

3

Background to PPPs: concepts and key trends

Summarising the section

- A PPP is a long-term commercial arrangement for the delivery of public services, where there is a significant degree of risk-sharing between the public and private sectors. What distinguishes a PPP from other forms of private participation in infrastructure (e.g. outsourcing) is the greater degree of risk-sharing between the two parties.
- PPPs offer a number of benefits, including being a mechanism for financing infrastructure development despite government fiscal constraints. In addition, PPPs can help achieve value for money by transferring risks and costs to the private sector. Maximising VfM in a PPP arrangement depends on attracting the right quality partners, ensuring competitive pressure in the bidding process and designing a long-term contract with the right incentives for the private sector to deliver quality improvements and efficiency gains.
- The concept of ‘risk’ in a PPP is central. It relates to uncertainty regarding the occurrence of certain events and their consequent impact on the project. The cost of managing different project risks needs to be borne by someone, and one of the core elements of the design of a PPP is appropriate risk allocation.
- The essential principle for risk allocation in a PPP is to accord the risk to the party who can best manage it (usually the party that can do so at the lowest cost). The management of risks is a complex process and needs to be reviewed throughout the life of the project.
- PPP is not a new concept. Collaboration between the public and private sectors in the delivery of infrastructure services has been in existence in various forms for over 200 years. More recently, the trends in private participation in infrastructure in developing countries has exhibited a marked increase, both in terms of the number of projects and their diversity.

This section provides a definition of PPPs and summarises the potential benefits of PPP approaches, including an analysis of the evidence on whether or not PPPs have delivered value for money for taxpayers and consumers. The main types of PPP models are described, followed by a discussion of the different types of risks involved in PPPs and how they should be allocated to the public or private sector. Finally, the section

explains how PPP theory and practice have evolved over time, including how PPP approaches are increasingly being adopted in developing countries in the Commonwealth. The analysis is supported by a broader consideration of trends in Annex 2.

3.1. Defining PPPs

PPPs are long-term contractual arrangements between the public and private sectors for the delivery of public services. The defining feature of PPPs, as against other forms of private participation in infrastructure, is that there is a significant degree of risk sharing between the two parties. Put simply, risk sharing means that both the government and the investors will suffer financially if the contract fails. The benefits of PPPs, discussed in more detail below, come about because both parties are incentivised to ensure that the contract is a success over the full project life. The *degree* of benefits largely depends on how well risks are allocated between the public and private sector and how strongly the incentives are built into the contract.

A PPP is a long-term contractual arrangement for the delivery of public services where there is a *significant degree of risk sharing between the public and private sectors*.

The main features of a PPP include:

- **Risk transfer:** The key element of a PPP contract is the transfer of risk from the public to the private sector. The principle behind this risk transfer is that risk should be allocated to the party that can best manage it. Within the suite of PPP contracts, certain risks relating to the design, construction and operation of the infrastructure are transferred to the private sector, where it has a greater capacity (e.g. financial resources) and ability (e.g. skills and expertise) to mitigate the losses arising from the risks. Section 3.3 provides a detailed discussion on the types of risks and their allocation.
- **Long-term contract:** A PPP usually follows a ‘whole-of-life’ approach to the development of the infrastructure, thus requiring the contract to be long term in nature. A PPP is typically for a period of 10 to 20 years – although there are some PPPs that may be of a shorter duration of, say, three to five years.
- **Partnership agreement:** Key to this long-term contract between the public and private sectors is that it is viewed as a ‘partnership’, in that both parties have a mutual interest and a unified commitment. PPPs represent co-operation between the public and private sectors, drawing on the relative strengths of each party, in order to establish a complementary relationship between them.

Many types of private sector participation in the delivery of public services are not ‘true’ PPPs. For example, governments outsource basic services such as rubbish collection or street cleaning to private sector providers, often on a relatively short-term basis (e.g. two to three years). In these cases the government retains almost 100 per cent of the risk involved in delivering services to the public, so the commercial arrangement cannot really be described as a PPP. At the other end of the spectrum are privatisations and divestitures where governments transfer responsibility for asset construction and

ownership, service delivery and revenue collection to private owners (there are many examples of this in the telecoms sector). In these cases, the private sector bears most, if not all, the risks involved.

The approaches and expertise needed to see a PPP project through from design to successful implementation are very different from those appropriate for outsourcing contracts or privatisations. Indeed, a key lesson from the case studies presented in the Reference Guide is that governments need to view PPPs as an ongoing commercial relationship with a private sector partner, not as a one-off procurement or sales transaction. This has implications for how governments design the institutional framework for PPPs and what type of technical capacity is needed, an issue discussed in Section 4.

It is important to note that the use of the term PPP differs widely across countries and organisations. Box 3.1 provides some examples of definitions of PPPs used around the world. As can be seen, many organisations adopt a broad definition of PPPs. A form of PPP that has been widely used in the UK context is the private finance initiative (PFI). Box 3.2 discusses the concept of PFI as a form of PPP.

Box 3.1. Definitions of PPPs worldwide

There is no universally accepted definition of a PPP; its exact meaning differs between countries and organisations, and over time. Below are some definitions that are used in practice, many of which are broader than the definition used in this Reference Guide.

Infrastructure Australia – National PPP Guidelines

‘... defined as being where:

- the private sector provides public infrastructure and any related services; and
- there is private investment or financing.

‘PPPs as a procurement method are part of a broader spectrum of contractual relationships between the public and private sectors to produce an asset and/or deliver a service. They are distinct from early contractor involvement, alliancing, managing contractor, traditional procurement (design and construct) and other procurement methods.

‘Compared with other infrastructure delivery methods that are focused on design and construction, PPPs are typically complex given their lengthy contract periods involving long-term obligations and a sharing of risks and rewards between the private and public sectors.’

