding a wall obstructing the view). Furthermore, the high interest in columbaria is significant when taking into account long-term changes in managing cemetery space (and possibly avoiding extending it).

Risk and responsibilities sharing

Assumed budget of the project, which had not changed during the tender, was 10 million PLN for the whole undertaking (the project and the construction, including its adaptation to the requirements of conservation-restoration of cultural heritage on one of the cemeteries). It was entirely covered by the private party. The public body had to negotiate such a deal with the private party so that the undertaking was bankable – from the beginning, the partners (candidates in the procedure) were informed that the city does not guarantee the debts of the investor. As a result of such model, the risk of the public body may be assessed as low.

⁹² It is worth noticing that prices of columbarium niches vary not only by type of service, but also by cemetery and may cost between 2500 PLN (600 €) and 5000 PLN (1200 €).

However, it is worth mentioning that banks approached providing credit approval before signing a contract with caution, so negotiations between the investor and the financial institution took place after finalising the tender, design and financial reports (signing the final PPP contract), meaning that both sides were exposed to the risk of not acquiring funds after closing the tender. This risk was minimised by verifying the financial viability of the private party by the public body and provisions in the contract which ensured the bankability of the deal.

The private party is allowed to keep all project incomes for 22 years. After termination of this time, the ownership is transferred to the city with an additional 3-year-warranty (so the structure has to be planned for at least 25 years). The private investor has the right to benefit financially up to a set amount of proceeds – after it is reached, the profit is split 50–50 with the city. Such model, together with an increasing demand for columbaria and neutral approach of the Catholic church, ensures profitability and lower risk for the private party.

Lessons learnt

Both sides are satisfied with the procedure and the project itself, not only when taking into consideration the long-term strategy, but also the financial benefits. They also agree upon the importance of right qualifications and openness to ideas and experience of the other party as key factors in the undertaking:

- the private party appreciated the thoroughness of documentation provided by the city and consideration of the public body in the process of negotiation, especially including clauses in the contract which allowed the bank to acquire the loan later than mentioned before; the public body also agreed on the changes in the construction;
- the public body stressed the importance of trust which was put in the negotiation team by municipal officials, the necessity of both consulting the funeral industry and local society, and the need for the officials to understand that the second party will only participate in a project if it can profit from it.

Both sides have respected the procedure and balance of responsibility and risks required by the procedure. To cite the well-phrased statement by a representative of the private party: "it is a very nice formula – partnership; partners have to talk and acknowledge the issues of both sides". Such understanding was also expressed by the public body.

4.4. Land development of Wyspa Spichrzów in Gdańsk (completed project)

Background

The area of Wyspa Spichrzów (Granary Island) was neglected since the times of World War II and was unlucky when it came to investors – the city made several attempts to choose a business partner, focusing on either concession or renting the whole space with the condition that a concept of urban planning and architecture will be designed. The reasoning behind it was to keep control over the appearance and management of the land which lies between most important urban facilities, including the Old Town. On the third attempt it has been decided to implement the PPP procedure to find a long-term, all-round business partner.

Economic, financial and social analyses have also indicated that execution of the project by a private party in the PPP formula will prove to be most profitable and allow to keep control over the purpose of the area in the hands of the city, although some flexibility in the long-term perspective would be allowed.

It has become a flagship investment for the private partner and from the very beginning, a lot of effort was put to understand the demands of the city (and the reasons behind the failure of previous procedures) and to guarantee the clarity of solutions, purposes of respective buildings and their target appearance and finishing.

Both the assumptions and the scale of the project foreshadowed long and difficult negotiations.

Negotiations

The public body experienced in PPP (including the aforementioned project of columbaria), has begun to draft analyses and landscape planning project with a clearly set purpose for respective parts of the area. In this case wide social consultations were also carried out as to systematise the purpose of the area.

The procedure of negotiation (dialogue) was developed based on already possessed experience and creation of the proceedings began based on thorough analysis, description of needs, requirements, followed by contract preparation.

The city of Gdańsk has begun the negotiations with several partners, companies involved in real property development countrywide, but it quickly became

clear to the public body that only one partner guarantees the fulfilment of objectives – a consortium consisting of Belgian multinational developer's Immoel SPVs and Warsaw engineering consultancy Multibud W. Ciurzynski SA.

After four rounds of negotiation (initial stage, technical stage, economic stage and legal stage), the findings were summarised into one report, which was used to create Terms of Reference. Interested partners were invited to present their bids based on this report.

To evaluate the offers, as an official act of the President of Gdańsk, a special team comprised of engineers, architects, economists, lawyers and other experts was appointed, trying to include as many municipal officials as possible.

Risk and responsibilities sharing

Total estimated budget of the project is 400 million PLN (the project itself, preparation of the terrain, rebuilding or conservation of existing buildings and construction of new ones)⁹³. Similarly to the case of Columbaria, the city required full funding on behalf of the private investor, providing only the land and reserving the necessity to acquire funds without taking a mortgage loan. In this case the biggest risk was also to acquire credit from financial institutions, which have decided not to sign a guarantee before signing the PPP deal.

