Public Private Partnership (PPP) as part of Infrastructure Management solutions – a structural approach of delimiting PPP from other Private Sector participation Models

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Abstract

PPP is used worldwide to implement public tasks. However, the term is very unspecific and stands for a multitude of complex approaches. This often leads to confusion between the stakeholders making it difficult to jointly develop, evaluate and/or monitor PPP projects. This paper presents a structured instrument for a clear comparison of PPPs. It has been developed based on several years of lasting international research on PPP models.

Keywords: privatisation, public sector participation, PPP models, infrastructure management

1. Background and importance of the theme

Public Private Partnerships, or its commonly used abbreviation "PPP" has become an important way of implementing public tasks and providing public services around the globe. In many countries it has been established as an alternative to conventional procurement methods. In some countries it has already, or according to political priorities, will have in the near future a portion of up to 15% (Germany) or even 20% (UK) of all public procurement. However, it is still a very heterogeneous and unspecific term in practice, as well as in scientific literature it stands for a multitude of different approaches with mostly very complex and sometimes intransparent structures, which is based on the cooperation between public and private actors/players. Consequently, there is often great confusion in international discussions between the different stakeholders like politicians, project executing agencies, private investors, auditing authorities etc. simply because they all may use the term PPP, although they have a very different understanding of it. One essential reason for this, is that if they are compared internationally the historical development of PPP, the understanding of what PPP actually is and what its goals and fields of application are, show very different patterns.

1.1 Historical development and fields of application of PPP

The term "PPP" was first used in the USA in the 1960s to refer to typical ***urban development*** projects involving private investors. From here, the concept spread all over the world and is still applied in many countries today. Larger cities in particular seek to ensure the involvement and assistance of private investors in order to develop brownfield and fallow sites for use that adequately reflects the aims of urban planning while offering a commercial interest for the investors. The city generally provides the land on which the private partner uses its capital to develop, construct and market the real estate and the corresponding infrastructure, taking into account the relevant urban planning standards and other public requirements but applying its own ideas and at its own risk. The partnership is formed with the goal of a joint concept of urban development and once the goal is reached usually the public partner withdraws and leaves the business to the private partner.

PPPs then became known globally as a method of procurement for the public sector, for example in the area of ***social and economic infrastructure management***. Initially developed into a standardised form as a result of the Private Finance Initiative (PFI) in the United Kingdom in the 1990s, it was taken up throughout the world in various forms and is becoming increasingly popular both as an alternative procurement option for the public sector and a good investment opportunity for private investors. The key characteristic of this kind of PPP is the transfer to private bidders for a limited period of time of integrated services relating for example to the planning, construction, financing, maintenance and operation in a lifecycle approach of public infrastructure, this was previously performed by the public sector. PPPs of this kind also exist in other areas of procurement such as E-Government and/or IT, procurement of equipment, service vehicles, aeroplanes/helicopters etc.

Besides urban development and public infrastructure management, the term PPP is being used more and more in many varying fields, for example ***research cooperation, sponsoring*** (in the areas of sports, education and training), the ***collaboration of Governments and NGOs*** and even in ***charity***.

In Germany for example, PPP has been applied for a long time in nearly all of the fields mentioned above. However, there is hardly a harmonised understanding, the goals, the approaches, the concepts, as well as the standards and instruments vary significantly. The only common ground seems to be the collaboration between partners related to the public on the one hand and to the private on the other hand and - after more thorough observation – some inherent structural elements.

Since the research work of the author mainly refers to PPP in infrastructure management this present paper also concentrates on that particular field of application.

1.2 Goals and characteristics of PPP in infrastructure management

In industrialised countries the main objective of PPP is in the field of infrastructure management, that is the design, construction, finance, maintenance and operation of it. It is usually to generate efficiency gains for the public sector in the provision of related services. These are generally evaluated in, so-called "value for money tests" and checked by the responsible audit authorities. However, another stated aim – with varying priority – is to bridge liquidity bottlenecks on the part of the public partner when performing urgent construction or modernisation tasks involving infrastructure that is needed by members of the public and other users. In summary, the main characteristics of a PPP that are considered to lead to efficiency gains in comparison to so-called "conventional" procurement are (i) the lifecycle approach, (ii) the risk transfer with a balanced risk allocation, (iii) the creation of incentive structures and leveraging of innovation potential through results-oriented performance description and remuneration, (iv) the use of private expertise and capital, (v) the long-term relationships on a partnership basis and, in particular, governed by contractual provisions.

