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Case Study—Public-Private Partnerships: Theory, Practice, and Cases

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Chapter 1 What are Public-Private Partnerships?
Yescombe, E.R. (2007). *Public-Private Partnerships—Principles of Policy and Finance*. Burlington and
Oxford: Butterworth-Heinemann: 1-14.

Chapter 2 PPPs—For and Against
Yescombe, E.R. (2007). *Public-Private Partnerships—Principles of Policy and Finance*. Burlington and
Oxford: Butterworth-Heinemann: 15-28.

What are Public–Private Partnerships?

§1.1 INTRODUCTION

This chapter examines the reasons for private involvement in public infrastructure (§1.2), defines what is meant by a PPP (§1.3), and traces their historical development and current structures (§1.4). The place of PPPs in provision of public infrastructure is considered (§1.5), and the main types of PPP are summarised (§1.6).

§1.2 PUBLIC INFRASTRUCTURE AND THE PRIVATE SECTOR

Public infrastructure can be defined as facilities which are necessary for the functioning of the economy and society. These are thus not an end in themselves, but a means of supporting a nation's economic and social activity, and include facilities which are ancillary to these functions, such as public-sector offices or accommodation. Broadly speaking, public infrastructure can be divided into:

- 'economic' infrastructure, such as transportation facilities and utility networks (for water, sewage, electricity, *etc.*), *i.e.* infrastructure considered essential for day-to-day economic activity; and
- 'social' infrastructure such as schools, hospitals, libraries, prisons, *etc.*, *i.e.* infrastructure considered essential for the structure of society.

A distinction can also be made between 'hard' infrastructure, whether economic or social, primarily involving provision of buildings or other physical facilities, and 'soft' infrastructure, involving the provision of services, either for economic infrastructure (*e.g.* street cleaning), or for social infrastructure (*e.g.* education and training, social services).

There is probably universal agreement that the state has to play a rôle in the provision of public infrastructure, on the grounds that:

- The private sector cannot take account of 'externalities'—*i.e.* general economic and social benefits—and therefore public-sector intervention is required (*cf.* §5.2.1).
- Without such intervention infrastructure which has to be freely available to all ('public goods') will not be built, especially where this involves networks, such as roads, or services, such as street lighting.
- Competitive provision of infrastructure may not be efficient, and a monopoly provision requires some form of public control.
- Even where competition is possible, the public sector should still provide 'merit goods', *i.e.* those that would otherwise be underprovided (such as schools, as the rich could pay for private schools but the poor would get no education).
- Infrastructure requires a high initial investment on which only a very long-term return can be expected. It may be difficult to raise private capital for this investment without some public-sector support.

It could thus be argued that infrastructure should be provided by the public sector where competitive market pricing would distort behaviour or lead to loss of socio-economic benefits. But history suggests that there are two ways for the state to do this—either by direct provision, or by facilitation of private-sector provision (whether through regulation, tax subsidy or similar incentives, or by contract). As discussed below, the use of private capital to fund economic infrastructure (*e.g.* for transportation) is of long standing. Equally, it was generally only during the 19th and 20th centuries that the state took over responsibility, mainly from religious or private charity, for the provision of much social infrastructure (*e.g.* for schools and hospitals). Indeed it may be said that private provision of a large proportion of public infrastructure was the historical norm until recently, but the definition of 'necessary' public infrastructure has clearly widened over the last couple of centuries. PPPs may therefore be considered a modern way of facilitating private provision to help meet an increased demand for public infrastructure.

§1.3 PUBLIC-PRIVATE PARTNERSHIPS

§1.3.1 MEANING

The term 'public-private partnership' appears to have originated in the United States, initially relating to joint public- and private-sector funding for educational programmes, and then in the 1950s to refer to similar funding for utilities (*cf.* §17.6.2), but came into wider use in the 1960s to refer to public-private joint ventures for urban renewal. It is also used in the United States to refer to publicly-funded provision of social services by non public-sector bodies, often from the voluntary (not-for-profit) sector, as well as public funding of private-sector research and development in fields such as technology. In the international-development field the term is used when referring to joint government, aid agency and private-sector initiatives to combat diseases such as AIDS and malaria, introduce improvements in farming

methods, or promote economic development generally. Most of these can be described as 'policy-based' or 'programme-based' PPPs.

However the subject of this book is what may be called 'project-based' or 'contract-based' PPPs, a more recent development. (Although some urban-renewal PPPs are also project-specific, they do not involve the same long-term relationship.) PPPs as defined here have the following key elements:

- a long-term contract (a 'PPP Contract') between a public-sector party and a private-sector party;
- for the design, construction, financing, and operation of public infrastructure (the 'Facility') by the private-sector party;
- with payments over the life of the PPP Contract to the private-sector party for the use of the Facility, made either by the public-sector party or by the general public as users of the Facility; and
- with the Facility remaining in public-sector ownership, or reverting to public-sector ownership at the end of the PPP Contract.

In some cases, a PPP Contract may involve major upgrading of existing infrastructure rather than a 'greenfield' construction. However private-sector acquisition or management of existing public infrastructure without any major new capital investment or upgrading is not considered to be a PPP as defined here. Similarly private-sector provision of soft infrastructure, which involves no significant investment in fixed assets (and hence no need for private-sector financing), falls into the category of 'outsourcing' rather than PPPs, although obviously the boundary is not precise as soft services are often associated with hard infrastructure (*cf.* §13.2). Nor is a PPP a simple joint-venture investment between the public and private sectors, unless this is also linked to a PPP Contract (*cf.* §17.5). Also this book does not deal in detail with smaller PPPs, usually at a municipal level, in sectors such as parking garages; this smaller end of the market follows the same general principles, but is obviously less elaborate in contract form and financing (*cf.* §8.5.3).

The public-sector party to a PPP Contract (the 'Public Authority'—also known by a variety of other terms such as the 'Public Entity', 'Public Party', 'Government Procuring Entity', 'Institution', 'Contracting Authority' or just the 'Authority') may be a central-government department, a state or regional government, a local (municipal) authority, a public agency or any other entity which is public-sector controlled. The private-sector party is normally a special-purpose company (the 'Project Company'—also known as the 'Private Party'), created by private-sector investors specifically to undertake the PPP Contract. It should be noted that the relationship between these two parties is not a partnership in the legal sense, but is contractual, being based on the terms of the PPP Contract. 'Partnership' is largely a political slogan in this context (but *cf.* §6.6).

§1.3.2 PPP V. PUBLIC-SECTOR PROCUREMENT

A PPP is thus an alternative to procurement of the Facility by the public sector ('public-sector procurement'), using funding from tax revenues or public borrowing. In a typical public-sector procurement (known as 'design-bid-build'), the Public Authority sets out the

specifications and design of the Facility, calls for bids on the basis of this detailed design, and pays for construction of the Facility by a private-sector contractor. The Public Authority has to fund the full cost of construction, including any cost overruns. Operation and maintenance of the Facility are entirely handled by the Public Authority, and the contractor takes no responsibility for the long-term performance of the Facility after the (relatively short) construction-warranty period has expired.

In a PPP, on the other hand, the Public Authority specifies its requirements in terms of 'outputs', which set out the public services which the Facility is intended to provide, but which do not specify how these are to be provided. It is then left to the private sector to design, finance, build and operate the Facility to meet these long-term output specifications. The Project Company receives payments ('Service Fees') over the life of the PPP Contract (perhaps 25 years on average) on a pre-agreed basis, which are intended to repay the financing costs and give a return to investors. The Service Fees are subject to deductions for failure to meet output specifications, and there is generally no extra allowance for cost overruns which occur during construction or in operation of the Facility.

The result of this PPP approach is that significant risks relating to:

- the costs of design and construction of the Facility, *and*
- market demand for the Facility (usage), *or*
- service provided by the Facility (including its availability for use), *and*
- the Facility's operation and maintenance costs

are transferred from the Public Authority to the Project Company.

§1.3.3 TERMINOLOGY

It should be mentioned that there are a number of alternative names for PPPs:

- Private Participation in Infrastructure (PPI), a term which seems to have been coined by the World Bank, and perhaps expresses more clearly the subject of this book; however it is little used outside the development-financing sector, except for the South Korean PPI programme;
- Private-Sector Participation (PSP), also used in the development-banking sector (however neither PPI or PSP are limited to the definition of PPPs above);
- P3, used in North America;
- Privately-Financed Projects (PFP), used in Australia;
- P-P Partnership (to avoid confusion with PPP meaning 'purchasing power parity', a method of comparing currency exchange rates to reflect the real costs of goods and services in different countries);
- Private Finance Initiative (PFI), a term originating in Britain, and now also used in Japan and Malaysia.