Infrastructure Australia, ‘National PPP Guidelines: Policy Framework’ (2008).

http://www.infrastructureaustralia.gov.au/files/National_PPP_Policy_Framework_Dec_08.pdf

Government of India, Department of Economic Affairs

‘Partnership between a public sector entity (Sponsoring Authority) and a private sector entity (a legal entity in which 51% or more of equity is with the private partner/s) for the creation and/or management of infrastructure for public purpose for a specified period of time (concession period) on commercial terms and in which the private partner has been procured through a transparent and open procurement system.’

Department of Economic Affairs, Ministry of Finance, Government of India, ‘Public Private Partnerships: Creating an Enabling Environment for State Projects’ (2007).

<http://assamppp.gov.in/adb-dea.pdf>

National Treasury PPP Unit (South Africa) – Treasury Regulation 16 of Public Finance Management Act

‘ ... public-private partnership means a commercial transaction between an institution and a private party in terms of which the private party –

- (a) performs an institutional function on behalf of the institution; and/or
- (b) acquires the use of state property for its own commercial purposes; and
- (c) assumes substantial financial, technical and operational risks in connection with the performance of the institutional function and/or use of state property; and
- (d) receives a benefit for performing the institutional function or from utilizing the state property ... ’

South Africa National Treasury, Public Private Partnership Manual (2001).

<http://www.ppp.gov.za/Documents/Manual/Module%2001.pdf>

Public-private Infrastructure Advisory Facility (PPIAF)

‘A public-private partnership (PPP) involves the private sector in aspects of the provision of infrastructure assets or of new or existing infrastructure services that have traditionally been provided by the government.’

PPIAF, ‘What are Public-private Partnerships’ webpage, <http://www.ppiaf.org/content/view/118/153/>

HM Treasury, UK

‘Public private partnerships (PPPs) are arrangements typified by joint working between the public and private sector. In the broadest sense, PPPs can cover all types of collaboration across the interface between the public and private sectors to deliver policies, services and infrastructure. Where delivery of public services involves private sector investment in infrastructure, the most common form of PPP is the Private finance initiative.’

HM Treasury, Public private partnerships homepage, http://www.hm-treasury.gov.uk/ppp_index.htm

Box 3.2. The difference between PPPs and PFIs

The private finance initiative relates to a UK government initiative on PPPs. A PFI contract is a form of PPP where, in its most common form, the private sector designs, builds, finances and operates (DBFO) facilities based on ‘output’ specifications decided by the public sector. Under a PFI contract, the public sector does not own the asset, but pays the PFI contractor a stream of committed revenue payments for the use of the facilities during the contract period. Once the contract has expired, the ownership of the assets either remains with the private sector contractor or is returned to the public sector, as per the original terms of the contract.

The term PFI has also sometimes been used in a misleading manner to refer to all PPPs in the UK. It should actually refer only to those PPP contracts where the private sector performs the DBFO functions and in return receives a fixed payment stream from the government.

The PFI-type model has mainly been applied to social infrastructure projects such as schools and hospitals in the UK. Its applicability bears direct relevance to the UK government policy on these social infrastructure services being regarded as merit goods.

There is a question as to the direct applicability of the PFI model to developing countries, stemming from two key issues: (i) the capacity of developing country governments to provide a regular payment stream to the PFI contractor; and (ii) the poor creditworthiness of some governments for private investors and therefore the higher cost of capital and concomitant impact on the value for money of the potential contract.

3.2. Benefits of PPPs

Governments around the world have embraced PPPs because they offer three main types of benefits:

- The ability to **develop new infrastructure services** despite short-term fiscal constraints;
- **Value for money** through efficiencies in procurement, construction and operation; and
- Improved **service quality and innovation** through use of private sector expertise and performance incentives.

Accelerated infrastructure development

Many governments around the world are constrained in terms of how much they can borrow to invest in infrastructure projects. This is especially true for greenfield developments, such as a new power station or major toll road, which typically involve hundreds of millions of dollars of upfront capital expenditure. The problem is most acute in poorer countries, where infrastructure needs are large relative to the size of economies and where fiscal capacity is often severely limited, with many competing demands for scarce resources.

In these situations, PPPs offer a way of bringing forward a programme of infrastructure investments, since projects can be financed from private capital markets with the cost repaid over the lifetime of the assets. For example, a toll road might be financed by a consortium of private debt and equity investors who are repaid over a period of 20 to 30 years through a combination of user charges and annual payments from the government. As a result, governments can avoid directly accumulating excessive debt burdens which could crowd out private sector investment in other areas of the economy.

Access to capital is often the primary reason cited by policy-makers for wanting to encourage PPPs. But it would be wrong to see PPPs as no more than a sophisticated financing mechanism. In fact, as discussed further below, VfM and improved service quality are likely to prove more important benefits in the long run, as evidenced by the fact that even governments that are not fiscally constrained (e.g. Singapore) choose to implement PPPs. A common mistake when designing PPPs is for policy-makers to focus too much attention on raising finance, while ignoring other essential design issues that can influence whether or not VfM is achieved.

Value for money

PPPs allow the government to transfer certain types of costs and risks of infrastructure projects to the private sector. This can help achieve VfM because in theory the private sector brings specialist expertise and a commercial approach that helps drive down project costs over the whole life of the contract. Many studies have shown, for example, that the private sector outperforms governments in delivering large construction projects

without major delays or cost over-runs. If the PPP is properly designed at the outset, these efficiency gains are passed on to the end-consumer. A related benefit is that governments and the taxpayer are given increased certainty about the total cost of infrastructure projects, because risks of cost over-runs are either reduced or passed on to private investors.

Of course, the level of efficiency gains achieved by involving the private sector must be weighed against the costs of developing a PPP project (a typical large infrastructure development might involve third-party legal and advisory fees in the region of US\$5 million or more) and the requirement to pay investors a financial return that will generally exceed the government's own cost of borrowing.¹ Maximising VfM in a PPP arrangement depends on attracting the right quality partners, ensuring competitive pressure in the bidding process and designing a long-term contract with the right incentives for the private sector to deliver the required efficiency gains (see Box 3.3). In some cases, the judgement may be that public provision remains the best option.