The generation of efficiency gains as the core argument for the application of PPP as a method of procurement in Germany and nearly all over Europe seems to be of much less importance in the emerging countries of Asia and Latin America, compared to the pure financing and liquidity aspect. This applies in particular to user-financed PPPs such as toll roads, water supply projects and disposal projects. Often the clear priority is to obtain private capital for the implementation of infrastructure measures - in some cases, whatever the cost. High-growth countries such as China and India, which are currently experiencing a boom that is comparable to the economic boom in Western Europe in the 1960s and 1970s, can and must be able to afford this approach in order to meet the huge need for infrastructural development. The resulting debt can be presented as an investment in future generations to a greater extent than would be possible in countries with low long-term growth rates.

To compare the individual goals and characteristics of PPP in every case; standardisation and standards are helpful and needed. In Germany for example, even the PPPs applied in the different infrastructure sectors and subsectors differ significantly as far as the aforementioned characteristics and the rules that govern the relationship are concerned. It is notable, that a systematic PPP standardisation process based on a common understanding of PPP as well as PPP competence centres (a so called Federal PPP Task Force has recently been replaced by the ÖPP AG (Partnerships Germany) similar to the UK model) be responsible for setting out appropriate standard instruments

and regulations for the development and implementation of PPP procurement have only been established in the sectors of social infrastructure and road infrastructure. According to "PPP im öffentlichen Hochbau" (PPP in the public real estate sector, meaning more or less the same as social infrastructure), an expert opinion commissioned by the German Federal Government in 2003 defined PPP as "a long-term, contractual cooperation between the public and private sectors for the economic execution of public tasks under which the necessary resources (e.g. expertise, equipment and facilities, capital, staff) are bundled in a joint organisational relationship and any project risks are allocated appropriately to reflect the risk management expertise of the project partners."

In other sectors, such as energy supply, water supply, disposal and waste disposal, PPPs and the corresponding strategies, understanding and even terminology have historically developed in different ways.

1.3 Research problem, objective and methodology

The described situation does not only exist in Germany but is typical for many other countries in Europe (e.g. France, Italy, the Netherlands, Spain and others) and around the globe. That may be the reason why the Green paper on public-private partnerships and community law on public contracts and concessions established by the Commission of the European Communities (2004) - similar to papers on national level - remains very general and vague in its definition of PPP:

"The term public-private partnership ("PPP") is not defined at Community level. In general, the term refers to forms of cooperation between public authorities and the world of business which aim to ensure the funding, construction, renovation, management or maintenance of an infrastructure or the provision of a service".

However, the differences in national, sector and project specific understanding of procedures for PPP make it difficult for interested researchers and knowledgeable managers to discuss and compare corresponding issues as well as for the relevant stakeholders of individual PPP projects (i.e. politicians, project executing agencies, private investors, auditing authorities etc.) to jointly develop, evaluate and/or monitor PPP projects. Besides the fundamental discussion concerning the general applicability, the main targets and the best way to achieve them, a lot of structural questions arise when discussing and comparing the various PPP models, for example:

- Is it a model that transfers ownership or ownership equivalent rights from the public to the private side regarding the premises, buildings, infrastructure assets etc. (including the land) that have to be built, restored and/or maintained/operated?

- Is a PPP always a contractual relationship with limited duration or does a permanent "institutional partnership" like a joint venture, or a project company jointly founded by a public and a private partner also constitute as a PPP?

According to the Green paper on public-private partnerships and community law on public contracts and concessions (2004) “institutionalised PPPs involve the establishment of an entity held jointly by the public partner and the private partner. The joint entity thus has the task of ensuring the delivery of a work or service for the benefit of the public. In the Member States, public authorities sometimes have recourse to such structures, in particular for administer public services at local level (for example, for water supply services or waste collection services)”. In a footnote it is added that “The Member States use different terminology and schemes in this context (for example, the Kooperationsmodell, joint PPPs, Joint Ventures)”.

- Does a PPP model necessarily have to comprise all lifecycle elements of real estate or infrastructure management or is it still considered a PPP if it does not contain for example the “finance” or the “operation”? In Germany such models are called “PPP light”, “incomplete PPP” or something similar.

- Does the transfer of what kind of risks and which degree of risk transfer constitute a PPP and distinguish it from a conventional procurement method?

- What types of incentive schemes characterise a PPP?

- Is the question of whether a project is user or (public) budget financed relevant for the denomination as a PPP?

- What kind of finance (e.g. project finance) is typical for PPP and is an equity exposure from the private partner necessary?