§1.4 DEVELOPMENT AND STRUCTURES

There are a number of different approaches to the introduction of private financing into provision of public services. Concessions have a long history (§1.4.1). Power Purchase

Agreements (§1.4.2), provided the modern contractual and financing framework for PPPs (§1.4.3)—both for Concessions (§1.4.4) and the more recent PFI Model (§1.4.5).

§1.4.1 CONCESSIONS AND FRANCHISES

Although the term PPP is a new one, the concept of using private capital to provide public facilities is very old. In 18th- and early 19th-century Britain groups of local magnates formed turnpike trusts which borrowed money from private investors to repair the roads, and repaid this debt by charging tolls. Most of London's bridges were also financed by similar bridge trusts until the mid-19th century, and similarly in the late 19th century the Brooklyn Bridge in New York was built with private-sector capital. In France, the construction of canals with private-sector capital began in the 17th century.

This type of PPP is known as a Concession: that is, a 'user pays' model in which a private-party (the Concessionaire) is allowed to charge the general public Service Fees for using the Facility—for example the payment of a toll for using a bridge, tunnel or road. The toll reimburses the Concessionaire for the cost of building and operating the Facility, which usually reverts to public-sector control at the end of the Concession period. Apart from roads and related facilities, Concessions were used in many countries in the 19th and early 20th centuries to construct facilities such as railways, water supply and waste-water treatment networks.

The rôle of the public sector in Concessions is to establish the framework under which the Concessionaire operates, usually under a general Concession Law or legislation specific to the particular Concession, to choose a Concessionaire, and to regulate the detailed requirements for the construction and operation of the Facility, usually through a Concession Agreement signed between the Public Authority and the Concessionaire.

A further development of Concessions is the Franchise, or to use the less-ambiguous French term, *Affermage*. A Franchise is the right to exploit an already constructed Facility, *i.e.* it is similar to a Concession but without the initial construction phase. The Franchisee (equivalent to a Concessionaire) may make a lump-sum payment to the Public Authority in return for this right. A Franchise is not considered to be a PPP as previously defined, because it does not involve the provision or upgrade of infrastructure, but only its operation. However the contractual and financial basis is similar in some respects (and hence is covered in this book). 'Farming', in its older English meaning (*e.g.* 'tax farming') means the same as the French term but has largely gone out of use in this sense. 'Lease' is also used, but this is misleading given its other meanings. In European Union terminology a Franchise is known as a 'service concession', while a Concession as defined in this book—*i.e.* involving the construction of new infrastructure—is known as a 'works concession'.

Although the use of Concessions for constructing new infrastructure faded away in many countries after the 19th century, as the rôle of the state expanded, Franchises continued to be important, *e.g.* in the French water sector. The disuse of Concessions only began to reverse at the end of the 20th century, as interest started to grow in this and other types of PPP as an alternative funding model, as discussed below. (And similarly Franchises have been revived, *e.g.* in the British rail sector.)

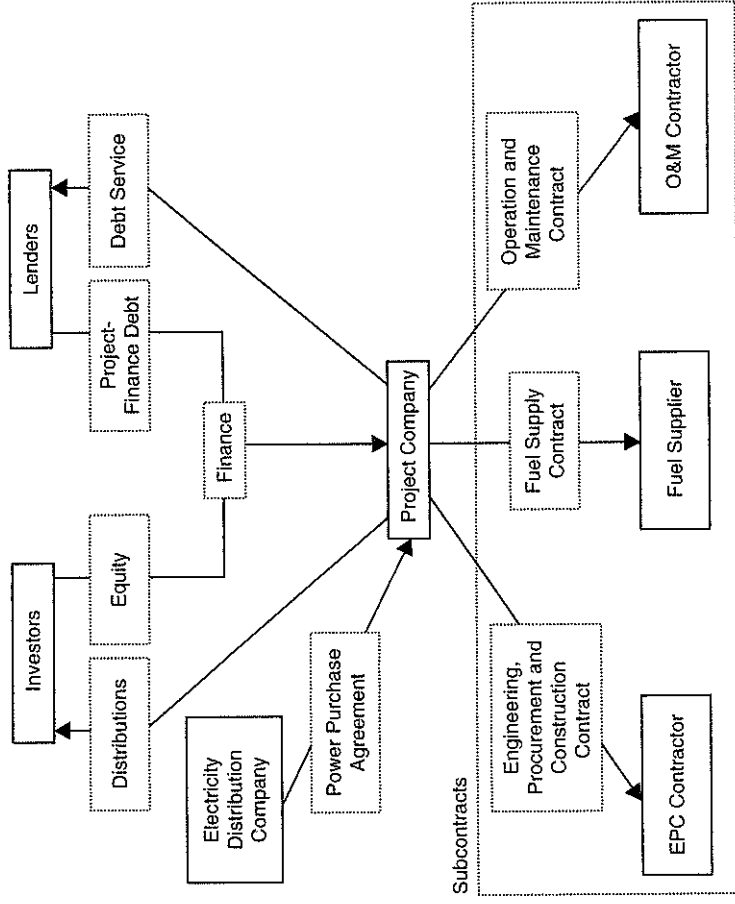


Figure 1.1 Project Finance for a Power Purchase Agreement (PPA)

- an operation and maintenance ('O&M') contract, under which an O&M contractor agrees to operate and maintain the plant on behalf of the Project Company;
- a PPA with an electricity-distribution company, with payments based on Availability and Usage Charges as discussed above;
- surplus cash flow after payment of fuel and operating costs is used, firstly, for payments of loan principal and interest ('debt service') to the lenders, and then to give a return on investment to the investors ('Distributions').

The Subcontractors have thus taken over many of the key risks, e.g. as to the outturn capital cost of the power station and its operating costs (other than fuel costs).

§1.4.3 BOO—BOT—BTO—DBFO

The PPA as first developed was a 'Build-Own-Operate' (BOO) contract between private-sector parties, whereby the ownership of the power station remains with its investors, but it soon became apparent that a similar structure could be used for developing public-sector projects. The concept of the 'Build-Operate-Transfer' (BOT) contract was first developed in

§1.4.2 POWER PURCHASE AGREEMENTS

The Power Purchase Agreement (PPA), developed in the United States in the 1980s, provided the template for modern PPP Contracts. (PPAs and similar process-plant offtake contracts are discussed in detail in Chapter 6 of *Principles of Project Finance*.) PPAs began after the 1978 Private Utility Regulatory Policies Act (PURPA), which encouraged the construction of cogeneration plants, whose electricity could be sold to the regulated power utilities. PPAs arrived in Europe in the early 1990s, with the privatisation of the British electricity industry; this encouraged a separation between private-sector companies involved in power generation and those involved in distribution, and the development of independent power projects to increase competition in power generation. Under a PPA, the investors are paid a 'Tariff' split between:

- an *Availability Charge* (also known as a Capacity Charge) for making their power station available to provide power to the utility: this covers the capital expenditure involved in building the power station and its fixed operating expenditure; and
- a *Usage Charge* (also known as a Variable Charge) for the marginal cost of generating power as and when required by the electricity utility: this mainly covers the cost of the fuel used to generate the electricity (e.g. coal or natural gas).

A key aspect of a PPA is therefore that the investors in the Project Company which builds and operates the power station do not take any risk on whether the electricity which it has the capacity to generate is actually needed: that risk remains with the utility, who pays the Availability Charge whether it uses any power or not. The Project Company is, however, responsible for the operating performance of the power station, and if for any reason it is not capable of generating the level of power committed the Availability Charge will be reduced accordingly. Thus these investors do not take usage risk, but only the risk of completing the power station to time and to budget, and thereafter operating or performance risk—unlike a Concessionaire, who is only paid if people use the Facility.

The other vital factor which enabled the PPA contract model to be developed was the financing technique known as 'project finance', which provides the high ratio of long-term debt financing required for such projects. Although such techniques had existed previously in the natural-resources sector, the project-finance structures used to fund PPAs have provided the basis for funding all types of PPPs (cf. Chapter 8). An important aspect of project finance is the passing of the risks mentioned above from the Project Company to Subcontractors. Figure 1.1 shows how this risk transfer fits within the main building blocks for a power-generation project. (The arrows show the direction of cash flows.) The main components in the structure are:

- a Project Company, owned by private-sector investors;
- financing for the project's capital costs through shareholder equity and project-finance debt;
- an Engineering, Procurement and Construction ('EPC') Contract, under which the Contractor agrees to deliver a completed and fully-equipped ('turnkey') power station to the required specification, at a fixed price and schedule;
- a fuel-supply contract, under which, say, coal or natural gas is provided to fuel the power station's turbines;

Turkey; this was also intended for power generation, but with the key differences that the off-taker (purchaser) of the power would be a Public Authority, the state power utility, and that at the end of the contract ownership of the power station could pass from its investors to the off-taker (usually for a nominal or no cost) and hence to the public sector.