The partner's incomes would be both the right to gain benefits from the result of partnership (commercial buildings) and availability fee (rent) paid by the city for public facilities, where the payments would be dependent on the expenses of the private partner spent on the development of the project.

Currently, the project itself is at the stage of acquiring licenses needed to complete the construction of the first stage of the project and public facilities. Four stages of the project have been drafted, and the construction will take place in 2016–23. It is worth mentioning that the beginning of construction works will also result in additional archaeological findings, which on one side will result in historical knowledge and correction of existing information concerning past building location, but on the other side, it may result in slowing down the construction. Though the situation may be perceived differently by both participants of the project, an

⁹³ E. Karendys, Wyspa Spichrzów z umową. I etap w 2018 r., „Gazeta Wyborcza Trójmiasto”, http://trojmiasto.wyborcza.pl/trojmiasto/1,35636,17688536,Wyspa_Spichrzow_z_umowa__I_eta-p_w_2018_r_.html, accessed: November 20, 2016.

undisputed advantage is the beginning of revitalisation of the whole area, including recovery of design of the market in Gdańsk and involvement of local designers in respective building planning and holistic optimisation of the area of investment.

Both the complexity of the project and current political and economic situation place the project in the risk zone, despite putting maximum effort in transparency of progress and taking care of its compliance with all necessary procedures.

Lessons learnt

Nowadays, it is very difficult to judge whether the investment will be successful, especially at the beginning of the project (see Figure 12), but it is very important that both sides approach the issue with optimism, praising mutual trust and relations.

FIGURE 12. Construction site in the northern peninsula of Wyspa Spichrzów (Granary Island) in Gdańsk



We are only able to evaluate the key factors of success based on the tender and negotiation process. These were:

- experience of the public body in similar projects, which resulted in well-executed and flexible tender procedure preceded by a stage of research; again, the

trust of members of the city board (mayor and vice-mayors) towards project staff should be noted;

- flexibility of the public body in terms of the scale of the undertaking, changing a part of the project based on information acquired during the procedure and at the same time, the private party's understanding for the demands of bureaucracy which was inevitable due to the scale of the undertaking;
- willingness to compromise from both sides, determined by the desire to create an unique, new urban quarter.

4.5. Mental health care and treatment centre in Kobylnica near Słupsk (completed project)

Background

The project of the mental health nursing home has its roots in the unsuccessful attempts of the construction of a Catholic Nursing House in late 1990s. At the time, local authorities of Kobylnica, in co-operation with Pomeranian Province Governor and the Speaker of the Pomeranian Local Parliament, decided to accept Catholic Church proposition to build nursing house for local demands and nuns. The land was intended for future investment in year 2000. It was started very quickly and due to support received from local authorities all necessary building permissions were obtained including architectural design from Pomeranian Technical University. When built up to the roof it became clear in 2007–2008 that the convent did not have enough experience to manage such large-scale project. Consequently, a local bishop signed an agreement to sell already built construction and the land back to the local authorities for little amount of money on the condition that it will be used for social or health purposes (i.e. school or hospital). As a result, Kobylnica municipality had to face a challenge of unfinished building with a clear intended use, located outside the centre of municipality.

The Mayor of Kobylnica has had a very positive experience with procuring a lot of social and health services from the private sector (including 8 kindergartens and 2 nursing houses) so it was a natural conclusion to outsource the execution of the project. As a result of this decision, they started with public bidding based on the Concession Act. During the first round of negotiation with private companies it became clear that there is no serious interests in the project if any. In this

case serious financial obligation would have to be taken, including bank loan and mortgage. This financial obligation could have an impact on municipality budget.

Since the easiest solution became strategically unacceptable from the budget perspective, Warsaw consulting company has been asked to help the mayor and guide him and his team through public – private partnership procedure and negotiation dialogue has been opened for private companies in 2010.

Negotiations

Once the dialogue was opened, there was only one private partner that expressed serious interest and it became clear that negotiations would not be the easiest one since not only the private party knew municipality had to do something with the building to avoid its demolition but the public party also knew that the private company was in urgent need for consolidating its 4 different locations of mental institutions in one place, located preferably in its neighbourhood. This was a local company called Niepubliczny Specjalistyczny Psychiatryczny ZOZ SON, owned and managed by two private persons.

It was also the first attempt for both parties to form a public – private partnership and there were not that many examples of this kind of cooperation so that they could not follow any guidelines. Due to numerous meetings and previous cooperation between parties it took 10 months to set the agreement. What was very helpful was that both parties knew their clear advantages: municipality (use of the building, potential jobs, local tax income) and private company (semi-built object designed for health institution, comfortable location).

The final deal has been assessed by independent third party and approved by the committee selected by local council and the mayor himself.