1.4 Research objective

The whole discussion shows that the term PPP still means different things around the world in different countries and sometimes even within one country, when comparing different national infrastructure sectors. It is not surprising that there exist nearly as many definitions and meanings of PPP as corresponding publications or practical contexts in which the term is used. It seems that PPP is a “brand”, that stands for innovative, efficient and liquidity problem solving, rather than a precise or even scientific designation of a particular procurement method.

The only way to find some common ground in terms of the basic understanding of PPPs as a concept under these circumstances obviously seems to be (and that is how it is practiced by international institutions) to refer to each and every form of cooperation between the public and private sectors as a PPP, irrespective of whether it involved functional or material privatisation, was commissioned or initiated independently, governed by contractual provisions or a loose association, with or without the involvement of private investment, with or without transfer of ownership to the private partner, etc. However, in order to seriously analyse and evaluate international best practice in PPP in a scientific

context and in practical/professional project implementation, it is essential to refer to more transparent, traceable and in particular comparable criteria.

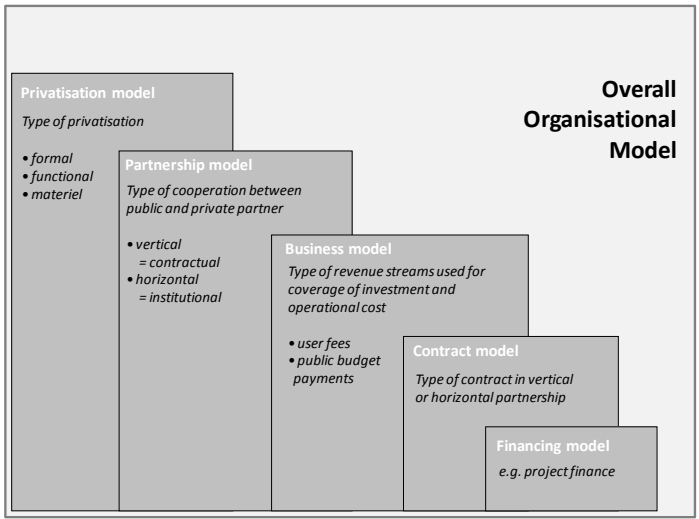
The solution cannot be to add another definition to the multitude of already existing definitions and thus to contribute to a never-ending scientific discussion. Therefore, the objective of this paper is to present a structured approach that has been developed over the last number of years by the author and his research team. It allows for clearly describing and distinguishing between relevant structural elements of PPP and other procurement methods, particularly in social and economic infrastructure management, thus simplifying all kinds of professional discussions even on an international level and allowing for precise comparisons.

1.5 Research methodology

This paper is based on the author's own vast international scientific and practical experience as well as a long lasting systematic research on PPP in general and specific subjects regarding PPP in particular. The research activities executed by the author and his research team at the Chair of Construction Economics at the Bauhaus-Universität Weimar and together with the KnowledgeCentre@Weimar between 2000 and 2009 required a permanent observation of the PPP procurement scene at an international level, and all kinds of privatisation processes in the infrastructure industry. The KnowledgeCentre@Weimar is a research network of first rate international Universities concerning PPP, which has been hosted by the Chair of Construction Economics since it was founded in 2001. The network provided valuable insights in the relevant international markets and a great number of case studies that are, among other things, also relevant for the purpose of this paper, for example see Alfen et al. (2009). Some of the findings were published earlier in diverse publications of this paper's author (see e.g. Weber et Alfen 2006 and 2009).

2. The overall organisational model

The approach developed in Weimar consists of a "tool box" called the "overall organisational model" that not only allows for clearly describing and comparing, but also for developing complex solutions for infrastructure management. It is based on the fact that each and every procurement model – and consequently also the different PPP models - consists of different structural elements representing the "compartments" and "sub-compartments" of the tool box. The tool box may support public and private partners in developing and implementing their projects by using the compartments/structural elements in order to compose the overall organisational models (conventional and PPPs) that perfectly suite individual cases and environments. Secondly, it may help strategic and financial investors as well as public audit authorities to better analyse and describe



individual PPP projects, during their due diligence and evaluation processes/exercises.

Figure 1: Elements of the overall organisational model (own source based on Alfen, Weber (2010)).

It finally allows the sorting of different PPP approaches and individual PPP models as they are understood in a specific environment in their universally valid and traceable structural elements and ranging them in the corresponding compartments and sub-compartments of the tool box, independent from individually applied terminology.