It was but a short step from the BOT Model to the 'Build-Transfer-Operate' (BTO) contract, where ownership is transferred to the Public Authority on completion of construction, and the 'Design-Build-Finance-Operate' (DBFO) contract, under which legal ownership of the Facility remains with the Public Authority throughout the contract, with the private-sector interest in the project being based solely on the contractual rights to operate the Facility and receive revenues from the off-taker for doing so, rather than ownership of physical assets.

In developing countries BOT, BTO and DBFO contracts provided a means for cash-constrained state power utilities to fund investment in more efficient plant, without relinquishing control over either the generation of the power (since the off-taker decides when the power station is to be dispatched, *i.e.* brought into use to generate power), its delivery to the consumer, or its cost to the consumer—in other words, the private sector delivers the service on behalf of the public sector, but entirely under public-sector control.

§1.4.4 PROJECT FINANCE FOR CONCESSIONS

The modern use of project-financing techniques for Concessions, influenced by the BOT model, began with the successful financing of the Channel Tunnel project between Britain and France in 1987 (albeit in the event this was a financially-disastrous project), and the Dartford Bridge (across the Thames estuary) shortly thereafter. It has to be said that neither of these were 'typical' projects, but the lessons learned from them have been widely applied to financing Concessions since then, most commonly in toll-road projects.

Figure 1.2 shows the main contractual and financing building blocks for a road Concession. The resemblance to the 'spider diagram' above for the power project is evident, the most important difference being the source of revenues (from tolls). Here the key elements in the structure are:

- a Project Company, owned by private-sector investors;
- financing for the project's capital costs ('capex') through shareholder equity and project-finance debt;
- a Design & Build, 'D&B' Contract, under which the contractor agrees to design and construct the completed road and related works (*e.g.* toll booths) to the required specification, at a fixed price and schedule;
- an operating contract, under which a toll operation company provides services such as manning the toll booths, minor repairs, accident management, *etc.*
- a maintenance contract, under which a maintenance company provides road-maintenance services;
- a Concession Agreement (a standard name for a this type of PPP Contract) with the Public Authority, which allows the collection of tolls from road users; it does not usually involve any payment by or to the Public Authority (but *cf.* §13.3.5, §13.3.6);
- cash flow after operating costs ('opex'), *i.e.* mainly payments on the operating and maintenance contracts, being used, firstly, for debt service, and then to pay Distributions to the investors.

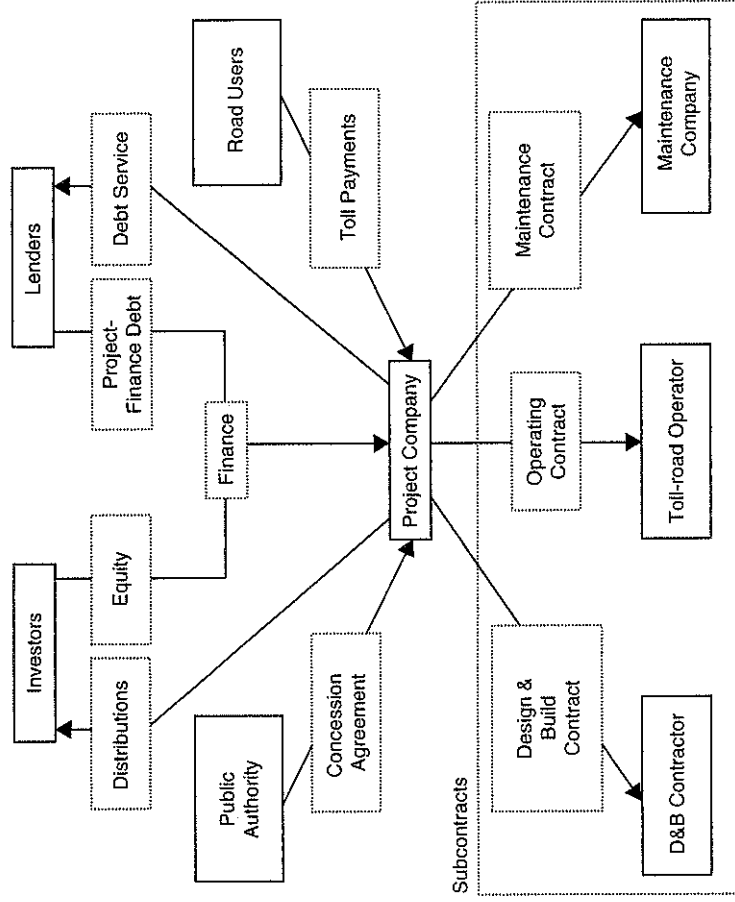


Figure 1.2 Project finance for a road Concession

§1.4.5 THE PFI MODEL

In 1992 the British government announced the Private Finance Initiative (PFI), with the aim of bringing private finance into the provision of public infrastructure (*cf.* §3.4). This really began from the rediscovery of Concessions in the 1980s, mentioned above, and the first wave of projects, in 1994, involved construction and operation of new roads, and the scope for toll roads in Britain was limited, instead of the 'user pays' principle of a Concession, this PFI Model (as we will term it) introduced the concept of payment by the Public Authority. Initially payments from the Public Authority were still based on usage by drivers, through so-called 'Shadow Tolls', *i.e.* a fixed schedule of payments by the Public Authority per driver/km (*cf.* §13.4.5).

The next stage in the development of the 'full' PFI Model was the use of PFI contracts for the provision of public facilities where usage risk inherently cannot be transferred to the private sector, such as schools and hospitals. In these cases the structure of the contract is still based on the PPA, in that the private-sector investor is paid by the Public Authority for 'Availability', *i.e.* constructing the Facility to the required specification and making it available for the period of the PFI contract, as well as for provision of services such as maintenance, cleaning and catering.

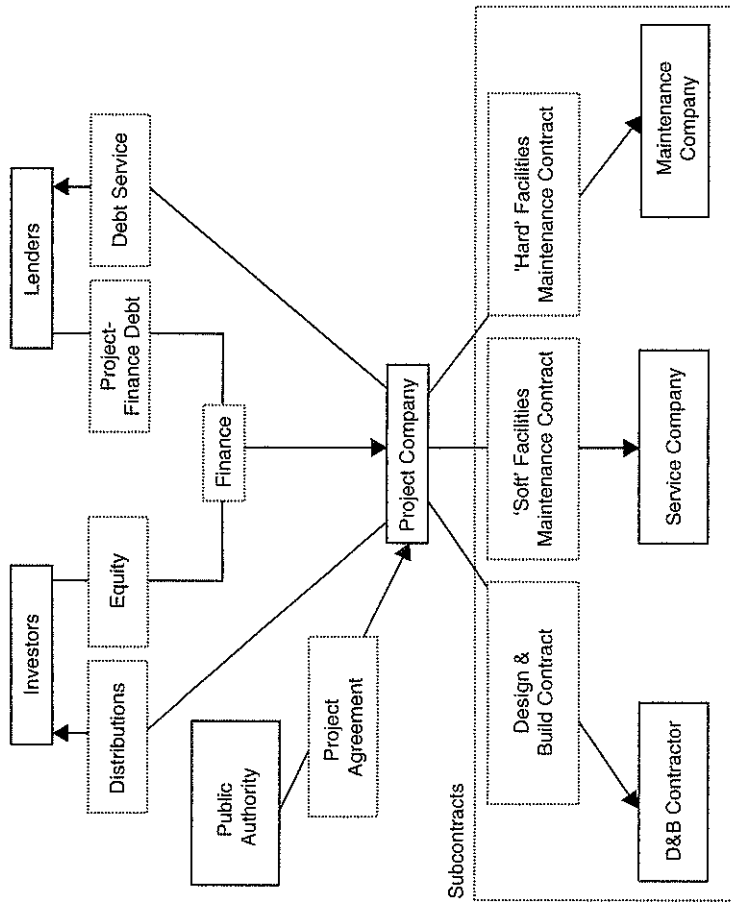


Figure 1.3 Project finance for a PFI school project

Figure 1.3 shows the main building blocks for a school project on the PFI Model. The resemblance to a PPA is evident. Here the key elements in the structure are:

- a Project Company, owned by private-sector investors;
- financing of the project's capex through shareholder equity and project-finance debt;
- a D&B Contract, under which the contractor agrees to construct the school to the required specification, at fixed price and schedule;
- a 'Soft' Facilities Maintenance ('FM') Contract, under which a Service Company provides services such as security, cleaning and catering for the school;
- a 'Hard' FM Contract, under which a maintenance company (or the original D&B contractor) provides building-maintenance services;
- a Project Agreement (a standard name for a PFI-Model contract) with the Public Authority;
- cash flow after opex—mainly payments on the FM Contracts—is used, firstly, for debt service, and then to pay Distributions to the investors.