Risk and responsibilities sharing

Finally, 30-year contract has been signed with the following key arrangements:

- the contract was based on a land lending agreement with private party that has an obligation to pay a regular rent only for last 5 years (calculated based on average land rent paid in a county);
- the bank loan has been secured with land and building mortgage with private party paying the loan off– this construction allowed to avoid a direct debt in municipality budget;

- despite the land lending the municipality covered costs of additional design plan of the object, as well as extra land for a wild park and garden where patients could cultivate the plants. They provided also funds for building the road to the institution (it is worth mentioning that additional gas pipe was built to secure media and gain additional income to the municipality; this was not part of the contract);
- private party was obliged to finish the construction and adequately equip the facility;
- total project budget equals 6.2 million PLN with a split of 2.7 vs. 3.5 million (public vs. private);
- all the current profit and losses are on the side of private party while the only income for a public side is local tax;
- after 30 years the building goes back fully to the municipality.

This form of agreement transfers the risk, arising from lack of demand, toward the private party and at the same time minimises the risk for public partner (except for the mortgage). In case of lack of direct income, public body uses indirect advantages in form of local taxes, new jobs and prestige of supporting new forms of co-operation.

Lessons learnt

Both parties fully agree that this PPP project has been a success mostly because of the fact that the facility is currently in operation (see Figure 13). Without any doubt, both parties state that PPP should be based on trust and understanding. ‘Yes, the negotiations were tough but we both knew we have got common goals and we trusted each other’ was the line repeated by the mayor and the company manager.

The key elements were:

- municipality defined a success as long term advantage for the local community with potential new jobs. The alternative of not signing the deal was bound with the risk of high costs of maintaining an empty building or its demolition;
- private party trusted in cooperation with municipality and stability of power which resulted in low long-term risk of investment; openness in negotiation and risk balancing;
- careful and precise documentation and analyses during the negotiation dialogue, supported and demanded by third party companies, bank included;
- not losing focus and addressing the case in a timely manner.

FIGURE 13. Mental health care and treatment centre in Kobylnica near Słupsk

4.6. Cemetery and crematory in Podgórze Tynieckie, Kraków (completed project)

Background

Kraków, as every other municipality in Poland, is obliged to provide burial site for its inhabitants. First attempts to locate a cemetery in Podgórze Tynieckie were carried out in the 70s, but it was not until the 90s that the City Council of Kraków decided to confirm the location. This was a result of shortage of burial sites at other cemeteries.

First projects concerning the design of the cemetery began after year 2000, when first plans of including a crematory in the project were also drafted as a result of growing acceptance of such means of burial and sober assessment of the possibilities of saving space⁹⁴.

⁹⁴ Kraków was the last bigger Polish city (over 300k inhabitants), that finally constructed crematory. One (but not the only) of the reasons was a negative experience that it had a number of years

In 2009 the local spatial development plan was passed, the purchase of land started and finally, the final acreage of the cemetery was declared to encompass 9 hectares and 9000 burial sites (in both traditional gravesites and columbaria). The city itself did not have enough funds available to build the cemetery at the time and the initial economic analyses did not predict commercial success by implementing the approach of selling burial sites, so the crematory was added as a commercial element.

Before that, Kraków has intended to implement the PPP formula several times in different projects. Additionally, the experience of Olsztyn, which managed the PPP procedure in a similar project before (a crematory only), was taken into consideration. Thus a decision of beginning a competitive dialogue was taken and a negotiating committee was appointed.

Negotiations

Competitive dialogue was started at the end of 2010 and lasted 8 months until July 2011, when a contract with a private partner was signed. Only one bidder has participated – a Polish-Italian consortium of Klepsydra Company from Łódź (a private funeral company, privatised from Łódź municipal ownership) and Urciuoli Group's S.R.L. The process itself took a form of negotiation including earning recognition for the investment. The negotiations themselves went quite smoothly, the public body had experience in PPP projects and the private party had prior experiences in both funeral industry and crematory construction.

Risk and responsibilities sharing

The city, planning to be in control of the area, tried to negotiate an agreement based on concession without additional payment, which would connect the construction of the cemetery and the crematory (to ensure the profitability for the private party while providing the city with much-needed burial sites). As a result, the facility was built and an exchange of invoices began (the private party issued

ago, when a private investor began to construct one without an effective construction permit, and also without environmental impact assessment. The crematory has been located just opposite a hospital. This caused high social unacceptance and also negative publicity, so that proper authorities ordered the facility to be demolished, and the problem was not undertaken over a number of years.

an invoice for construction work, while the city issued an invoice for the same amount of money that the private party would gain over a given period of time).

The maximum period of the deal was 29 years and 7 months (less than 30 years, as to evade the risks of acquisitive prescription). After that period, the crematory would become the property owned by the city. The project implementation has been structured as follows:

- when the crematory was completed and the private party was obliged to make 2 hectares of burial sites available, otherwise the crematory would become the property of the city after five years;
- if the first 2 hectares were filled, the private investor has to extend the space until the planned space was available⁹⁵.

The project was estimated to cost 24.5 million PLN of private party investment (crematory, administrative building, ceremonial building and cemetery); during the competitive dialogue the city agreed to build a road (Podgórze Tynieckie Street, along with the pavement and street lighting) for an estimated 2.1 million PLN and a car park for additional 1.5 million.