As can be seen in Figure 1 the main compartments of the tool box are the (i) privatisation-, (ii) partnership-, (iii) business-, (iv) contract- and (v) financing models.

2.1 The privatisation model

Privatisation often has negative connotations. This can be seen from the use of phrases such as "selling the family silver" when discussing the sale of state assets or "privatisation of profits and nationalisation of losses" in reference to the privatisation of production processes or services that were previously performed by the public sector. In its essence, however, the term "privatisation" describes nothing more than the complex procedures for the transfer of companies, individual assets and/or services from the public sector to the private sector. Whether this brings with it positive or negative consequences for society as a whole cannot be generalised but should be investigated on a case-by-case basis. In the following a distinction is made between three privatisation models: (i) formal privatisation, (ii) functional privatisation and (iii) material privatisation. The key characteristics used to distinguish between these forms of privatisation are:

- the nature, extent and degree of integration of the functions transferred to the private partner;
- the allocation of the "provision function" (this essentially relates to the question of which of the partners is responsible for determining demand, i.e. where and when capacity should be established and maintained and what its dimensions, price and quality should be);
- the ownership interests (which of the partners own the asset before, during and after the partnership);
- the duration of privatisation (limited to a defined period of time or unlimited).

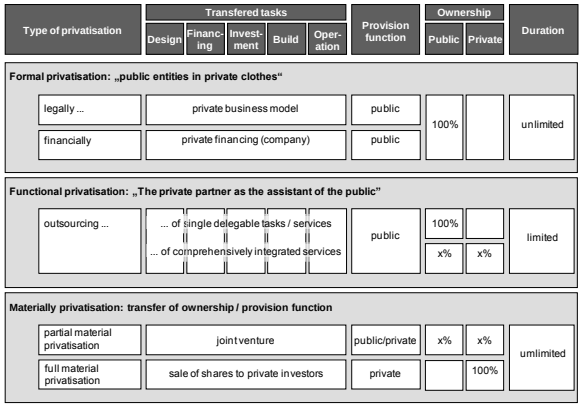


Figure 2 provides an overview of the various forms of privatisation in terms of the characteristics described above.

Figure 2: Main characteristics of different privatisation models (own source based on Alfen, Weber (2009)).

2.2 Formal privatisation

Formal privatisation describes the transformation of an administrative entity into a private law company, typically in the form of a corporation. The public sector remains the sole shareholder. As such, this procedure involves a purely legal privatisation. The objective of this probably most widespread form of privatisation in all sectors of the infrastructure industry is usually to outsource the departments responsible for a specific infrastructural task from the public authority in order to form a legally and economically independent entity. Legal privatisation is often preceded by bundling in the form of public law institutions (e.g. special public agencies) or other strictly public law company structures without any partner from the private sector. However, formal privatisation often also serves as the precursor to a more extensive material privatisation, whether in part or in full, by way of an IPO and/or the sale of shares to strategic or financial investors. A typical example is Deutsche Bahn (the German national rail company) or public real estate agencies/companies on the governmental or the municipal level. The primary motivation for this kind of outsourcing is to escape the restrictions involved in public revenue, collective bargaining, administrative provisions etc. in order to offer services more efficiently than could be achieved in a purely public-sector administrative structure.

2.3 Functional privatisation

Functional privatisation describes the transfer of functions that were previously performed by the public sector in its own right to a private company e.g. planning, construction or infrastructure, asset management services such as cleaning and servicing when functions relating to buildings and physical structures are transferred.

Functional privatisation includes PPP models whose services are “comprehensively integrated”/ bundled and awarded by way of a PPP contract concluded for a long, individually defined term (lifecycle approach), i.e. corresponding to the understanding of PPP in many countries (and in particular used in Germany’s social and road infrastructure sectors). Accordingly, a limited form of functional privatisation always occurs when the “provision function” and, typically, ownership of the physical structure remains within the public sector. One exception is the BOOT (Build Operate Own Transfer) model, under which ownership is transferred to the private operator during the limited contractual term, mostly for tax reasons.

2.4 Material privatisation

The key characteristic of material privatisation is that, in addition to comprehensive functional transfer, ownership of the assets necessary to perform those functions is also transferred on a

permanent basis. This constitutes a de facto divestment on the part of the government. Accordingly, the provision function is generally also transferred from the public to the private sector, i.e. the capacity and prices of infrastructure provided are subsequently determined primarily on the basis of the interaction between supply and demand. In this scenario, the government withdraws to all practical extents from an entire infrastructural function that it previously performed. This means that, by contrast to functional privatisation, material privatisation always involves the formation of a new private company (as is the case in formal privatisation as well), if only to clearly demarcate the privatised operations.