A final point to emphasise is that VfM is about more than driving costs down to the lowest possible level. It involves the reliable delivery of quality services over the lifetime of the contract. There is a risk that focusing exclusively on cost considerations could lead governments to select bidders who lack the necessary experience to successfully deliver against the contract, a lesson that is highlighted in Section 8. A focus on cost to the exclusion of other considerations is one of the main criticisms of using a public sector comparator (see Box 3.4). In some cases, the private sector may be able to deliver a service more quickly and to a higher standard, even though the public sector could in theory provide a basic service at lower cost.

Box 3.3. Collapse of the East Coast rail franchise in the UK

The collapse of the East Coast rail franchise in the UK in 2009 highlights the importance of getting the incentives right for the private sector to ensure maximum benefits and efficiency gains from a PPP. Lower than anticipated revenues, due to poor revenue forecasts and the impact of recession, meant that National Express could not pay the agreed £1.4 billion in concessions fees to the government. It also appears that National Express assumed the government would guarantee any losses. As Sir Alan Beith MP said, 'Quite unrealistic expectations were built into the franchise because GNER (Great North Eastern Railway) were so desperate to win the franchise'.² However, some argue that the contract was flawed from the outset and the government allowed its judgement to be clouded by the attractiveness of the private sector payments.³ The UK Government has been strongly against a renegotiation and the contract has been cancelled. Commentators suggest the government's transport budget could suffer a £700 million hit as a result, impeding the progress of other vital projects.

Box 3.4. Value for money assessment and key lessons

Value for money is a holistic concept that considers the whole package of benefits, costs and risk over the life cycle of a project. Grimsey and Lewis (2004) define it as: ‘The optimum combination of whole-of-life cycle costs, risks, completion time and quality in order to meet public requirements’.⁴

Methods for VfM assessment

Assessing whether PPP is likely to deliver greater VfM than traditional procurement is controversial, as the comparison process is fraught with difficulty. Several methods can be used, the most detailed of which is full cost-benefit analysis. However, most countries that perform systematic VfM investigations (including the UK, Australia, Ireland, Canada, Japan and the Netherlands) use variations of a Public Sector Comparator (PSC) test, first developed to assess UK PFI projects in the 1990s. The PSC test is a two-stage process where a hypothetical benchmark (risk-adjusted) cost of providing the specified service is calculated, as if it were to be provided by the public sector. The same calculation is made for PPP provision. The respective costs are then compared, with the lowest cost option providing the greatest VfM and judged to be the preferred procurement option. Figure 3.1 shows the key elements of a PSC test.⁵

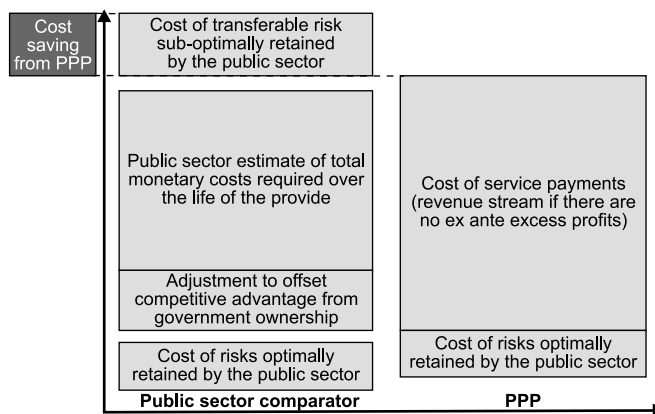


Figure 3.1. Illustrative public sector comparator test

Criticisms of the PSC test, as illustrated in Figure 3.1, have grown over time, reducing its credibility as a practical tool. Concerns focus on omissions, arbitrariness, room for discretion and costliness of execution. Takim *et al.* (2009)⁶ and Leighland and Shugart (2006)⁷ provide critiques of PSC practice in the UK, Australia and Japan. Failures in the UK have led to it being considered as a supporting instrument for VfM assessment, rather than the centrepiece.

Evidence of VfM

Despite the methodological problems with PSC tests, they can provide some useful information. The results from a sample of analyses are provided in Table 3.1.

Table 3.1. Evidence from public sector comparator tests

Project/meta-study	Saving vs. PSC
Fazakerley and Bridgend prisons, UK ⁸	10%
Berwick Hospital, Australia ⁹	9%
Surrey Outpatient Hospital, Canada ¹⁰	8.8%
LSE and Arthur Anderson (2000) 29 PFIs ¹¹	17%
National Audit Office, UK (2001) 15 projects ¹²	20%

Risk adjusted whole-of-life savings compared to the PSC vary between projects and within meta-studies. Although some projects that have gone ahead would have been scored higher if they had been publicly provided, these figures show the scale of benefits that can be achieved when PPP is properly applied. These figures show the benefits that governments can reap if they carefully consider their PPP programme.

Instead of focusing on abstract and flawed concepts of VfM, it can be useful to consider concrete and observable measures of improvements that indicate VfM. Table 3.2 shows the improvement in delivery and cost containment that PPPs have brought in the UK.

Table 3.2 shows that PPPs were both more likely to be ahead of (or on) time and within (or on) budget compared to public projects. These results show how PPP can boost at least two key drivers of VfM. These figures do not show the distribution of outcomes and focus only on upfront costs, but they do provide encouraging evidence, at least in the UK.