Given the structure of the contract, with an additional assumption of private party financing the investment not using funds gained from the cemetery itself and the increasing demand for cremation (+1,5% a year), both parties assessed the risk of the investment as low.

Sharply increasing risk

Kraków was the last large city without a crematory. Nowadays, this way of burial become more and more tolerated due to neutrality of the Catholic church as well as it is popular and often described in the press. Nobody expected that the project will cause social outcry and in this aspect, the risk assessment was misjudged.

A group of 7–10 people started to protest, which lead to the investment being postponed, but it also put the whole construction of crematory (the commercial guarantee of the project) in jeopardy. Using all possible means, including the proximity of a protected area 'Natura 2000', the protesters were trying to prove that "the location of the crematory will worsen the living conditions and endanger nearby

⁹⁵ Finally, the graving surface amounts 7.5 ha, the remaining 1.5 ha is designated for the crematory, green areas, pavements and parking.

areas”. All the protests began after the spatial development plan was passed, but before the construction permits were issued, including road and car park construction.

As a result, the road itself had been under construction for half a year, but the construction permit was issued after 3.5 years. Permits for the construction of the car park were delayed even further, which resulted in construction of the crematory (for which the permit has been issued), but the private investor was not able to make the first 2 hectares of burial sites available.

The contract did not anticipate such an outcome. Fortunately, the crematory was opened in March 2016 and the final permit for the construction of the car park (as well as the cemetery) was issued in September 2016, which resulted in more time for both the private party and the city to end their investments. The building of the crematory can be seen in Figure 14.

FIGURE 14. Crematory at the Podgórk Tynieckie cementary in Kraków



Lessons learnt

Notwithstanding the sharp increase of risk, which started unexpectedly and caught both parties by surprise, both the city of Kraków and the private investor find the project and the PPP formula successful. The representatives of the parties noted the following factors as crucial for their success:

- willingness presented by both parties to learn and exchange experiences as well as sharing analyses of similar investments and drawing conclusions from other PPP projects etc.;
- awareness of potential difficulties (meticulous preparation of notes from meetings, careful decision making and reasoning behind it etc.);
- trust which was formed between partners, as well as trust communicated by the city towards the negotiation team.

Both parties also agree that the risk of potential protests was underestimated, which caused delays in the project. What is interesting is that the public body was afraid that the private party can break the deal (which was not confirmed by the private party).

The representatives of the city regretted that the project did not spark more interest in other investors, which could potentially create a better situation during the negotiations.

Similarly to other cities and examples, the public body noted that there is only one right approach to PPP referred to as 'no fear' and described as full awareness and readiness for inspections, which will follow signing of the deal (both delegated internally by the city and externally by central authorities).

4.7. Reconstruction of Jagiellonian University Dormitories, Kraków (completed project)

Background

Three dormitories at Badurskiego Street in Kraków have been built in early 1970s (see Figure 15) as a part of bigger plan of Medical Campus establishment. What was a grand plan during the peak of communism became quickly unreachable and funds were missing not only to continue the campus construction but also to maintain student houses at acceptable level. Moreover, controls from local fire departments or State Sanitary Inspectorate inspections threatened the existence of dormitories as such in late 2000s.

Since the University did not have financial possibilities to fully refurbish all buildings, which included not only rooms and corridors redecoration, but also designing and building additional fire staircases, new facilities and restaurants

etc., it became natural that authorities started to look for alternative financing for the necessary investment.

FIGURE 15. Jagiellonian University Dormitories at Badurskiego Street in Kraków



Parallel to the dormitory challenges the University was facing another grand investment meaning university hospital, founded partially by the Polish Government (buildings) with a budget gap for medical infrastructure. It was the first time when University authorities thought about PPP and, although this form of financing was not used for the hospital⁹⁶, a group of open minded people has been trained to deal with PPP in general. The homework has been done, some theoretical experience gained and University Rector encouraged the group to potentially use its expertise in case of ‘dormitories’.

⁹⁶ The PPP could not have been used for hospital due to very unstable situation in healthcare system and necessity of signing contracts for medical services every half a year which created very high risk for a potential private party related to being unable to secure a stable forecast of income.

Negotiations

Before beginning the negotiation dialogue, the group met several private companies to learn from their experience and listen about similar cases. This helped to prepare the whole dialogue. At this stage it has been decided that not only University Legal Office would be invited to the process but the invitation was extended to third party – consulting company.

Initially, five companies expressed the interest from which only two were qualified to continue due to the complexity of the matter. The project not only involved refurbishing existing dormitories but also securing funding and – possibly the most importantly – risk assessment for the idea of long-term rooms/ flat renting.

Although already complex, the project was even more complicated because none of the parties could precisely assess the current condition of the buildings and the real scope of refurbishment – one of the companies, in order to assess it, refurbished a room and a bathroom as a part of the learning process and preparation for the dialogue.

The procedure has been perceived as very long by all parties involved due to the form (negotiation dialogue), amount of uncertainties in risk assessment and careful and detailed documentation that had to be translated and approved/ assessed by both parties' legal and economic advisors and bank. Nevertheless, all parties stressed the advantages of such detailed proceedings, which were helpful to reach a clear and balanced agreement.