A distinction is made between full and partial privatisation based on the extent to which a public partner retains an interest in the company after privatisation. Partial privatisation can be further broken down into majority and minority interests depending on the interest held by the public sector in the jointly owned private company. Full privatisation means that there are no longer any public partners. However, only as long as a market does not show market distortions or even market failure in an economic sense, it is safe to assume that a function can be transferred to the market in full. Among other things, this means that the competitive environment determines the appropriate prices for use, thereby ensuring optimal provision for the users of the respective infrastructure.

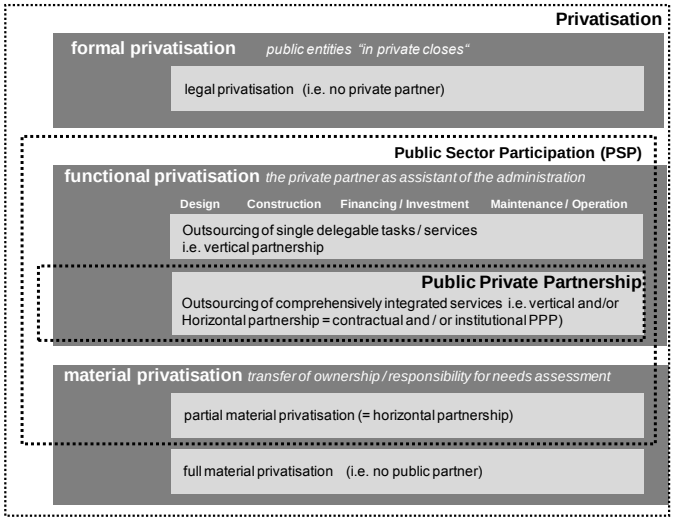
As evidence of market failure often exists for infrastructure – a reason for the state having to remain involved in some way – genuine cases of full material privatisation – i.e. 100% privatisation on a permanent basis – rarely occur in the public infrastructure sector. The most extensive privatisations around the world in both respects can generally be found in the telecommunications (e.g. Deutsche Telecom) and energy sectors. Even in these cases the public sector generally attempts to retain some influence over the company by way of a golden share. In the event of full material privatisation, the government can and must exercise an influence in the form of legislation, regulation or similar measures whenever public interests, such as those of users, are threatened.

Excluding the telecommunication and energy sectors, other examples include the privatisation of the British Airports Authority (BAA) or, to a lesser extent, Dusseldorf Airport in Germany as well as "Autobahn TankRast GmbH", Germany's leading service provider on service areas along the Autobahn. The majority of full or partial privatisations in the transportation sector involve airports. This can be explained, to a certain extent, by the fact that there is significantly greater competition between airports than between other transport carriers. Full material privatisations practically do not exist at all in the road sector.

2.5 The partnership model

When distinguishing between the various privatisation models, it becomes evident that not all forms of privatisation necessarily include a legal involvement on the part of the private sector. Figure 3 shows for example, that there is no private partner as shareholder - and consequently no Private Sector Participation (PSP) in the case of formal privatisation and - at the other extreme - no public partner in the case of full material privatisation, under which the private sector acts alone on the market. Consequently, PSP or partnerships between the public and the private sector only exist in

functional privatisations in the form of outsourcing and partial material privatisation as highlighted in Figure 3.



A distinction is made between horizontal and vertical partnerships in structural terms. Hence, in the case of functional privatisation, reference is also made to contractual and institutional PPPs. Accordingly, Figure 4 illustrates the structural differences between these two functional partnership models and the horizontal partnership arising from partial material privatisation.

Figure 3: Privatisation with or without Public Sector Participation (own source).

It should be noted that the latter is sometimes called "Institutional PPP" or "Institutionalised PPP", for example in the EU Green paper on public-private partnerships and community law on public contracts and concessions (2004). Nevertheless, in order to clearly distinguish between partnership models without, or only with temporally limited transfer of ownership, (functional privatisation) and those with permanent transfer of ownership (material privatisation) from the public to private sector, the Figure 3 models of partial material privatisation are still called "horizontal partnerships" and not PPPs.

In both cases of PPPs, i.e. contractual (vertical) and institutional (vertical/horizontal), a principal/agent relationship is entered into with a special purpose company (SPC), which is formed specifically for the respective (project) purpose under the terms of the PPP contract, which functions as a contract for work and labour or a service agreement. A highly varied range of contract models may be used (see chapter 1.8 and Figure 5). In contrast to (purely) contractual PPPs where the agent is a (purely) private project company, the public sector retains an interest in the project company in the case of institutional PPPs, whether in the form of the public-sector principal itself, or another public-sector institution.