Table 3.2. National Audit Office results on construction performance of PFI and conventional government procurement projects¹³

	<i>PFI projects 2002 NAO census</i>	<i>Government procurement 1999 survey</i>
On budget	76%	30%
On time	78%	27%

Surveys of perceptions of VfM can also be useful. In a CEPA (2005)¹⁴ study of PPPs in Scotland, more than half of the public authorities surveyed found that their contracts offered 'good or excellent VfM'. Figure 3.2 shows the public sector perception of VfM at contract letting and then at the point of survey. Despite a reduction in perceptions of VfM over time, only one authority out of 36 found its project to be poor value.

Most of the relevant projects had PSC tests, with an average saving of 13 per cent, reflecting very high savings in some projects.

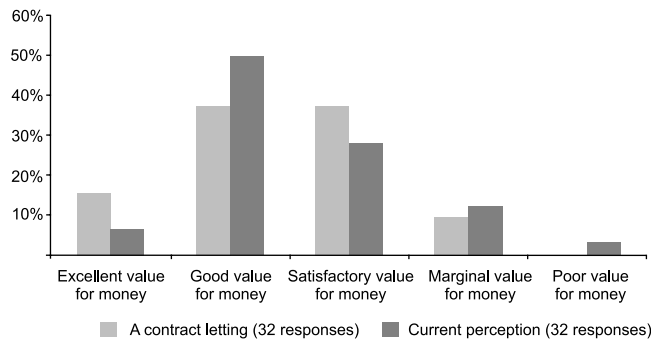


Figure 3.2. Public sector perceptions of value for money

Source: CEPA, 2005

Lessons

Considering VfM should be a central part of any procurement process. However, it is important to realise that the benefit of formal VfM analysis is highly contextual. It is telling that the role of PSC analysis has been scaled down in the UK. Formal VfM analysis is rarely used in developing countries. However, this is often inappropriate, as the relevant counterfactual is no service rather than public provision. The most important lesson from VfM assessment is that governments must carefully consider the rationale behind their procurement methods, rather than focusing on potentially spurious analyses.

Improved service quality

Linked to the concept of VfM is the potential for innovation and higher service quality. This is partly about the specialist skills brought in by the private sector – for example, a specialist energy company is likely to be able to operate a gas-fired power station more efficiently than a state-owned enterprise. But more importantly, it is about having the right commercial incentives in place to deliver improved performance over the full life of the contract, for example by ensuring proper maintenance of the underlying assets. These are incentives that are typically lacking for the public sector. For example, the Meghnaghat independent power project (IPP) in Bangladesh, a 450-megawatt, combined-cycle, gas-fired power station, has increased power reliability at a reasonable cost in a country where just over 30 per cent of the population have access to electricity.¹⁵

3.2.1. The impact of PPPs on employment

The shift towards cost-reflective prices that occurs under PPP arrangements typically leads to a more sustainable level of employment than under public provision of infrastructure. However, the impact on absolute levels of employment is not completely clear.

In the case of greenfield PPP projects, the impact on employment is clearly positive. For example, the Emerging Africa Infrastructure Fund (EAIF) provides financing for a number of greenfield energy projects in Africa, including in Kenya and Uganda, that will lead to an increase in employment in both the short and long term.¹⁶ What may be contentious is the *relative* positive impact when compared to a public sector counterfactual. Had the government developed and financed the project, it is possible that employment levels would have been higher, but this would need to be weighed against efficiency and sustainability considerations.

The impact of PPPs on employment is less certain when the PPP is based on existing infrastructure assets. For example, in the case of the Manila water concessions, some of the existing staff in the public utility were absorbed by the new private sector contractor, while a large number of staff were transferred from the water utility to the regulator. Hence there was no or minimal negative impact on employment. In addition, with the experience of the Manila water PPP, the private water company is now also bidding on other projects in the region, which could have a further positive impact on employment. However, there are other examples where the introduction of the private sector has led to a reduction in employment, such as the Kenya-Uganda rail concession.

3.3. Types of risk and their allocation

Risks in a PPP arise due to uncertainty regarding the occurrence of certain events and their consequent impact on the project. Given the long term nature of the contract, there is a possibility of a number of different events occurring such as changes in government policy, delays in accessing land, decline in demand for the infrastructure service, etc, which can raise costs or reduce revenues, impacting on the effective delivery of the infrastructure service. One of the core elements of the design of a PPP is the appropriate allocation of these risks to the party that is most able (typically at the lowest cost) to mitigate and/or bear the risks should they occur.

Box 3.5 describes the main types of risk in a PPP structure. Different risks may be relevant at different stages of the project, while some risks may be prevalent throughout the life of the project. For example, risks associated with the construction of the infrastructure are relevant only during the construction period; political risks, however, can be relevant throughout the life of the project.

Box 3.5. Risks underlying a PPP structure

At the highest level, risks for a PPP project can be classified into the following:

- **Market risks:** Market risks refer to risks that arise due to uncertainties about the market demand for the infrastructure service. These include, for example, volume risks – which relate to uncertainties arising from the number of users and their frequency and intensity of use of the infrastructure service – and price risks, which arise due to uncertainties in the tariff that can be charged for the use of the infrastructure service. Thus market risks are closely linked to the users’ willingness and ability to pay.
- **Development/planning risks:** Development or planning risks are the risks arising from planning or preparing projects for private sector participation. Governments or the private sector may invest substantial amounts of money to develop a project (through payment for several scoping, feasibility and structuring studies), but bear the risk of the project being infeasible.
- **Project risks:** Project risks relate to uncertainties in relation to project construction, completion and operation (i.e. activities post award of contract and which occur while implementing the PPP project) and financing, and can be split into start-up risks, such as capital cost over-run, completion delays and ongoing risks, such as operating performance, operating costs and life cycle costs.
- **Political risks:** Political risks are risks that arise from wars, civil disturbances, terrorism, etc., and include currency transfer restrictions, expropriation, war and civil disturbance, and breach of contract. Political risks are more serious in certain regions of the world than in others.
- **Regulatory risks:** Risks that arise from the lack of a suitably developed regulatory system which, for example, ensures regulatory independence from the government, regulations for the participation of the private sector in infrastructure or appropriate periodic review of tariffs can cause considerable uncertainties for lenders and investors in any infrastructure sector.
- **Financial risks:** Infrastructure projects are impacted by financial risks such as exchange rate appreciation/depreciation and changes in interest rates, which can have a substantial impact on costs and revenues. The ability to hedge financial risks depends on the level of development of capital markets and/or access to specialist hedging facilities (see Section 6).