Risk and responsibilities sharing

As mentioned before, it was very hard to assess the risk due to unknown condition of the buildings and even such measures as refurbishing some parts of them as a test did not give a clear guidance hence the negotiations focused more on securing rights of private party in this area than financial matters. At the end, the following agreement has been achieved:

- private party agreed to assess, prepare the redesign and refurbishment plan and implement it, together with securing all necessary funds and maintain: 3 dormitories, social building, students' canteen, club and sporting facilities; total budget has been assessed as 100 million PLN for the refurbishment phase. To maintain the risk driven by unknown conditions of the buildings some assumptions have been made, including total cost of the project; if higher – private

party could claim additional remuneration. That construction allowed the University to avoid any debt in its budget;

- since the University is responsible for all dormitories to provide residents, in order to minimise the risk of private side, flat availability fee of 0.780 million PLN has been agreed to be paid by the public side;
- private partner agreed to cover all the costs of regular use of the buildings; the University agreed to cover every cost of vandalism caused by the students or their guests;
- special system has been created to secure the highest level of maintenance of all facilities with fines based on penalty points (for example points are given if a broken bulb is not changed within an hour or refrigerator is not replaced within 4 hours); fines are deducted from a quarterly fee;
- the University secured the highest standard of refurbishment, allowing itself double checking, additional to a standard building check required by law.

The SPV was Neoświat PPP Projects, co-owned French construction and development holding Bouygues, Polish state-owned development fund Polskie Inwestycje Rozwojowe and French-owned outsourcing service provider Cofely (part of GdF Suez). It consisted of three companies, specialising in three necessary fields: financing, assets management and facility management. Such construction (one company taking part in a bid and later sharing responsibility with 2 more companies in a fund) has been used deliberately by private party not to involve all the structures in already complicated procedures. This Fund is currently responsible for the administration of all the buildings.

Lessons learnt

The key elements mentioned by both parties was financial institution (bank) involvement in a process and extremely precise procedure and documentation that was imposed – that helped maintaining clear understanding of every single detail without losing a top view on the project. Other key factors mentioned were:

- mutual learning and implementing all the changes immediately; at the end, the committee consisting of representatives of all parties held meetings every week and monthly meetings with the Rector/ deans and company management;
- mutual understanding that the solution had to be found together and tolerance towards different cultures of working;

- passion of people at the University (and their previous experience) and understanding that Funds' high income comes from high risk of the investment.

4.8. Central heating for the municipal union with its headquarters in Kalisz (not completed project)

Background

Association of Municipalities “Czyste Miasto, Czysta Gmina” (“Clean City, Clean Commune”) is group of 23 municipalities connected with agreement (including leading ones, like Sieradz, Turek and Kalisz) with its headquarters in Kalisz, which was set not only to address the needs of local societies, but also to integrate under the collective idea and promote ecology and cleanliness in municipalities.

One member of the Association, the city of Kalisz, has struggled with insufficient heating supply as a result of poor condition and inadequate number of heat sources (two coal power plants, both calling for renovation). At the same time, it has been decided that one of the Association's goals is collective management of waste, which possesses an adequate calorific value. Therefore, a situation where two issues could be addressed at the same time appeared.

The Association began searching for a solution, actively taking part in a number of conferences in 2009–2010 and, after gathering data, proceeded to draft an initial feasibility study. The findings of the analysis showed that using waste produced by the whole association would provide minimum supply of the lacking heating in the summer and winter period.

Initially, a formula of concession co-financed by the city, with a budget of 100–150 million PLN was being considered, but a lack of funds and unwillingness of financial institutions to provide credit have made the investment impossible to carry out. Since the PPP formula was widely discussed during conferences for local authorities, the city began to consider it as an alternative to regular form of investment.

Lessons learnt

As mentioned before, a feasibility study was prepared, which could be used to begin competitive dialogue. It was not the case though, since in 2012 Kalisz sold

the entirety of its district heating to a gas company Ciepło Kaliskie, a subsidiary of Energa and thus gave the responsibility of providing heating to an external party (with the involvement of the public treasury).

From the initial experiences with PPP, those involved noted concerns connected with prolonged negotiations. At the same time they emphasised that the key factor of participating in PPP is the necessity of strategic thinking concerning administration of municipalities, since without that it would be hard to convince any private party to participate in any long-term investment.

4.9. Waste segregation and storage facility in Skarżysko-Kamienna (not completed project)

Background

Skarżysko-Kamienna is one of the largest cities in Świętokrzyskie Voivodeship, the poorest voivodeship in Poland in terms of income. A system designed for waste storage and segregation is located there, but due to administrative changes and non-compliance with the existing standards, the system has the status of “temporary” and is to be decommissioned in the future, while the main system located in Końskie located nearby will take over the duties of waste management. It is a result of so-called regionalisation of services in the voivodeship and regional settlement of one system per region. Current system in Skarżysko employs about 40 people and in order to protect these workplaces the president of the city has taken steps to exclude the municipality from the region of Końskie. At the same time, after the so-called “Waste Act” (an act concerning disposal of waste and recycling norms) the existing facilities may be modernised and a composter may be added, which would provide additional 15 workplaces.