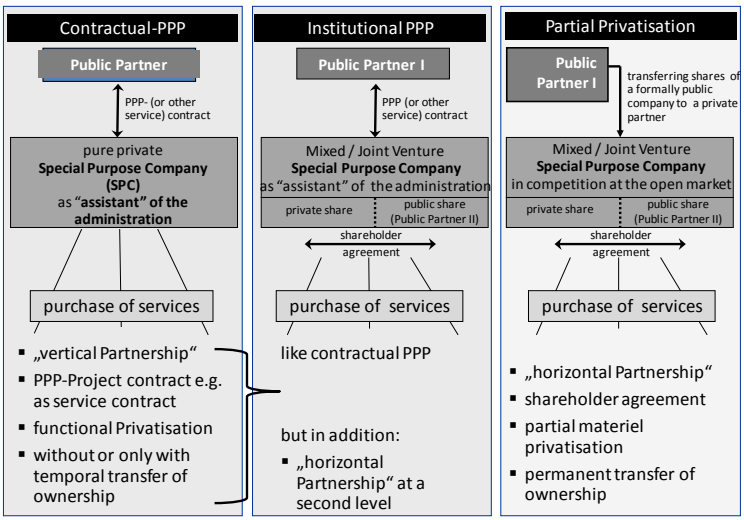


Figure 4: Partnership models and their structure (own source based on Alfen, Weber (2009)).

The horizontal partnership shown on the right-hand side of the diagram as a partial material privatisation describes the participation of public-sector and private-sector partners as co-shareholders of an infrastructure project company that design, build, finance, maintain and/or operate an infrastructure asset. Broadly speaking, there are two ways in which this type of partnership may come about. In the first case, an infrastructure project is put out to tender as a BOO contract (see chapter 1.8 and Figure 5). The tender conditions specify that the public sector intends to participate in the project company to be formed jointly by the partners after awarding and contract signing.

In the second case, an already existing project company, which is fully owned by the public sector is seeking a private investor as a shareholder. Shares are then sold either to a private strategic partner by way of tender, auction, or widespread by way of IPO. There may be various reasons for taking this approach; however, the most common scenario is that capital is required for the expansion or renovation of an infrastructural facility. A further objective may be a desire to integrate the expertise of a private operator into the existing organisational structure and transfer some of the risks to the private partner.

For example, following the Airport Terminal fire in 1996, Dusseldorf Airport looked for a buyer to take 50% of the shares, perform and finance the renovation and conversion work and operate the airport permanently in cooperation with the public-sector partner. In terms of financing, partial privatisation models use common financial techniques such as mergers and acquisitions as well as initial public offerings (IPOs) at the stock exchange.

In all cases of horizontal partnerships, be it PPPs or partial material privatisations, the public sector can generally control the degree of its influence over the provision function in the wider sense and the transfer of functions on the basis of its shareholding as set out in the partnership agreement. However, the business risk also remains with the public sector to the same extent. If the aim of obtaining private investment is to achieve a clear separation of risks and risk spheres between the public and private partner, this can generally be achieved more effectively by entering into a vertical partnership i.e. with one of the PPP contract models described in chapter 1.8, rather than a horizontal partnership agreement. The influence that the public project execution agency wishes to exercise can generally be, and is sometimes even better set out in the underlying (PPP) contract.

2.6 The business model

The two key aspects to be taken into account when evaluating a business model are the income side, i.e. the available sources of income, the amount of income as well as the corresponding remuneration mechanisms, and the cost side. The following highly simplified discussion focuses solely on the income side. In contrast to the cost side, which largely depends on the infrastructure services to be provided, there are two alternatively applicable structures for the income side of an infrastructure investment that are fundamentally different, but may be used equally for the same infrastructure services. Although the private partner can generally only determine the source of its income and the

concrete configuration of the remuneration structure to a limited extent, if at all, these factors are highly relevant when it comes to the risk and potential yield of a project. As a basic rule, the business models of infrastructure companies can be broken down into “budget-financed” and “user-financed” models.