Key to the design of a PPP is the allocation of these risks between the public and private sectors, so as to ensure that the PPP delivers VfM. The essential principle for risk allocation in a PPP is to accord the risk to the party who can best manage it. This needs to be determined by assessing each party’s ability to influence the risk factor, and correspondingly mitigate/absorb the risk to the greatest extent possible.

Table 3.3 presents an adapted excerpt from a risk matrix prepared by Partnerships Victoria,¹⁷ describing the nature of the risk, relevant mitigation strategy and consequently the preferred allocation between the private and public sectors.

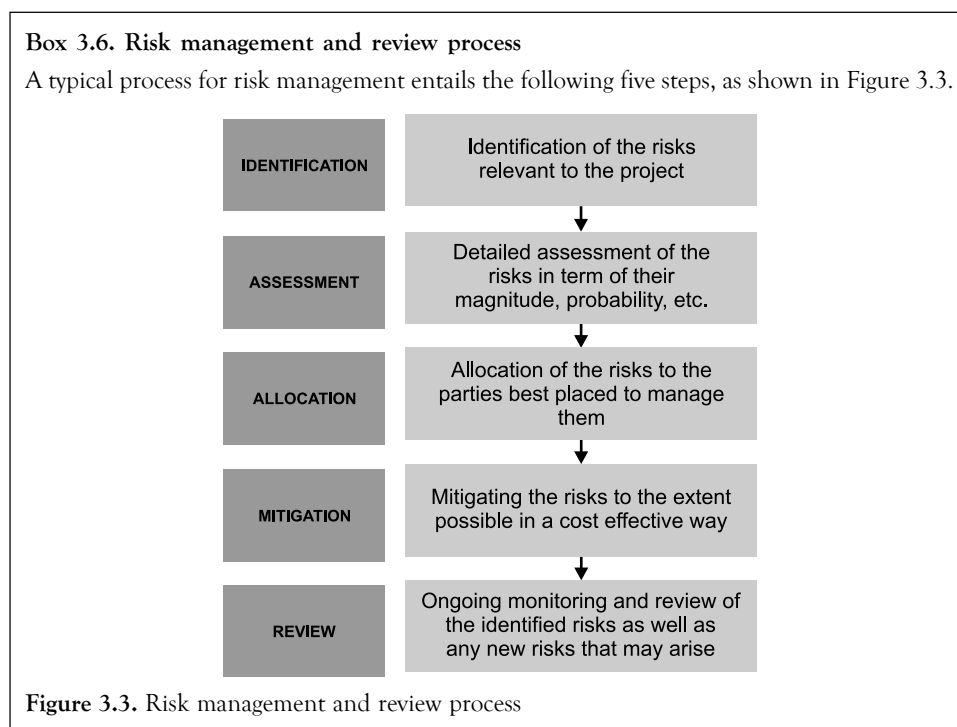
Table 3.3. Sample extract of a risk matrix¹⁸

<i>Risk category</i>	<i>Description</i>	<i>Consequence</i>	<i>Mitigation</i>	<i>Preferred Allocation</i>
Native title	Costs and delays in negotiating indigenous land use agreements where project site may be subject to native title	Delay and cost	Search of registers and enquiry, if appropriate, and taking expert advice	Public sector (as it generally has a better understanding of procedures and has special powers in relation to the acquisition and use of native title land)
Changes in law/policy	Change in law/policy which could not be anticipated at contract signing	Requirement of the private party to fund and carry out capital works, etc.	Government mitigates by excluding changes such as tax changes; also, mechanisms could be used to minimise and manage the financial impact on government and, where appropriate, a regulatory regime to allow pass-through to end users	Public sector (although the parties may share the financial consequences)
Construction	Events occur during construction which prevent the facility being delivered on time and on cost	Delay and cost	Private party will generally enter into a fixed term, fixed price building contract to pass the risk to a builder	Private party will generally be liable
Financing unavailable	When debt and/or equity is required for the project, it is not available then, and in the amounts and on the conditions anticipated	No funding to progress or complete construction	Government requires all bids to have fully documented financial commitments with minimal and easily achievable conditionality	Private party
Competition	In a 'user pays' model the risk of alternative suppliers of the contracted service competing for customers	Revenue shortfall competition for service and barriers to entry	Private party to review likely competition for services and barriers to entry	Private party (except to the extent that government has committed to an availability payment element or agreed to provide redress for the impact of government-subsidised competition)

As the matrix demonstrates, it is often the case that a private sector operator is able to control, and is therefore best placed to manage, certain types of project and financial risks, whereas the public sector is better equipped to deal with political and regulatory risks. Market risks are often shared between the public and private sector because of uncertainty about the level of likely demand for certain services. For example, in the Kenya-Uganda rail concession (discussed in detail in Annex 5), concession companies and lenders have assumed the commercial risks associated with the project, including the investment and operation risks, as well as the traffic (market) risks. The political and government-related risks are covered by an IDA partial risk guarantee.¹⁹

However, it should also be noted that the context for each project will be different and hence the risks need to be accorded appropriately. For example, in the case of the Panagarh-Palsit highway project in India (see Annex 5), the market risk was allocated to the government through fixed payments to the private operator ('the annuity based model'). Thus, the optimal allocation of risk is a technical issue that varies between projects, countries and over time, and must be considered carefully when considering or structuring PPPs.

The management of risks is a complex process and needs to be reviewed throughout the life of the project. The nature and level of risks may change during the course of the project, and new risks may also be identified. Box 3.6 describes a typical process for risk management and review that should be undertaken as part of any project development.