Skarżysko-Kamienna is one of the most debt-ridden municipalities in Poland – budgetary ratios indicate that it has virtually no creditworthiness. The attempts to acquire funds from the European Union were not successful due to uncertain state of backup facilities, which convinced the city to consider PPP as a way to provide financing for investments and preserving workplaces.

After consultations with interested companies (which looked more like meetings than official procedures), initial analyses defined the necessary budget as 36 million PLN (renovation of the existing recycling centre and construction of

a composter including projects). After preparing documentation concerning the scope of work, the competitive dialogue was initiated.

The city was ready to provide the plot and construct the road (2 million PLN needed for this investment) and to transfer some shares to a community partnership, while the private partner would have to provide funding, projects, construction and administration of the entire investment after construction. The city was also ready to bear the possible additional costs, but this was not included in the advertisement (it was left for future negotiations).

The competitive dialogue began in October 2014 and proposals appeared in January the following year.

Lessons learnt

The interest in the project was moderate, with three parties entering the dialogue at the beginning. From the very beginning, the key concern of the private parties was ensuring the supply of waste (meaning demand for the services of the facility). Treatment of Skarżysko as a city entitled as temporary facility did not alleviate the risk of investment.

Finally, the procedure was cancelled due to the fact that the changes in the law unambiguously defined main facilities as the only ones carrying out objectives concerning waste management and the efforts of presidents of Skarżysko to exclude the city from the waste management plan did not come into fruition.

Despite the failure, the interviewee praised the PPP formula for guaranteeing lesser involvement of municipal budget and allowing cooperation with local private parties, which could create new workplaces. As for the areas of investment, the interviewee mentioned those in which the demand is easier to define, such as public transport, social construction etc.

4.10. Construction of council houses in Kraków (not completed project)

Background

Kraków has received thousand requests to provide aid and public housing every year. Currently, there is 2000 instances where the request was accepted, but the flat was not provided, so one can easily see the need to build public housing.

High debt burden of the city causes resentment towards direct investments. In every case alternative forms of funding are considered as a risk of increasing already high debt ratios. Since the formula of PPP itself was already well-known by the city of Kraków⁹⁷, a consultancy (chosen by a tender) was asked to prepare documentation based on existing analyses. In December 2011 a procurement was jointly prepared and a competitive dialogue was initiated by sending a query to several private parties.

The City was open for different terms of cooperation, including final number of communal and commercial flats. The private partner was expected to provide funding, prepare a project, conduct the construction and manage the facility.

The city, apart from providing plots for the buildings and construction of potential infrastructure (roads, public transport etc.), was obliged to rent the flats from the partner (and then sublet them according to accepted requests) in exchange for the availability fee. The city allowed 10% of flats to be devoted for commercial use.

The basic assumption for potential PPP was the condition that the form of financing will not increase the existing debt.

Lessons learnt

Despite considerable interest (5 private partners participated in the dialogue, 3 of which were international funds), the PPP project did not come into fruition because of two main reasons:

- there was a lack of clear interpretation of how to treat the availability fee. The city wanted to book the fee in a manner that will allow no contribution to public

⁹⁷ But it was not known to the officials, since in the City Hall projects are assigned to respective departments despite the existence of a department dealing with city investments.

- debt; despite urging, such interpretations were not provided by local and central authorities, which caused two potential international partners to resign;
- the risk of managing a council house in case of devastation was too large and no mechanism safeguarding the private party from such circumstance was devised. It was attributed to difficulties in defining a standard of use of the building; private partners were afraid that the responsibility for enforcement of payment become theirs.

As a result, the procedure was cancelled during the technical stage.

From the opinions collected in the interview concerning PPP, it can be inferred that one should only participate in a procedure as complicated as PPP if one knows exactly what the expectations and invariable requirements are. It was also noted that these requirements should be analysed to check whether they are achievable.

4.11. Key factors that impact success of PPP in Poland

Statistical data show that more than half of the projects carried out as a part of PPP were finished with success. Although they were related to various branches and budgets, varied among the split of responsibilities and risks, one can see a regularity concerning the key factors of success, which can be summarised and gathered in the form of the following list:

- **mutual understanding and trust between the partners** – with full responsibility, in every considered case, both sides emphasise the element of trust as vital in completing the goals; what is more, during negotiation procedure these goals became mutual resulting in devising an optimal solution;
- **mutual and constant learning** during the procedure – the trust mentioned above made both sides consider the partner's position and try to learn from his experience. Not only the municipal officials were open to consider the commercial aspects and industries, but also private companies understood the necessity of some procedure forms, which lead us to two more factors:
 - understanding the public party that the **private party should get profit from the investment** and accepting this fact;
 - understanding the private party that it is necessary **to introduce crucial procedures and some dose of bureaucracy**, which have to be meticulously followed, both to clarify the procedure at a given moment and to secure oneself in case of future inspections; it was not without reason that most

interviewees were joking that “in addition to the three Ps in PPP there is one more, the prosecutor’s office”.