PPPs today are therefore based on the 'rediscovery' of Concessions and the development of the PFI Model. It should be noted that in some countries only the PFI Model is called a PPP, to distinguish it from a Concession. However in this book, 'PPP' will be used for the

general concepts covering both models, and 'PPP Contract' to refer both to a Concession Agreement and a Project Agreement.

§1.5 PPPS AND PUBLIC INFRASTRUCTURE

Table 1.1 provides a summary of the different ways of providing public infrastructure discussed above, and shows how PPPs lie on the spectrum from wholly public-sector projects (and risk) to wholly private-sector projects. It is important to note that:

- Ownership of the Facility has little or nothing to do with which particular PPP model is applied, and hence the Concession or PFI Model can be used whether the contractual basis is DBFO, BTO or BOT (cf. §1.6).
- Terminology for the various types of contract is not used consistently, but the most common usage has been followed.
- Table 1.1 does not purport to show all possible structural variations, but does set out the most important models.

The same public infrastructure may be placed at different points on this spectrum in different countries. Water supply and waste-water services show the range of possibilities in this respect:

- public-sector ownership and operation: common in many countries;
- public-sector ownership and private-sector management: this is common in France, for example, in the water sector, where water services are managed under *Affermage* contracts—the Franchisee takes over facilities which are owned by the Public Authority under a long-term management contract (typically for 10–12 years);
- PFI Model: in Turkey and China, for example, BOT/BTO contracts, transferring risk and payment to the public sector (*i.e.* with payments by a Public Authority rather than end-users), have been used for the development of new water-services projects;
- Concessions: these have also become common, especially in developing countries; here the private-sector investors build a new system, collect tariff payments from users (prices may be regulated by the Public Authority or under the Concession Agreement itself), take the demand risk, and have to meet output specifications such as water quality and availability; at the end of the Concession the works revert to the public sector;
- Privatisation (BOO): in England the state-owned water boards have been converted into private-sector regional water companies, which own the water supply and sewage networks; the public-sector involvement is through a Water Services Regulator, which monitors the service provided, fixes maximum costs for water based on a reasonable rate of return on investment, and ensures a degree of competition in water supply; a similar system can be found in Chile.

So can it be said that one type of public infrastructure is inherently more suitable for a PPP than another? There is certainly some public infrastructure which it would be generally agreed cannot be privatised, such as roads, and for which PPPs (in either the Concession or PFI Models) are therefore the only way of bringing in private finance. For other infrastructure such as water there are clearly differing views on whether privatisation or the

PPP approach is appropriate. In other cases, such as building mobile-phone networks, there is little disagreement in most countries that this is best done on the basis of licences to the private sector, *i.e.* on a privatised basis in a competitive market rather than *via* a PPP. There is probably an irreducible core of public-sector activity which has to be provided by the state without any delegation to the private sector—private armies were used in the Middle Ages but are unlikely to be found now (although the private sector may well provide PPP-based accommodation, equipment and services to the armed forces).

§1.6 TYPES OF PPP

PPPs can be classified by the legal nature of private-sector involvement in the Facility, using expressions such as BOT, BTO, DBFO and variants on these as shown in Table 1.1, mainly reflecting the point at which legal ownership of the Facility is transferred from the Project Company to the Public Authority, or, if the Project Company is never the legal owner of the Facility, the nature of its legal interest, such as a property lease or merely a right to operate. Such distinctions are legal technicalities and do not affect the commercial and financial reality that PPP facilities are public-sector assets which cannot normally be sold off to the private sector (*cf.* §15.11).

It is more useful to classify PPPs based on the nature of the service and risk transfer inherent in the PPP Contract. On this basis PPPs can be split into two main categories—usage- and availability-based, the latter being split into three main sub-categories: accommodation, equipment, systems or networks, and process plant.

§1.6.1 USAGE-BASED

As stated above, the Concession Model, with user-paid tolls, fares or usage fees for facilities such as roads, bridges, and tunnels, as well as other transportation facilities such as ports, airports, trams and light rail networks, is the prime example of a PPP where usage risk is transferred to the private sector, and probably still the most widely-applicable type of PPP. But usage risk can also be transferred under the PFI Model, for example through the payment of Shadow Tolls, as also mentioned above; here payment is by the Public Authority, but based on usage of the Facility by drivers. There can also be a mixture of the two approaches, whereby tolls or fares are paid by users, but with public-sector subsidies.

§1.6.2 ACCOMMODATION

Accommodation-based projects are those such as hospitals, schools and prisons, where payment is generally made for making a building available for use by the Public Authority (typically in the social infrastructure field). These are the most important type of project using the PFI Model. They may also involve provision of long-term services such as cleaning, catering, maintenance, or even custodial services in a prison, as well as construction of a building, but this provision of services is secondary in importance to the construction of the building and its Availability to the Public Authority (*cf.* §13.5.2).

Table 1.1 Public and private provision of infrastructure

Contract Type	Construction	Operation	Ownership ⁽¹⁾	Who pays?	Who is paid?
Public-sector Procurement	Public sector ⁽²⁾	Public sector ⁽⁴⁾	Public sector	Public sector	n/a
Franchise (<i>Affermage</i>)	Public sector ⁽²⁾	Private sector ⁽³⁾	Public sector	Users	Private sector
Design-Build Finance-Operate (DBFO)*	Private sector	Private sector	Public sector	Public sector or users	Private sector
Build-Transfer-Operate (BTO)**	Private sector	Private sector	Public sector	Public sector or users	Private sector
Build-Operate-Transfer (BOT)***	Private sector	Private sector	Public sector	Public sector or users	Private sector
Build-Own-Operate (BOO)	Private sector	Private sector	Private sector	Private-sector off-taker public sector ⁽⁵⁾ , or users	Private sector

(1) In all cases, ownership may be in the form of a joint venture between the public and private sectors (*cf.* §17.5).
 (2) Public sector normally designs the Facility and engages private-sector contractors to carry out construction on its behalf (design-bid-build).
 (3) Public sector may enter into service (outsourcing) contracts (for operation and maintenance) with private-sector contractors.
 (4) Ownership may be through an independent publicly-owned Project Company, *i.e.* a Public-Public Partnership (*cf.* §17.2.2).
 (5) The BOO Contract form applies to PPPs in the minority of cases where ownership of the Facility does not revert to the Public Authority at the end of the PPP Contract (*cf.* §15.11).

* Also known as Design-Construct-Manage-Finance (DCMF) or Design-Build-Finance-Maintain (DBFM)
 ** Also known as Build-Transfer-Lease (BTL), Build-Lease-Operate-Transfer (BLOT) or Build-Lease-Transfer (BLT)
 *** Also known as Build-Own-Operate-Transfer (BOOT)

Public project → ← Public-Private Partnership → ← Private project

PPP approach is appropriate. In other cases, such as building mobile-phone networks, there is little disagreement in most countries that this is best done on the basis of licences to the private sector, *i.e.* on a privatised basis in a competitive market rather than *via* a PPP. There is probably an irreducible core of public-sector activity which has to be provided by the state without any delegation to the private sector—private armies were used in the Middle Ages but are unlikely to be found now (although the private sector may well provide PPP-based accommodation, equipment and services to the armed forces).

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It is more useful to classify PPPs based on the nature of the service and risk transfer inherent in the PPP Contract. On this basis PPPs can be split into two main categories—usage- and availability-based, the latter being split into three main sub-categories: accommodation, equipment, systems or networks, and process plant.

§1.6.1 USAGE-BASED

As stated above, the Concession Model, with user-paid tolls, fares or usage fees for facilities such as roads, bridges, and tunnels, as well as other transportation facilities such as ports, airports, trams and light rail networks, is the prime example of a PPP where usage risk is transferred to the private sector, and probably still the most widely-applicable type of PPP. But usage risk can also be transferred under the PFI Model, for example through the payment of Shadow Tolls, as also mentioned above; here payment is by the Public Authority, but based on usage of the Facility by drivers. There can also be a mixture of the two approaches, whereby tolls or fares are paid by users, but with public-sector subsidies.

§1.6.2 ACCOMMODATION

Accommodation-based projects are those such as hospitals, schools and prisons, where payment is generally made for making a building available for use by the Public Authority (typically in the social infrastructure field). These are the most important type of project using the PFI Model. They may also involve provision of long-term services such as cleaning, catering, maintenance, or even custodial services in a prison, as well as construction of a building, but this provision of services is secondary in importance to the construction of the building and its Availability to the Public Authority (*cf.* §13.5.2).