2.7 Budget-financed remuneration

In the case of budget-financed models, the private partner receives fixed remuneration that is generally payable by the principal at regular intervals. A distinction can be made between:

- performance-based payments corresponding to the services set out in the specifications or list of services;
- availability-based payments corresponding to the availability of premises, areas, facilities, equipment, etc.;
- volume-based payments corresponding to the consumption of water, electricity, gas, etc.;
- results-based payments corresponding to contractually agreed optimisation targets;
- usage-based payments, which can be further broken down into (i) frequency of use, such as the shadow toll for roads or fees that reflect the number of users of a swimming pool, a sports hall or another public facility and (ii) intensity of use, such as in the case of shadow tolls with diverging rates based on axle loads or emissions.

It should be noted that volume- and usage-based payments both include user and market risks for the private partner even though they are budget financed remuneration systems. However, in comparison with user-financed remuneration they are softened due to the fact that users’ consumption behavior is not influenced by price, and change of it. This is the case because users are not charged directly upon usage but the public contract partner pays the bill “in the background”.

2.8 User-financed remuneration

In the case of user-financed models, the revenue flows required to cover the investment and current operating costs are obtained from user fees such as tolls, charges, entrance fees or rents. The characteristic feature of user-financed models is that the market risk is determined by the level of demand. Demand and the market risk vary in accordance with the willingness of the users to pay the respective fees. This depends to a large extent on the respective usage situation, with a distinction made between:

- compulsory usage, e.g. compulsory connection to the water network, where users have no choice but to obtain their water supply from the local provider;

- (quasi-)compulsory usage, e.g. when there are no alternatives to using the services offered or the available alternatives are unattractive; typical examples include bridges over or tunnels under rivers that cannot be crossed in another manner within an acceptable distance;

- free choice of usage in a competitive environment, e.g. when the user can choose between several telephone providers or a shorter toll road compared with one or more longer non-toll roads within an acceptable distance.

The lower the level of competition, the greater the need for regulation, which may serve to increase or reduce the market risk depending on the circumstances.

In both cases, budget-financed and user-financed business models, the user fees charged are often supplemented by performance-based or availability-based elements, e.g. in the form of contractual penalties, which could also be regarded as project-specific regulation measures. For example, this may serve to offset the lack of quality incentives that arises in monopoly situations in particular. On the other hand, low user fees (e.g. for kindergartens) that are insufficient to cover the actual cost of a service may be supplemented by government grants in the form of start-up funding or continuous subsidies due to social considerations.

2.9 The contract model

This paper can only provide an overview of the various contractual models for the management of public infrastructure that are common throughout the world. This overview focuses on PPP contract models as defined in Figure 3 that embody as extensive a lifecycle approach as possible. Even when the respective contractual characteristics are globally largely uniform in terms of the need for regulation and the content thereof, the names used for such complex contractual models are extremely heterogeneous. However, in international usage, the models are often designated using letters that reflect the services transferred under the scope of the respective contract, while this systematisation is already more consistent, the abbreviations used in accordance with it are not always correct.

PPP = functional privatisation, comprehensively integrated services	
(D)B(F)OT	*(Design) Build (Finance) Operate Transfer Concession*
(D)B(F)OOT	(Design) Build (Finance) Operator Own Transfer
DBFO(T)	Design Build Finance Operator (Transfer)
	Availability Payments Model
	PPP-Ownership Model
(D)B(F)OOT	(Design) Build (Finance) Operate Own Transfer
	PPP-Purchaser Model
DBLOT	Design Build Lease Operate Transfer
	PPP-Lease Model
DB(F)ROT	Design Build (Finance) Rent Operate Transfer Contracting
	PPP-Rent Model

(Partial) Material Privatisation	
(D)B*(F)*OO	(Design) Build (Finance) Operate Own Funding of Special Purpose Company
BDB*(F)*OO	Buy Design Build (Finance) Operate Own Shareholder of Special Purpose Company (Purchase of Shares) with the obligation to invest
DB*(F)*ROO	Design Build (Finance) Rent Operate Own Renting incl. Facility Management

Application typically in the area of (selection and designation in accordance with the German application):
- Social infrastructure
- *Economic infrastructure (in particular roads but also other transport subsectors or supply- / waste management)*
- Social and economic infrastructure

Figure 5: Contract models of functional privatisation with comprehensively integrated services of material privatisation (own source based on Alfen, Weber (2010)).

The individual letters stand for the following services: “D” – Design, “B” – Build, “O” – Operate or Own (which obviously is quite misleading), “T” – Transfer, “L” – Lease, “R” – Rent and “F” – Finance.