3.4. Main types of PPPs

There are a number of models of private sector participation in infrastructure, primarily distinguished by two key factors: (i) the degree of risk allocation between the public and private sectors; and (ii) the length of the contract period.

Table 3.4 provides some details of the various models for private participation in infrastructure, highlighting which models are considered to be PPPs and which are not.

Table 3.4. Models for private participation in infrastructure and their key features

	Type of model	Description	Level of risk assumed by the private sector	Length of contract (number of years)	Capital investment	Asset ownership	Most common sector in developing countries	
Broad definition of PPPs	Service contract	Contract for infrastructure support services such as billing	Low	1-3	Public	Public	<ul style="list-style-type: none"> Water utilities Railways services 	
	Management contract	Contract for management of a part/ whole of the operations	Low/medium	2-5	Public	Public	<ul style="list-style-type: none"> Water utilities 	
	Lease contract	Contract for management of operations and specific renewals	Medium	10-15	Public	Public	<ul style="list-style-type: none"> Water sector 	
	Core PPPs	Build-operate-transfer contract	Contract for investment in and operation of a specific component of the infrastructure service	High	Varies	Private	Public/private	<ul style="list-style-type: none"> Energy sector IPPs Highways Sanitation/desalination plants
		Concession	Contract for financing and operations and execution of specific investments	High	25-30	Private	Public/private	<ul style="list-style-type: none"> Airports/ports/rail Energy networks
		Divestiture/privatisation	Contract of transfer of ownership of public infrastructure to the private sector	Complete	Indefinite	Private	Private	<ul style="list-style-type: none"> Telecoms

As highlighted in the table, ‘core PPPs’ are models in which a significant degree of risk is transferred to the private sector, such as concession contracts and build-operate-transfer projects (BOTs).²⁰ These contracts are usually long term in nature and involve substantial investment by the private sector, and therefore concomitant risk transfer, and are consequently viewed as core PPPs.

Other models of private participation, such as service, management and lease contracts, are not classified as core PPPs, as the degree of risk transfer is low. There are, however, examples of management contracts where the risk transfer to the private sector is significant (for example, where the remuneration to the private sector is materially linked to performance), and these can be included in the ‘broad’ definition of PPPs. However, for the most part, management contracts do not involve substantial risk transfer to the private sector and hence are not considered as PPPs.

3.5. International trends in PPPs: theory and practice

Private sector participation in infrastructure in general, and PPPs in particular, has become increasingly important in developed and developing countries over the years. The development of the UK private finance initiative in 1992 was a landmark in this regard, and its experience offers many lessons to other OECD and developing countries. However, as Box 3.7 discusses, PPPs are not a new invention. In fact they have existed in various forms in Europe for over 200 years. Concession agreements were a particularly common feature of nineteenth and early twentieth century infrastructure projects in the USA.

Box 3.7. Early forms of PPPs

Infrastructure development in Europe was often achieved through early forms of PPP. For example, from the early 1700s turnpike trusts increasingly took responsibility for either improving and maintaining existing roads or developing new ones – through the charging of tolls to road users and an initial 21-year ‘concession’. Canals, and then railways, were developed through Acts of Parliament that gave rights to private companies to develop the necessary infrastructure and then charge users. Finally, electricity, gas and water infrastructure was also developed by private companies, again usually through a specific Act of Parliament – often with forms of incentive-based regulation built into the Act.

3.5.1. Development of thinking on PPPs

The overall rationale for PPPs has evolved over the years. While initially viewed as a way of avoiding government budget constraints, PPPs are increasingly being recognised as a VfM option. Thus the key question facing governments now is how can they effectively provide infrastructure services in the most efficient and suitable manner, deriving maximum benefits for the resources put in by both the public and/or private sectors. This has also been discussed above in Section 3.2.

Another issue that has been explicitly recognised over time is the important role of governments in PPPs beyond financial close of the project. Governments remain ultimately accountable to the public for the delivery of infrastructure services; hence

contract management and monitoring by the government is crucial to the success of the PPP. A further discussion of this is also provided in Section 4.3.

A closely linked issue is the role of an independent regulator in monitoring the operations of private and public players in the infrastructure sectors. Most developing countries have initially tended to include suitable regulatory mechanisms within individual PPP contracts due to the lack of development of an appropriate enabling environment, including the establishment of sector-specific or multi-sector regulators. However, the need and role of an independent regulatory body over time cannot be overemphasised. This is also discussed in more detail in Section 4.1 on the PPP framework.

Finally, the importance of renegotiation of contracts has been increasingly recognised. Given changing economic circumstances, both globally and nationally, as well as the difficulty of forecasting demand and therefore financial returns for an infrastructure project, renegotiation may play an important role, preventing failure or cancellation of the contract. It is important to recognise that renegotiation does not imply failure and that good contract design explicitly includes rules and procedures for renegotiation. This is discussed in Section 4.4.

3.5.2. Trends in infrastructure PPPs in developing countries

The overall growth in private sector participation in infrastructure in developing countries has been remarkable – a proof in point being the increase from 58 projects reaching financial close in only eight countries in 1990 to 288 projects achieving financial close across 64 countries in 2007. However, the trend has been far from uniform, with macroeconomic shocks, global events, growth/decline of major private players, etc. determining the overall and regional based trends. This is illustrated in Figure 3.4.