§1.6.3 EQUIPMENT, SYSTEMS OR NETWORKS

Equipment, systems or network-based PPPs are less common, and are all based on the PFI Model. Payments by the Public Authority in such cases are also based on a form of Availability. Examples are DBFO road projects where, instead of payment being dependent on usage, it is dependent on the road being available, Availability being judged by measures such as whether any traffic lanes are closed, the speed at which traffic is able to move on the road, the rate at which accidents or spillages are cleared from the road, and so on. Similarly payment for rail projects can be made on the basis of how well the system (e.g. signalling or the train sets) works rather than the volume of passengers. Projects can also involve systems like street lighting or IT (information technology), and another important sector is that of defence equipment.

§1.6.4 PROCESS PLANT

The original BOT model for power generation of course falls into this category, but (except in some parts of the Middle East) this is now quite uncommon as a PPP because of widespread privatisation of power generation and distribution. The most important types of PPP-related process plant are water and waste-water treatment plants, and waste incinerators. The key difference between these and other types of projects set out above is that they all involve a clearly-measurable process. As has already been discussed, water projects can be undertaken either under the Concession or the PFI Model, but in either case payments are primarily made for the ability to produce an end-product, treated water or waste water rather than on the actual volume processed or produced. Similarly in a waste-incineration project the Public Authority pays for the availability of a capacity to process waste, and if the plant cannot fulfil this requirement, payments will not be made. The principles in such projects are the same as those set out above for a PPA, but payments based on usage are comparatively less important; hence Availability is again the main criterion.

Chapter 2

PPPs—For and Against

§2.1 INTRODUCTION

Why has there been such a worldwide growth in interest in PPPs over the last few years? The public-sector reform movement known as ‘New Public Management’ provides the theoretical background for PPPs (§2.2), but in reality the main driver for growth is that PPPs avoid limitations on public-sector budgets (§2.3). However, the detailed debate on the merits and demerits of PPPs is a highly-complex one. A variety of arguments is used by governments for promoting PPP projects, but many of these are of a somewhat *ex-post* nature, *i.e.* they are used to justify a decision which has already been taken for budgetary reasons. These arguments will reappear throughout this book, but it is probably worth summarising the issues in advance. The main elements of the debate revolve around:

- whether PPPs provide ‘additionality’ of investment in public infrastructure (§2.4);
- the higher financing costs implicit in PPPs (§2.5);
- whether risk transfer and value for money from PPPs can be offset against higher financing costs (§2.6);
- economies of scale (§2.7);
- the benefits of whole-life costing and maintenance (§2.8);
- the value added through the use of private-sector skills (§2.9);
- PPPs as a catalyst for public-sector reform (§2.10);
- complexity (§2.11); and
- the effect of PPPs on public-sector flexibility (§2.12).

Finally the political context of this debate has to be borne in mind (§2.13).

§2.2 NEW PUBLIC MANAGEMENT, PRIVATISATION AND PPPS

PPPs must be seen within the overall context of the public-sector reform movement known as 'New Public Management' (NPM), which encourages:

- decentralisation of government;
- separating responsibility for the purchase of public services from that of their provision;
- output or performance-based measurements for public services (*cf.* §1.3.2);
- contracting-out public services to the private sector;
- privatisation of public services.

All of these increasingly blur the boundary between the public and private sectors. So while the BOT Contract and its variants provided the technical basis in the 1990s for a new generation of PPPs (*cf.* §1.4.3), the theoretical or political basis was provided by NPM.

The privatisation of public services—another British initiative—began under the Thatcher government of the 1980s, and has also spread to many other countries. The main drivers for privatisation were the NPM-based beliefs that there should be a 'roll-back of the state' with the private sector providing services where this is more efficient, especially in the utilities sector, and that the introduction of competition leads to a better service and lower cost for the citizen, as well as less waste of economic resources (especially if services are supplied free or below cost by the state). This reversed the 20th-century trend for public utilities to be provided by the state (whereas before that private-sector capital usually took the initiative, as discussed above). The subsequent British PFI programme (*cf.* §1.4.5) was aimed at extending these benefits of privatisation to core public services which could not be privatised, and the 'value for money' and other arguments discussed below (*cf.* §2.6) very much stem from this NPM way of thinking. However there are important differences between privatisation and PPPs, some of which make it difficult for a PPP to achieve the same results as a privatisation:

- The Public Authority remains directly politically accountable for a PPP-provided service, but not for a privatised service.
- The citizen will usually not be especially conscious that a PPP-based service is being provided by a private-sector company rather than the public sector, whereas this is obvious for privatised services.
- In a PPP ownership of physical assets normally remains with (or reverts to) the public sector, whereas in a privatisation they become permanently private-sector owned.
- A PPP usually involves the provision of a monopoly service, whereas a privatisation usually means the introduction of competition to provide the service.
- In a PPP the scope and cost of services is fixed by a specific contract between the private and public sectors, whereas in a privatisation they are controlled, if at all, by some form of licensing or regulation which allows for regular cost changes, or are simply left to the forces of market competition.

§2.3 BUDGETARY BENEFIT

While NPM has provided a theoretical basis for PPPs, the primary reason for their recent growth is that they do not require public-sector funding today. A PPP allows the capital cost of a public-sector Facility to be spread out over its life, rather than requiring it to be charged immediately against the public budget (*cf.* §5.5). This cost is then either (for the Concession Model) paid for by users instead of paying taxes, or (for the PFI Model) charged to the public-sector budget over the life of the PPP Contract, in either case through the payment of Service Fees. A PPP programme thus enables the public sector to break free of short-term constraints on investment in public infrastructure imposed by insufficient tax revenues and limits on public-sector borrowing. Some of the names given to PPP programmes, such as Britain's 'Private Finance Initiative', or the term 'innovative finance' now often used by U.S. government agencies to describe PPPs, confirm the view that PPPs are primarily about private-sector finance for public-sector investment.

This raises the question whether the budgetary constraints on infrastructure investment which create a need to go down the PPP route are appropriate, especially where these constraints are created by artificial rules such as the Maastricht Treaty limitations on budget deficits in the European Union. Using PPPs in such cases causes opponents to describe them as nothing more than 'off-balance sheet borrowing' by governments, even though they do have other merits, as discussed below. There may be an argument for changing the rules for public accounting in such cases rather than distorting the approach.

It should be noted that although PPPs are often referred to (and will be referred to below for convenience) as being 'off-balance sheet' for the public sector, the public sector does not produce a balance sheet in the same way as a private company. This expression simply means that PPPs do not show up as public-sector borrowing, nor does their original capital cost show up as expenditure in the public budget. However, in the case of the PFI Model the Service Fees are a future annual cost, and thus do have an eventual impact on the public-sector budget in much the same way as borrowing. This may eventually worsen the original constraints which led to the adoption of the PPP route in the first place, which is a particular danger where relatively small countries enter into large PFI programmes: the problem has been evident in Portugal (see Bibliography), where payments for a major and rapidly-developed PFI-Model road programme have had a significant effect on the public budget.

§2.4 ADDITIONALITY

If the initial investment in a PPP falls outside the public budget, this enables the public sector to make (or accelerate) investments in infrastructure which would not otherwise have been possible (or would have been delayed until later). Thus the realistic choice, given budgetary constraints, is generally not between a PPP and public-sector procurement of the Facility, but between a PPP and no investment at all. This 'additionality' is a frequently-used argument in favour of a PPP programme—hence government statements such as 'PPPs allow us to invest more quickly in public services', and the consequent political attraction of PPPs.

It is arguable from a macroeconomic point of view that if public investment increases, private investment decreases, and so the net result is the same whether investment is public

importance in gathering support for a PPP programme. The risk-transfer element of VfM is also inextricably linked with the fact that projects cannot generally be taken out of the public-sector balance sheet unless risk transfer to the private sector can be demonstrated (cf. §5.5).

There is no doubt that PPPs encourage the public sector to identify project risks and think about risk transfer in a way which has not been usual in conventional public-sector procurement. The way in which risk transfer works in PPP Contracts is discussed in detail in Chapter 14 and as will be seen this is a complex process, but in summary, as said above, a PPP transfers the risks of construction and either the market/usage risk or the availability/service delivery risk to the private sector. Each of the main risk categories is discussed briefly below.

§2.6.1 CONSTRUCTION RISK

Procurement of major projects by the public sector can result in large construction-cost overruns (cf. §5.2.3), whereas a Public Authority's payments for a PPP are fixed by contract, and therefore such overruns should not (and generally do not) occur. Thus it is clear that construction risks are transferred to the private sector in a PPP.