The learning feature was also present in every example, in which the city had participated in PPP projects before; one could see how conclusions were drawn and needed changes were implemented;

- commitment of mayors in the PPP formula and **empowering local municipal officials**, which was often connected to a kind of local patriotism and willingness to do something for the society, which was not only visible in completed projects, but also those, which despite being cancelled, constituted the basis for further learning and experience to use in the future.

All these elements concerning human factors would not work if not accompanied by courage of the people, who were involved and belief in success.

Undoubtedly, one has to mention the procedural and institutional elements beside the human factors:

- conducting the entirety of the project using **clear and precise procedures**, which sets the objectives of the project, allows the public party to conduct thorough analyses and risk assessments and verification of these during the consultations with private parties, often before initiating the negotiations; only after the verification the official part of PPP begins, choosing between a tender or a negotiation dialogue;
- at the same time, it has to be emphasised that these procedures were **sufficiently flexible** in the opinion of both parties, which resulted in simplifying the dialogue and enabling changes to be implemented if beneficial for the project execution; all this was obviously carried out according to the regulations and procedure norms.
- **the presence of financial institutions, especially banks**, was regarded as positive by both parties, because the low debt risk that they provided safeguarded the analyses and procedures; the positive opinions of private parties, describing how the multitude of financial analyses allowed them to evade many traps and allowed them to notice previously unconsidered risks, were quite surprising to the research team.
- full orientation on **preparing financial forecasts**, having in mind social goals to be fulfilled. If prepared commonly, this leads to full confidence and high empathy between the parties.
- finally, it is worth mentioning that the participation of **consulting companies** involved in some projects was judged with noticeable restraint; despite the

knowledge of PPP processes, the proposed solutions were often abstract to the local character of the unit, the procedures also took longer due to complicated structures of the companies and distant location of their office (Warsaw). One of the cities representative stressed the fact that they have resigned from similar services after their first PPP project.

It should be also noticed, that once a local authority becomes **professional** with PPP, by conducting smaller projects (as Gdańsk does), it gladly uses PPP for conducting further, more complicated investments.

On the contrary, **legal doubts** can be stated as the main obstacles in closing PPPs, although success studies prove, that good empowerment of project management, high organisational culture and motivation to deliver a project are enough to overcome those doubts.

The cases analysed did not show distinct regularities in the **split of risk**, but some repeating patterns concerning contribution and responsibilities of respective parties could be observed:

- the **municipality** usually provided: (1) land and (where they have already existed) (2) facilities, often in need of renovation or completion; it often made a commitment to (3) construct a road, car park or ensure the safety of the premises; it also provided (4) conveniences or help in acquiring construction permits; at the same time the private partner provided (a) financial investment covering the design and construction stage or renovation stage, either as its own investment or providing funding by bank loan, (b) practical knowledge of construction and (c) utilisation – such split minimalised the risk as well, since both parties took responsibility for the areas that they are most experienced in. Only selected municipalities allowed land mortgaging, which simplified acquiring credit, but increased their risk; those that made the decision not to allow mortgaging, were aware of potential lack of funding in the future.
- regardless of initial assumptions, after the tender or negotiation dialogue has ended, full **utilisation and administration of facilities** which were the part of PPP procedure was usually left in the hands of the private party; cases of maintaining the control over the quality of administration were also common (directly, as in the example of dormitories in Kraków, or indirectly as in the example of the centre in Kobylnica) and it allowed to decrease the risk of low quality services from the perspective of public party. An additional form of quality and time control was connecting commercial elements with social elements. It required the investment in the social element which in turn allowed

the commercial element to take place in the project (for example the length of contract for the crematory in Kraków was associated with the punctuality of finishing respective stages of the cemetery);

- complicated formulas have been employed to **share incomes**; generally the incomes were assigned to the private party, but some special cases were considered:
 - the income level of the private party has been covered – if over a given threshold they will be split between the parties;
 - the income can be adjusted (especially – fines can be deducted), accordingly to the service quality levels achieved (dormitories in Cracow);
 - additional remuneration on the top of commercial incomes (availability fee) may be paid for facilities, that will be used by the public party (the example of Wyspa Spichrzów).
- for the private parties' part, even though these were often the first PPP projects they participated in, they were always involved in projects connected with their **main business area** (funeral industry in case of cemeteries/ columbaria, investment funds in case of large compounds, healthcare industry in case of treatment facilities etc.); it helped to minimise the risk and resulted in a thorough evaluation of the undertaking, including precise calculations of demand for the provided services and, as a consequence, acquiring better interest rate;
- the investments were regarded positive by **inhabitants** and local media, which was the result of either social reasonability of the investments or social consultations; it has lowered the risk of investments considerably, as proven by delays in the only exception (the crematory in Kraków).

To summarise, it may be worth restating that both parties wanted to minimise the overall risk of the undertaking, notwithstanding their viewpoints. However, in the opinion of the research group, the risks were balanced and final solutions were fair for both participants.