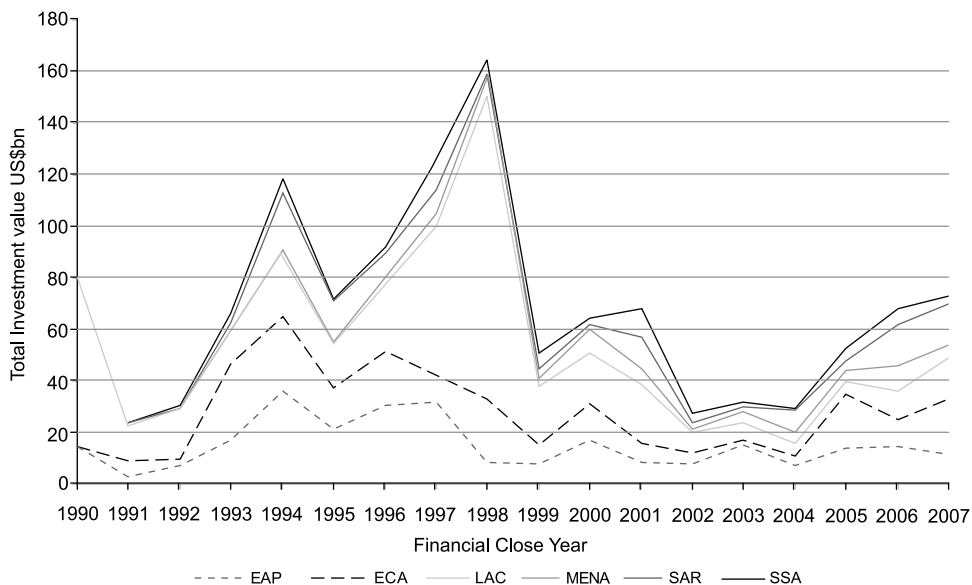


Figure 3.4. Investment commitments from infrastructure projects with private sector participation in low- and middle-income countries, 1990–2007²¹

There have been changes in both the number of projects reaching financial close – while the number of projects achieving financial close pre-2000 was higher than that in the post-2000 years, there has also been a greater degree of instability in the former period – and average size of projects – the median project size was high in the early 1990s (above US\$200 million), and declined thereafter (to around US\$100 million), with a steep decline in 2002 (around US\$30 million). There has, however, been a slow rise in recent years.

Some of the key aspects of trends in private participation in infrastructure in developing countries over the period 1990–2007 are presented below.

- The **regional trend** is dominated by Latin America and the Caribbean (LAC) and the east Asia and Pacific (EAP) regions, with sub-Saharan Africa (SSA) traditionally lagging behind the other regions.²²
- The overall regional trend, however, masks considerable **country level** diversity, with some countries dominating over half of the share of investment commitments in the region and others having only a marginal number of projects. For example, China dominates EAP region projects, having 63.1 per cent of all projects from 1990 to 2007.
- In terms of **sector**, private participation in the telecoms sector has dominated since 1990, with water and sanitation projects attracting the lowest investment commitments.²³ While a number of OECD countries have moved beyond private sector participation in ‘hard’ infrastructure sectors only (i.e. a number of social infrastructure services for education and health are being provided through private partnership models), this experience remains limited in developing countries.
- In terms of **type** of private involvement in infrastructure, there has been a relatively steady growth in concessions, and management and lease contracts since 1990 (see Figure 3.5). The number of divestitures and greenfield projects grew rapidly in the first half of the 1990s, but then declined to lower levels soon after reaching their peaks. Greenfield projects have been the largest type of projects since the late 1990s. The number of PPP projects has been much larger than other forms of private participation in infrastructure, with a slight upward trend in the post-2000 years.

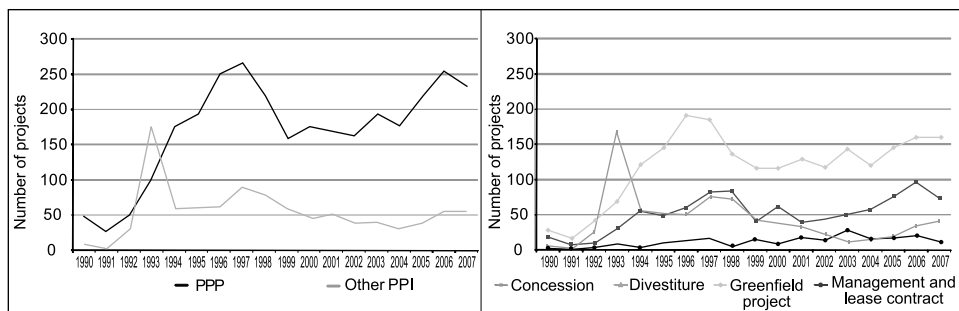


Figure 3.5. Number of projects reaching financial close by type of private involvement, 1990–2007²⁴

Box 3.8. The International Finance Corporation Infrastructure Crisis Facility

The International Finance Corporation (IFC) announced the creation of the Infrastructure Crisis Facility (ICF) on 11 November 2008 as part of a wider suite of initiatives devised in response to the financial crisis. The IFC projected that financing across its crisis initiatives would exceed US\$31 billion over the following three years.

The role of the ICF is to address the impact of the economic downturn on private infrastructure financing in developing countries. In particular, the increased scarcity of equity funding, shortening of tenors on project loans and higher interest rates have meant that previously viable projects under development are being delayed or cancelled, while fully structured projects are struggling to achieve refinancing. Research by the IFC and World Bank has indicated that over US\$110 billion of new and pipeline projects risk delay or postponement and a further US\$70 billion face heightened financing or refinancing risk.

In light of these problems, the ICF was established to:

- Stabilise viable infrastructure projects facing temporary liquidity problems; and
- Support the continuation of new project development in private infrastructure.

To achieve these goals, the ICF has adopted a three-part structure, as shown in Figure 3.6.

The ICF loan and equity components are designed to provide roll-over financing and substitute temporarily for commercial financing of new projects. They should be sufficient to support approximately 100 viable privately funded projects with three- to six-year funding. The advisory facility is designed to ensure the continuation of the project preparation cycle. By 1 December 2009, the ICF had mobilised over US\$4 billion of funds from IFIs and other sources.