But the reason for this is not so much the PPP structure itself, as the fact that construction costs are fixed under a turnkey (or 'design-build') contract (cf. §14.6.1), in which the Project Company's (through the Construction Subcontractor) also takes design risk, i.e. the risk of any errors or omissions in the design, or other unforeseen work. Turnkey contracts do not completely eliminate the risk of cost overruns or failure to complete the Facility (cf. §14.6.3) but do avoid the problem, endemic in public-sector design-bid-build procurement, of initial low bids from contractors being inflated by change orders as the Public Authority develops and changes the design. However a turnkey contract's initial cost is inherently higher than a design-bid-build approach (cf. §14.7.1), which leaves room for cost overruns in the latter. Also there can be large increases in PPP-project costs (which may be hidden by a reduction in the scope of the project) between the time that bids are received and the final signing of the PPP Contract (cf. §6.3.8)—i.e. cost overruns do occur, but at a different stage in the process.

In any case, turnkey construction contracts can also be used in public-sector procurement to substantially eliminate cost overruns, provided the Public Authority can specify, negotiate and supervise these contracts effectively (cf. §17.2). Similarly, the combination of design and build inherent in a PPP Contract should ensure faster completion of construction, as these activities can be partly carried out in parallel instead of in sequence, but again this benefit could be secured by the Public Authority entering into a design-build contract instead of using design-bid-build.

§2.6.2 USAGE RISK

In the Concession Model, usage risk is transferred to the Concessionaire (but it may be underpinned by the Public Authority—cf. §13.4.3), and it may also be transferred in the PFI Model, but this may not always be cost-effective if the private sector has to charge heavily for taking on usage risk. In fact the general trend in PFI-Model projects is for usage risk to be retained by the Public Authority (cf. §13.4.5).

or private, but there seems to be little evidence that PPPs 'crowd out' private-sector investment elsewhere (although they may affect the construction industry, as discussed below). Similarly, it is generally clear that PPPs are indeed undertaken in addition to other forms of public-sector investment not in substitution for it.

§2.5 FINANCING COST AND RISK TRANSFER

Private-sector finance for a PPP clearly costs more than if the project were procured in the public sector and financed with public-sector borrowing: the cost of capital for a PPP will typically be around 2–3% *p.a.* higher than that of public-sector funding, even for the PFI Model where the payment stream is still derived from the public sector.

Public-sector borrowing is cheaper because lenders to the government are not taking any significant risk with their money, whereas lenders to a PPP are obviously taking a greater risk. But a project's risks do not disappear just because the public sector is funding it—it can thus be argued that these risks are retained by the public sector and constitute a concealed cost of the project, which should be added to the lower cost of public-sector financing to make this comparable with a PPP's financing costs.

There is an alternative view that the public sector is better able to spread out risks than the private sector—hence there is a real difference between public- and private-sector risk assumption, and so the real cost of public-sector funding of a project, even taking account of risk, is actually lower than financing and managing the project by the private sector. But if this view were carried to the extreme, it would mean that the government should finance every individual shareholders (directly or *via* investment or pension funds) who diversify their risks by owning a wide range of shares. There is therefore not a strong case for suggesting that there are fundamental differences in the abilities of the public and private sectors to absorb risk.

But quantifying the risk transfer to a PPP (or the corresponding risk which would be retained in a public-sector procurement) is difficult, as discussed below, as is the case for other possible benefits from a PPP, also discussed below. The realistic approach is that debate about comparative financing costs assumes there is a free choice between public-sector funding and a PPP, whereas most of the time, given public-budget constraints, no such choice exists and the choice is actually between a PPP and no project. The issue then becomes whether the Facility is being procured cost-effectively as a PPP, irrespective of what might theoretically have been the outcome with public-sector procurement.

§2.6 RISK TRANSFER AND VALUE FOR MONEY

Despite this difficulty of quantification, however, risk transfer remains a key element of the value for money ('VfM') argument in favour of PPPs (cf. §5.3)—namely, that the risks which are transferred can be better managed by the private sector, and thus the cost of doing this will be lower than if the risks are retained by the public sector. Hence risk transfer improves VfM. In this context, VfM is not based on just what is initially cheapest, but takes account of the combination of risk transfer, whole-life cost (§2.8) and service provided by the Facility, as a basis for deciding what offers the best value. VfM arguments are of considerable political

§2.6.3 AVAILABILITY AND PERFORMANCE RISKS

Although these risks may be transferred to the Project Company, their real level, once the Facility has been built, is often quite low (*cf.* §13.5).

§2.6.4 OPERATION AND MAINTENANCE COSTS

The risks of operating-cost overruns are generally transferred to the Project Company (*cf.* §14.8.5, §14.8.6); as discussed below (§2.8), this ‘whole-life’ approach to building and maintaining the Facility, which is fundamental to the PPP process, is one of the strongest VFM arguments for PPPs. Again, however, these risks are not always transferred in full (*cf.* §12.4.5, §15.2.5).

§2.6.5 REALITY OF RISK TRANSFER

But how real is any risk transfer? A PPP, by definition, provides an essential public service. If the private-sector investors in the PPP get it wrong they may lose their investment (*cf.* §2.9.7), but they have no obligation to put further money in to rescue the project (*cf.* §8.5.1). If the PPP fails it is quite likely that the Public Authority will incur extra costs to maintain the public service, so risk transfer will fall anyway to this extent.

Moreover, as the Public Authority’s main concern is to ensure that the PPP continues to provide the contracted service, the easiest way of achieving this may be to provide extra support for the project rather than terminate the PPP Contract and then try to sort out new arrangements. Such a support process may mean that the Public Authority takes back responsibility for risks which had been transferred to the private-sector investors (*e.g.* traffic flow), thus negating the intended risk-transfer benefit of the PPP. This process has been characterised as ‘privatising profits while socialising losses’. However, it would not be correct to suggest that this is what always happens if PPP projects get into trouble, so long as there are good financial incentives for the private-sector side of the table to sort the matter out (*cf.* §15.5).

It might also be argued that a Service-Fee stream which is precisely calculated to give the private sector a projected return on equity, with payments carefully structured to ensure that the net cash flow is not that seriously at risk (*cf.* §13.5), *de facto* is not that far removed from ‘cost-plus’ pricing. If this is a fair statement, it does suggest that risk transfer is quite limited.

§2.7 ECONOMIES OF SCALE

Because a PPP allows investment in public infrastructure to be accelerated, in some cases a project which might otherwise have been procured by the public sector in smaller parts (*e.g.*, a road divided into sections) can be procured as a whole. The economies of scale in construction (*e.g.* because construction contractors do not need to start-up operations for each section separately, or in the use of specialised heavy equipment) should result in a saving in capital cost; also in some cases speeding up construction can avoid construction-cost inflation which might otherwise push up costs over a longer-term construction period.

On the other hand, a large increase in demand for construction works on PPPs can cause problems of capacity in the local construction industry, and so lead to an increase in prices, thus offsetting other benefits which might be derived from the PPP route. Significant increases in construction costs have thus been seen for British schools and hospitals, and Portuguese roads, all sectors where there have been large PPP programmes. Similarly, the size and complexity of PPP projects discourage smaller contractors from bidding, so reducing competition, which may also affect the final cost.

§2.8 WHOLE-LIFE COSTING AND MAINTENANCE

Whole-life costing is perhaps the most important element of the VFM case for PPPs. Because the same investors will be responsible both for the construction of the Facility and for its operation and service delivery, they are incentivised to design it to produce the best ‘whole-life’ cost—*e.g.* private-sector investors may be prepared to spend more on the initial capital cost if this will result in a greater saving in maintenance costs over the life of the PPP Contract, whereas a typical public-sector procurement approach is to go for the lowest initial capital cost. However, in cases where investment in PPP Contracts is finance-driven rather than contractor-driven, integration of the whole-life design approach may also become weaker (*cf.* §7.2.1, §7.2.3). And the case for ‘bundling’ construction and long-term services together is weaker in relation to Soft FM services (*cf.* §13.2).

But it is the risk-transfer argument which is more significant here. A PPP transfers the maintenance-cost risk—probably the most difficult to predict (*cf.* §14.8.6)—to the private sector. Having capital at risk ensures that the investor in and lenders to the Project Company cannot easily walk away from this risk (*cf.* §2.9.7).

It can also be said the long-term contractual nature of a PPP forces the public-sector to make provision for maintenance (through the Service Fees), without regard to short-term budget constraints which might otherwise encourage the omission of routine maintenance, and at the same time incentivises the private sector to carry out the maintenance if Service Fees are not paid (or deductions made) when maintenance standards are not met. A PPP Contract thus should ensure that the Facility is maintained to pre-determined standards throughout its life (*cf.* §15.11). However, a Public Authority could enter into a long-term contract covering design, construction and maintenance which could produce the same result (*cf.* §17.2.1).

§2.9 PRIVATE-SECTOR SKILLS

It is also argued that the involvement of the private sector in PPP brings particular benefits which are not available to public-sector procured projects.