This fundamental concept also forms the basis for the overview contained in Figure 5 which shows the contract models (as well as their special designation) used in the social infrastructure and road traffic infrastructure sectors in Germany. However, international experience has shown that these basic models can essentially be transferred to all sectors with sector-specific characteristics primarily being reflected in the specific contractual provisions of the individual projects. Due to lack of space, the contract models cannot be described and discussed further in this paper.

2.10 The financing model

After establishing the PPP model (the ownership interests, the remuneration structure, etc.), one of the key determining factors in the organisational model is the financing of the respective infrastructure company/facility and its detailed structuring. Project finance is the most common financing model internationally. In some countries, such as France and Germany, so called “forfaiting models” are also used, with the investment being based on the creditworthiness of the public-sector principal rather than that of the project and its cash flow, at least after the construction of the infrastructural facility. Traditional corporate finance may also be used but more in conjunction with partial privatisation – or, indeed, precisely because the partial privatisation model is being used.

2.11 Possibilities regarding the development of privatisation-, partnership- and contract-models

The information presented above shows that there are essentially two different development trends with regard to privatisation (referred to here as "privatisation paths"). One is based on forms of functional privatisation and is characterised by increasing private sector involvement in the various functions and steps in the value chain within the lifecycle of a physical infrastructural facility. As such, this can be seen as a growing "privatisation of functions". The other path is initiated by a public-sector institution that performs specific functions relating to a physical infrastructural facility and is seeking to involve private partners as shareholders and providers of capital. Figure 6 illustrates these two development paths:

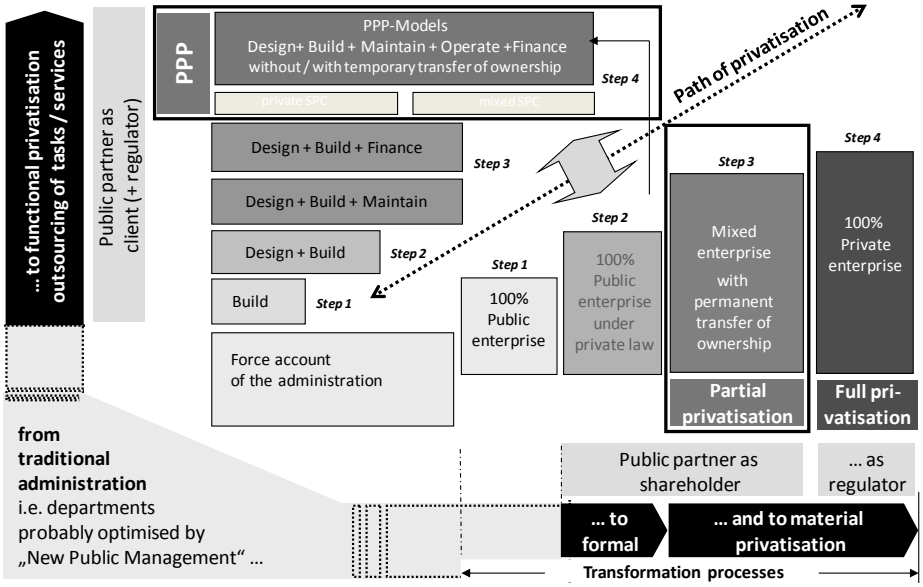


Figure 6: The privatisation development path (own source based on Alfen, Weber (2010)).

- functional privatisation, from the outsourcing of simple functions to the complex, cross-lifecycle PPP model with the contractual variations described above;

- partial or full material privatisation, generally via the aforementioned bundling of functions within a public law institution and subsequent formal privatisation.

These trends towards growing privatisation are also accompanied by trends in the opposite direction. In addition, interim forms spanning these two fundamentally different directions do exist. One example is the formally privatised ASFINAG in Austria that – as principal - awarded a concession for a highway project to a strategic investor in 2006.

3. Conclusion

This paper has shown that PPPs as a particular form of cooperation between public and private sector partners vary regarding their goals and fields of application around the globe. It also disclosed that the understanding of what a PPP model actually constitutes and what distinguishes it from other usual forms or better to say "organisational models" of collaboration between public and private partners may be country, sector and even project specific. Finally this paper has made clear that the term PPP often is a brand rather than a clear and distinctive designation of a procurement method traceable for everyone.

Based on comprehensive international research work a "tool box" has been developed and presented in this paper that contains all structural elements to clearly describe, analyse and evaluate the existing forms of public, public-private and private organisational procurement models, thus making it possible for investors and audit authorities (e.g. as basis for their due diligence) to compare PPPs as they are understood in a particular environment or for public and private project partners to develop, implement and supervise/monitor their PPP project based on a common understanding.

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