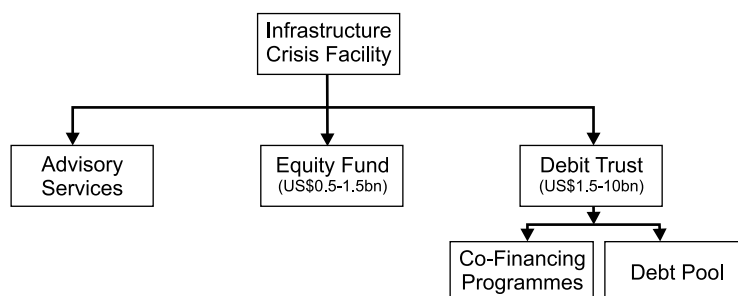


Figure 3.6. ICF structure

Loan financing trust

The ICF Debt Trust is a vehicle designed to provide loans for existing and new infrastructure projects. Total commitments to the Trust will be up to US\$10 billion, split into the following two streams:

- the Debt Pool, a limited-life collective investment vehicle; and
- parallel co-financing programmes.

Commitments to the ICF include a €700 million interest subsidy and US\$11 million equity participation from the German government, a €500 million contribution to the debt pool from KfW Entwicklungsbank and €200 million from Proparco, the French investment company for economic co-operation (established under the Private Infrastructure Development Group (PIDG) umbrella). Co-financing opportunities have earmarked US\$400 million from DEG, €800 million from Proparco and €1 billion from the European Investment Bank. Depending on demand, the facility may seek additional rounds of financing from governments.

Finally, it is also useful to examine the trends in failed projects. Between 1990 and 2007, 194 private infrastructure deals were cancelled, representing 4.76 per cent of the total number of projects (4,078). Projects were cancelled on an average 6.9 years after financial close. In terms of trends in failures by sector, region and type of private sector involvement, the highest rates of cancellation occurred in the water and sanitation sector, the SSA region, and management and lease contracts. The greatest absolute number of failures occurred in the energy sector, the LAC region and across greenfield projects. Failure of PPP projects is the outcome of a number of constraints in developing countries, discussed at length in Section 5.

Notes

1. However, there has been significant debate on whether governments misrepresent their own cost of funding for a project and it has been argued that the difference between public and private funds is much less than is often claimed. For example, Klein (1996) argues that the 'apparent cheapness of sovereign funds stems from taxpayers not being remunerated for the contingent liability they effectively assume'.
2. <http://www.journallive.co.uk/north-east-news/environment-news/2009/07/02/crisis-after-1-4bn-east-coast-rail-franchise-collapse-61634-24054142/>
3. <http://blogs.telegraph.co.uk/news/alexsingleton/100001905/government-greed-caused-collapse-of-the-east-coast-rail-franchise/>
4. Grimsey and Lewis (2004), p. 1.
5. For details on the PSC test, see Grimsey and Lewis (2004), pp. 136–138.
6. <http://www.ccsenet.org/journal/index.php/ass/article/viewFile/237/218>
7. <http://www.ppiaf.org/documents/gridlines/4africa.pdf>
8. NAO, UK, 'The PFI Contracts for Bridgend and Fazakerley Prisons', HC253 Session 1997–98, HMSO (1997).
9. Fitzgerald, P, 'Review of Partnerships Victoria Provided Infrastructure', Review of Partnerships, Victoria (2004).
10. Partnerships BC, 'Project Report: Achieving Value for Money Surrey Outpatient Hospital' (2009), http://www.partnershipsbc.ca/files/documents/sof_vfm_final_web_20090603.pdf
11. Arthur Andersen and Enterprise LSE, 'Value for money drivers in the Private Finance Initiative' (2000).
12. Grimsey and Lewis (2004), pp. 136–138.
13. NAO, UK, 'Managing the Relationship to Secure a Successful Partnership in PFI Projects', HC HMSO (1997).
14. CEPA, 'Public Private Partnerships in Scotland: Evaluation of Performance' (2005). <http://www.scotland.gov.uk/Resource/Doc/917/0011854.pdf>
15. A detailed case study of the Meghnaghat IPP is provided in Annex 5.
16. Private Infrastructure Development Group (PIDG), *Annual Report* (2008).
17. Partnerships Victoria, *Risk Allocation and Contractual Issues – A Guide* (2001). [http://www.partnerships.vic.gov.au/CA25708500035EB6/WebObj/RiskAllocation and ContractualIssues1-Entire/\\$File/Risk%20Allocation%20and%20Contractual%20Issues1%20-%20Entire.pdf](http://www.partnerships.vic.gov.au/CA25708500035EB6/WebObj/RiskAllocation%20and%20ContractualIssues1-Entire/$File/Risk%20Allocation%20and%20Contractual%20Issues1%20-%20Entire.pdf)

18. Partnerships Victoria (2001)
19. Matsukawa *et al.*, 'Review of Risk Mitigation Instruments for Infrastructure Financing and Recent Trends in Development' (2007).
20. There are a number of variants to the BOT contract for project delivery, such as DBB (design-bid-build), DBFO (design-build-finance-operate) and BOO (build-own-operate). These variants should be considered alongside standard BOTs.
21. <http://ppi.worldbank.org>
22. An important point to note, however, is that with the majority of the countries in sub-Saharan Africa being low-income countries, the region has been more resilient to external shocks (global financial and economic crises). Projects in the south Asia region (SAR) have increased considerably since 2000, with total investment commitments of only US\$1.7 billion in 2003, rising to US\$16.0 billion in 2007.
23. Divestitures have dominated the telecoms sector, with most projects being for mobile access. Energy sector projects have mainly been greenfield projects, nearly 75 per cent of which are in electricity generation.
24. In the graph, PPP refers to the sum of concession and greenfield projects, while 'other private' refers to divestitures and management and lease contracts. Note that while some management contracts can be PPPs as well, it has not been possible to split the data. <http://ppi.worldbank.org>

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