§2.9.1 PROJECT SELECTION

Where Service Fees are dependent on demand, and assuming these are not underwritten by the Public Authority in any way (*cf.* §13.4.3), the private sector has an incentive only to back good projects, and avoid ‘white elephants’.

However there is a danger that the ability to transfer some types of risks and not others distorts the decision on how to proceed with a project. For example, the risks in constructing and maintaining a new building are typically lower than those in refurbishing and maintaining an old one, so even if the latter approach may offer better VFM it is less likely to be adopted through a PPP, especially as the construction companies which are major bidders for PPP projects will be biased in favour of new building. Similarly, a road which can be funded through tolling may be preferred to an untolled alternative which produces greater economic, environmental or other benefits (*cf.* § 3.10), and 'non-compete' provisions in toll road concessions may inhibit the development of the other public-sector roads (*cf.* § 3.5).

§2.9.2 PROJECT MANAGEMENT

It is claimed that the private sector has greater expertise in managing complex projects, and hence delivering them on time and on budget, as well as maintaining services thereafter. This may well be the case, given that public-sector management of major projects has a fairly poor record, but PPP projects can be managed by the private sector without private-sector finance as well (*cf.* § 17.2.1).

§2.9.3 SINGLE-POINT RESPONSIBILITY

A PPP Contract provides the Public Authority with a single point of responsibility for the construction and operation of the Facility, thus eliminating 'interface' problems, where each contractor blames the other for problems. Again it is possible, however, to produce a structure which could achieve this result without using private-sector financing (*cf.* § 17.2.1).

§2.9.4 EFFICIENCY

The proposition here is that the private sector is fundamentally more efficient than the public sector, because the profit motive is the main incentive for efficiency. But there is a problem with this in the PPP context where the private sector is not really paid for being efficient, but for performing what is required under the PPP Contract. By 'fixing' the required level of efficiency through the performance regime of a PPP Contract (*cf.* § 13.5), the Public Authority loses the opportunity to make future efficiency savings of its own over the term of the PPP Contract, unless the operating-cost element of the Service Fees is indexed at a rate below that of inflation (*cf.* § 11.3.2).

This argument is much stronger when it is used in relation to privatisation of services in a competitive market, rather than in a PPP context where there is no competition once the PPP Contract has been signed, although it does at least illustrate the importance of competition when awarding PPP Contracts (*cf.* § 6.3).

And although there may well be scope for improvement on how a Public Authority operates, unless careful quality controls are in place private-sector 'efficiency' may actually

consist of no more than employing fewer staff at lower salaries, or other action which lowers the quality of the public service being delivered.

However this argument is not without merit: it is evident that the combination of the PPP Contract deductions and penalties for failure to perform, and controls by investors and lenders over the Project Company, should ensure that management inefficiency and other remediable performance failures are detected and dealt with swiftly, compared to public-sector procurement where such failures are more easily buried.

§2.9.5 INNOVATION

It is also argued that PPPs give private-sector bidders the opportunity to come up with a variety of different solutions, and so give the public sector the benefit of innovative approaches, whether in design of the Facility or the method of delivering the service. This is linked to a key feature of PPPs, namely that the Public Authority usually specifies outputs rather than inputs when calling for private-sector bids—in other words the Public Authority specifies what is required, *e.g.* in terms of Facilities and service, but not how the service is to be delivered. Thus in a school project, the public sector may specify that the building must contain so many classrooms of such-and-such a size, catering facilities to feed so many pupils, and so on, rather than laying out the detailed design of the school. Service Fees are then only made if output specifications are met (*cf.* § 13.5.1, § 13.5.2). It is the greater flexibility of output specifications which gives bidders the opportunity to come up with innovative solutions.

Having said this, many private-sector bidders for PPPs rely heavily on staff who originally worked in the public sector: it is difficult to believe that such staff suddenly become innovative just because they have changed jobs, so if they cannot be innovative in the public sector there is something wrong with the system rather than the people. It can indeed be argued that public-sector officials are not incentivised to innovate if this means taking more risks, but on the other hand it can also be questioned how much room for innovation there really is in many PPPs. A Public Authority which already operates similar Facilities is likely to have the best detailed knowledge of what can (and cannot) be done to make them better. This is an argument for the design of 'standard' PPP projects (such as a school building) to be specified by the Public Authority rather than using output specifications which require individual bidders for the projects to spend time and money drawing up their own designs (*cf.* § 13.2). However, some care is needed here; if the Public Authority specifies inputs this may jeopardise the risk transfer—*e.g.* if the Public Authority gets the design wrong it will have to be responsible for this.

Moreover, lenders to PPP projects will generally discourage innovation if this creates additional or unknown risks from their point of view.

§2.9.6 THIRD-PARTY REVENUES

In some types of PPP, the Project Company may be able to generate additional revenues when the Facility is not fully utilised as public-sector infrastructure (*cf.* § 13.7). Although

transparency is accountability: as public-sector officials cannot hide the cost of choices, they must justify them, however uncomfortable this is.

In this connection, when comparing the costs of a PPP and public-sector procurement, it is important to ensure that like is being compared with like. Operation and maintenance costs, even in a relatively simple accommodation PPP Contract such as a school, may amount to 30% of the annual Service Fees, and up to 50% for a more complex building such as a hospital. These costs are all bundled together as part of the total cost of the PPP Contract, and it is clearly inappropriate to compare them only with the funding of the initial capital cost for a public-sector procured Facility.

However, although the costs may thus be transparent to the Public Authority, this does not necessarily mean that they are similarly transparent to the general public. Commercial confidentiality tends to be the main reason for this. But if information is not made publicly-available, over-simplified “apples and oranges” comparisons between PPPs and public sector procurement are inevitable (*cf.* §2.13), as are wider criticisms of lack of public accountability.

§2.10.2 PROCUREMENT SKILLS

The PPP process, if properly handled, develops procurement skills in the public sector. This is because public-sector requirements have to be analysed and clearly set out in advance, and once decided cannot easily be changed (at least without a cost which cannot be buried elsewhere). A major factor in the public-sector construction-cost overruns mentioned above is that the Public Authority does not specify what it wants in sufficient detail, or keeps changing its mind about what it wants during the construction phase of the project. While cost overruns are not impossible with a PPP (because the Public Authority will probably retain some construction-related risks—*cf.* §15.2.4), they are certainly less likely. Furthermore, the Public Authority has to think about the long-term service delivery, operation and maintenance of the Facility as part of the overall cost when negotiating a PPP Contract, instead of looking only at its initial capital cost. Lessons in ‘joined-up thinking’ learned from PPP procurements can be applied by the public sector in a much wider context. Ideally the transparency of PPP procurement would also spill over to public-sector procurement.

On the other hand, although transfers of staff from the public to the private sector are not uncommon, this does seem to take place on a relatively larger scale when a PPP programme is undertaken.

Procurement skills may also be lost because a particular Public Authority may only undertake one or two PPP projects, so once a deal is done the project team is disbanded (*cf.* §6.2). Private-sector companies are obviously able to move their teams from project to project, allowing them to accumulate experience, so creating a greater discrepancy between the public and private sectors in this respect.

§2.10.3 MANAGEMENT

A PPP allows the Public Authority to act as a regulator, and thus concentrate on service planning and performance monitoring instead getting tied up in the day-to-day delivery of the

the same thing could be done by a Public Authority as owner of the Facility, private-sector management skills may be more effective in this respect. Any such additional revenue may help to reduce the Service Fees and hence improve VfM for the Public Authority.

§2.9.7 CAPITAL AT RISK

Where public services are outsourced (*cf.* §1.5), if private-sector companies do not perform well they will lose the profit from this work, but (generally speaking) that is all. In a PPP the private-sector investors and lenders have capital at risk, and therefore a greater financial incentive to ensure that the service is provided as required. This is perhaps the most important long-term benefit of a PPP, since it underpins the transfer of long-term maintenance risk discussed in §2.8.

§2.9.8 THIRD-PARTY DUE DILIGENCE

The lenders’ involvement in PPPs means that a third party (apart from the investors and the Public Authority) will check the project’s viability (*cf.* §9.3.4), which can be beneficial to the Public Authority (*cf.* §8.5.2).

§2.9.9 PRINCIPAL-AGENT PROBLEM

In economic theory, there is a principal-agent problem where the agent who controls a business has access to more information than the principal who owns it, and this asymmetry of information can be used to give the agent an unreasonably large share of the benefits of a business. Asymmetry of information may arise in any kind of public procurement, so giving rise to potential excess profits for a private-sector supplier, but the long-term relationship inherent in a PPP gives more time for this asymmetry to develop. For example, the Public Authority may find it difficult to determine if the Project Company’s proposed costs of making changes to the specifications of the Facility are reasonable (*cf.* §15.2.2).

§2.10 PUBLIC-SECTOR REFORM

A PPP programme can serve as a catalyst for wider public-sector reform in a number of different ways.