While considering the future of PPP in Poland, we would like to start by defining the **3 key growth factors** (chosen in regard to the previous analysis of key factors of success) and, by negating them, demonstrate what obstacles can affect the development of PPP negatively. These are, in our opinion, sorted by importance:

1. courage of the public party to cooperate with the private party and willingness of both sides to trust each other in the long run;
2. stability of investment climate, regardless of changing political environment;
3. clarity, transparency and flexibility of procedures which allows efficient risk assessment, quicker phase of offer preparation and relative ease in obtaining funds.

The study proved also, that a significant share of **local companies**, specialised in a given area (funeral services, mental health care), participating successfully in smaller PPPs can be considered as an important positive effect, helping them to provide more complex business models. Some of the projects remained even bankable without any public sector guarantees.

One of the basic questions asked during the design of this research concerned the future of PPP. It is not the role of this research group to judge the changes which have taken place in Poland for the last year. However, we can ascertain that if the aforementioned key factors of growth are retained, the PPP market will continue to grow even in spite of possible change to financing forms and availability of EU funds.

Through negating the aforementioned factors, we can also infer that growth of PPP in Poland will be seriously threatened if any or all of the following trends appear:

- decline of trust of the municipal official towards central government, legal instability or vagueness of inspection procedures; this will lead to a decline in investment certainty and, as a consequence, can affect the courage of the private party;
- instability of investment climate at macro level concerning investments in education, healthcare and small businesses; it may lead to a bigger risk of investment assessment in respective industries;
- instability of political climate at the municipal level; potential defaulting on contracts by the public party or disputing previously agreed agreements may affect negatively the demand of services;
- increasing control and inspections, which may lead to rigidifying the procedures and lack of flexibility during dialogues and tenders; which may result in an inability to devise optimal solutions and, as a consequence, breaking the deal.

Over the last couple of years, since the act about PPP was issued, one could observe a growing interest in this form of financing and utilisation. During the interviews with the representatives of parties we could hear the sense of pride concerning the achievements and willingness to achieve more, such as for instance introducing the solutions in other parts of the municipality. It would be speculation to wonder if PPP has changed the municipalities functioning in the long run, but it surely allowed people involved in the processes to learn how to respect other parties and understand both the social and commercial goals important for private and public side respectively.

CONCLUSION

There is no cure for every disease, and PPP is surely not an ideal way of solving all problems with infrastructure funding and maintenance.

Conducting a project using PPP approach is not easy and requires more effort and knowledge, than a public procurement, and still there is a risk of spectacular failure, which cannot be hidden as easily, as in case of the traditional solution. Therefore many people associate PPP with well-known failed projects, and do not recognize a number of successes, which are not so attractive for media. Even scientists focus on describing PPP failures, as they deliver more clear recommendations and conclusions, than successes.

Many people also forget, that in such countries as Great Britain, where infrastructure has been built gradually for centuries – most of it was constructed by private bodies and is used until now.

Nevertheless we are convinced, that PPP should be considered as a form of infrastructure investment, especially when:

- it is important to integrate the design, construction and maintenance, in order to achieve high efficiency – if earlier traditional procurements led to low quality of works or to inefficient design (for example excessive corridors in a school building);
- cost overruns and construction delays are a common problem, a granting authority wants to reduce or eliminate overruns and delays;
- it is desirable to introduce more creativity and efficiency in service delivery process, for example in case of prisons or commercial activities in the airports;
- the investment is not achievable for public authority and will significantly increase local or regional development possibilities (for example essential infrastructure in developing countries);

- the investment may be self-financing (for example substitution of a ferry by a bridge).

Polish case studies and the analysis of statistical data showed, that PPP can be also used for small projects. It is particularly successful, when a public party conducts a higher number of smaller PPP projects, accessible for local service providers (such as funeral or healthcare companies) and that are easily bankable without credit guarantees.

Even in these cases, PPP can successfully solve existing problems only when it is well managed. It is therefore crucial to have general idea of entire cooperation at its beginning as well as to adjust it flexibly to changing circumstances. It is also important that public procurer's management (such as a city mayor) empowers and trusts proper project managers.

If advantages of PPP are desired for a given project, the general idea of cooperation should focus on eliminating PPP's disadvantages. The latter can include motivating private partner to deliver high quality services and reduce capital cost.

Therefore a granting authority cannot be only the "procurer" – it must actively shape cooperation and actively solve legal problems, also after signing a contract, and particularly at the stage of financial arrangements. This is especially important after the financial crisis in 2008, when without balanced risk transfer, public sector guarantees and non-profit banks' involvement many more projects may remain not bankable.

Good knowledge of all PPP variants and alternatives and past experience of other project are crucial for PPP management. This book presented only key examples and selected case studies out of a variety of solutions and global experiences. However good choice of cooperation form which is based on possibly wide range of solutions and experiences is one of key success factors for future projects. Even if we do not decide to choose pure PPP, Design-Build-Operate or Operate & Maintain contract can be a good solution for some of the problems.

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