§2.10.1 TRANSPARENCY AND ACCOUNTABILITY

A PPP makes the real cost of the Facility clear—it cannot be cut into pieces and buried in the depths of public accounting. In particular it shows the whole-life cost of the Facility, including operation and maintenance, in a transparent way, and forces the public sector to make choices about how services are to be delivered and paid for. Public-sector accounting does not deal with the cost of public infrastructure in this integrated way. The result of

For, example, it is very difficult for the public sector to predict the usage requirement for some types of Facility over a long period of time—e.g. population changes may make a school or hospital redundant, or alternatively require it to be expanded. Similarly, there may be a change in technology which requires a significant part of the Facility to be replaced. PPP Contracts do not accommodate such events easily, and major amendment to or cancellation of a PPP Contract part-way through its life is inevitably expensive. There is a direct relationship between flexibility and VfM, albeit one that is difficult to quantify financially, and this needs to be taken into account in considering the whole-life costing of the Facility.

It follows from this that projects with a stable long-term planning horizon, such as roads or other transport facilities, fit well with the PPP approach, although even here there can be problems—e.g. non-compete provisions of a toll-road Concession may prevent the Public Authority from undertaking other road improvements (*cf.* §3.5). Conversely, those projects where the Public Authority cannot clearly specify and stick to its long-term requirements, or where technology is changing rapidly, are not suitable for PPPs. It was for the latter reason, *inter alia*, that the United Kingdom abandoned the use of PPPs for IT projects. (Other reasons were problems in achieving enough risk transfer to the private sector, a different cost structure—low initial costs and high continuing costs—making finance difficult, and the high failure rates for such projects.) Social infrastructure projects fall somewhere between these two positions.

However, it must be remembered that if the public sector builds a Facility, this too represents a long-term commitment, albeit buried in government accounting. If such a Facility becomes a ‘stranded asset’ (*i.e.* no longer viable for the purpose for which it was originally designed), it still cannot be knocked down or moved without considerable loss. It could therefore be argued that all a PPP does is make this issue transparent—but there are issues of flexibility which are peculiar to a PPP, in particular the cost of making major changes to the Facility when there is effectively a monopoly supplier in place (*cf.* §15.2.2), and the extra financial costs of terminating the PPP Contract if the Facility is no longer required (*cf.* §15.6).

§2.13 PPPS AND POLITICS

Given the public-service nature of PPPs, it is inevitable that they are subject to heavy political debate. Unless there is a strong political will on the public-sector side of the table, and the ability to communicate the case for pursuing PPPs clearly and fairly, political winds can easily blow the process off course and a PPP programme will struggle for success.

One aspect of this debate is that despite being clearly different (*cf.* §2.2), PPPs may still be regarded as a form of privatisation, which gives rise to various reasons for political opposition:

‘Private profit at the public’s expense’. It may be claimed that PPPs give private-sector investors the opportunity to make profits by providing services which could be provided by the public sector more cost-effectively. But many of the individual elements of a PPP structure, such as construction of the Facility, would have been provided by the private sector anyway. The marginal extra profit which the private sector makes

services. However, the loss of day-to-day management control of public facilities raises its own issues since the ultimate responsibility for these services still lies with the Public Authority. The flexibility issues discussed below also affect the Public Authority’s ability to manage the delivery of services.

§2.10.4 ‘CONTESTABILITY’

If a small number of PPPs are undertaken in a particular sector (*e.g.* education), these can serve as a benchmark against which costs and service delivery in respect of the large majority of Facilities still under public-sector control can be compared, leading to improvements in public-sector procurement and service delivery as well. In fact a small number of countries (*e.g.* Norway) have undertaken PPPs primarily to test them against public-sector procurement rather than for budgetary reasons.

§2.11 COMPLEXITY

It is probably already evident to the reader that a PPP adds a substantial layer of extra complexity to the already complex task of procuring a major project. This complexity translates itself into a longer procurement period, which means that part of the additional advantage discussed above may be eroded, and higher procurement costs, including the costs of specialised legal and financial advisers who would not be required for a public-sector procured project. PPP procurement costs can reach 5–10% of the ‘hard’ capital cost for a reasonably large project, and do not reduce *pro rata* for smaller projects (*cf.* §7.4). It follows from this that PPPs are not cost-effective for very small projects (unless these can be ‘packaged’ together). Equally, it is questionable whether PPPs are suitable for very large projects where the addition of extra complexity to the structure may make the project collapse under the weight of its own complications.

The size and complexity of PPPs inevitably limits competition from private-sector bidders, since smaller construction contractors, in particular, will not have the necessary financial resources to sustain the risks of a PPP Contract (*cf.* §14.6.2). This is another factor which will tend to increase construction costs where there is a large PPP programme.

§2.12 FLEXIBILITY

Lack of flexibility during the relatively short-term construction phase of a project has considerable merit, if, as discussed above, it ensures that the Public Authority cannot keep changing its mind about what it wants. But there are longer-term issues resulting from a Public Authority entering into a commitment which may extend for 20–30 years of operation. A PPP Contract is of a type known in legal theory as an ‘incomplete contract’—*i.e.* the contract cannot provide for all possible eventualities in the future. The longer and more complex the contract the more this is the case, and therefore the more it is impossible for the Public Authority to abdicate or transfer responsibility for dealing with unforeseeable circumstances.

from investing in a PPP project, as compared to the profits on direct public-sector procurement, is probably not great enough to sustain this argument. In any case, if the public sector does not have the budget capacity to undertake the project, this argument is based, like that of comparing costs of public- and private-sector procurement, on the false premise that there is a choice between public-sector procurement and a PPP.

However, if private-sector investors are perceived to be making 'windfall' profits, for example through high initial rates of return on investment (*cf.* §7.3.2), debt refinancing (*cf.* §16.2) or sale of their equity shareholdings (*cf.* §16.5), this certainly does weaken a PPP programme from the political point of view.

Poor operating standards. It may be argued that a Facility operated by a private company will 'sacrifice safety for profit'. But a PPP is under close supervision by the Public Authority, and safety standards should be clearly laid down in the PPP Contract: in this respect a Public Authority probably has more ability to control and supervise safety than with a privatised company.

Erosion of working conditions. It may also be claimed that a PPP erodes the working conditions of public-sector workers in cases where this work—*e.g.* in cleaning and catering—is taken over as part of the PPP. This is the one aspect of a PPP where the position is the same as that of a privatisation—in both cases public-sector workers may be taken over by a private company, and it is up to the Public Authority to ensure that private-sector investors in a PPP are not incentivised to treat the workforce unfairly, *e.g.* by concentrating on 'efficiency gains' which are only obtained by cutting the pay and numbers of staff.

Political opposition to PPPs is often quite misconceived. For example, specifications (*e.g.* the number of beds in a hospital) are a matter for the Public Authority to decide when procuring the PPP Contract, but those opposed to PPPs may claim that private investors have made such decisions. PPPs may also be disadvantaged by their greater transparency (*cf.* §2.10.1), so the costs of a PPP, including long-term operation may be wrongly compared to the initial capital cost for public-sector procurement only. Similarly the greater transparency of PPPs means that mistakes are more obvious.

On the other hand, the case made by a Public Authority for a PPP can be equally one-sided, *e.g.* with claims of large cost savings compared to public-sector procurement which cannot be proved objectively (*cf.* §5.3), or which do not compare like with like, and PPPs may be promoted for short-term political advantage.

It can thus be difficult to maintain a balanced debate on the pros and cons of a PPP programme, especially, as this chapter has made clear, because the arguments for and against PPPs are by no means black and white.

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Chapter 3

PPPs Worldwide

§3.1 INTRODUCTION

As so many countries are now developing PPP programmes it would be impossible to survey worldwide activity in PPPs in detail within the scope of this book, but this chapter considers some of the general requirements for developing a PPP programme (§3.2), and its legal framework (§3.3), as well as reviewing PPP activity in a representative selection of countries:

- United Kingdom (§3.4);
- United States (§3.5);
- Australia (§3.6);
- France (§3.7);
- Korea (§3.8);
- Spain (§3.9);
- South Africa (§3.10).

An idea of international activity in PPPs can be gleaned from the (incomplete) statistics in Table 3.1 for private-sector debt raised for PPPs in countries whose programmes are currently the most active. These figures are not consistent with others in this chapter and Table 8.2, as they are derived from different databases (*cf.* the discussion in §8.4 of the problems in trying to assemble comparable international statistics in this field).

§3.2 DEVELOPING PPP PROGRAMMES

A fairly similar pattern can be seen in the way in which PPP programmes are developed in different countries. These generally begin with toll-road Concessions (or tolled road bridges or tunnels): the concept is a familiar one to most users, even if it is new to the